



Catalogue 目录

企业篇 | Enterprise chapter

1) 企业简介 Enterprise introduction	1
2) 发展历程+技术历程 Development history & technology history	3
3) 荣誉资质+专利 Honorary qualification & patent	7
4) 研发实力 R&D capability (laboratory)	10
5) 制造实力 Manufacturing strength	15

车用产品 | Automotive application

1) 车外应用 Car exterior lighting application	
3528PLCC4	18
3528PLCC4 lens	19
3535PLCC6	20
2835	20
EMC2720	21
EMC3030	22
Ceramic with one chip: 3W	22
Ceramic with two chips: 6W	23
Ceramic with two chips: 3W/3W bi-color	23
Ceramic with three chips: 9W	24
Ceramic with four chips: 12W	24
Ceramic with five chips: 15W	25
2) 车内应用 Car interior lighting application	
1608	26
2014	27
3528PLCC2	28
EMC3014	29
EMC4014	29
EMC3030 RGB	30

电气产品 | Electrical products

1) 模组 | Modules

Fixed turret surveillance camera series	32
Bullet surveillance camera series	33
Dome surveillance camera series	33

2) 红外 | IR

2835	34
3030	35
3838	36
3535	36
3532	37

3) 光耦 | Optocoupler

8XX	37
8XXS	39
8XXM	40
35X	40
10XX (2023 new)	42
3HX (2023 new)	43
High-speed optocoupler: 6N13X / 45XX / 25XX (2024 new)	45
High-speed optocoupler: 6N13X / 26XX (2024 new)	46
High-speed optocoupler: 6N13X (2024 new)	47
Thyristor optocoupler: MOC30XX (2024 new)	48

4) Chip LED

T402	49
B190	50
0402	50
B191	51
M190	51
S150	52
B170	52

T112	53
D191	53
T130	54
S115/118	55
S196/198	56
S155	57
S191	57
R150	58
R158	58
1615	59
1010	59
L150	60
L191	60
3025	61
3015	61
L158	62
3224	62
0807	63
A150	63
1608	64
1808	64
2014	65
5) 光传感 Optical sensing	
0603	66
B170	67
2835 photosensitive	67
4428	68
2016	68
2020	69
Blood Oxygen Emission	69
Blood Oxygen Reception	70

显示产品 | Display products

1) 背光 | Backlight

Side View: 2604	73
Side View: 3004	73
Side View: 3006	74
Side View: 3806	74
NB product: side view stripe	75
Automotive backlight: EMC3014	76
Automotive backlight: EMC4014	76
Mini COB/POB automotive products (Automotive 2016)	77
Top View: normal chip 3030-EMC3030 (2.6 mm rim diameter)	78
Top View: normal chip 3030-EMC3030 (2.1 mm rim diameter)	78
Top View: normal chip 3030-SMC3030 (2.6 mm rim diameter)	79
Top View: normal chip 3030-SMC3030 (2.1 mm rim diameter)	79
Top View: flip chip 3030	79
Side View 4014	80
Direct LED light bar series	81
Mini Micro LED: MINI LED small and middle backlight product (1.19 - 34 inch)	82
Mini Micro LED: MINI LED large size backlight product (more than 55 inch)	83

2) 触显 | Touch show

TP-ultra thin series (GF2 stylus)	84
TP-ultra thin series (GFF)	85
EPD-full lamination series (GF2)	86
EPD-full lamination series (GFF)	89

3) RGB

Outdoor: 3535	90
Outdoor: 2727	91
Outdoor: 1921	92
Outdoor: 1515	93
Outdoor: 1212	94

Indoor: 1020 two in one package	95
Indoor: 1011	96
4) MINI直显 MINI direct display	
Mini tiny screen: Flight sries	98
Mini tiny screen: Feather Yarn sries	98
Mini tiny screen: camlet series	99
Mini large screen: dispaly series-RF-NV125	100
Mini large screen: display series-RF-NV093	101
Mini large screen: display series-RF-NE068	102
Mini large screen: display series-RF-NK049	103
Mini large screen: display series-RF-NK039	104
Automotive LED - Logo light	106
Automotive LED - Tail light	106

照明产品 | Lighting products

1) 灯丝 | The filament

Hard filament: 4015	108
Flexible filament: FPC300	109
Flexible filament: FPS300	110
Flexible filament: FPF248	110
Flexible filament: FPW248	111

2) 白光 | The white light

2835 Main product series	113
2835 high voltage series	114
2835 high display high light quality series	115
EMC3030 high light efficiency series	117
EMC5050 high luminous series	118
EMC7070 high power series	119
LED strip: PPA2116	120

LED strip: PPA2010	121
3) 彩光 The colourful	
3014 side view	122
2835	123
3030RGB	124
3528RGB	125
3535RGB	125
5050RGB	126
5050RGBW	127
5050RGBWW	128
5050RGB+IC	129
4) 模组&灯带 Module & LED strip	
RGBCW soft light strip	131
0817 neon Symphony light strip	132
LED Strip - under development	133
Cannabis plant lights	135
Dragon fruit grow lights	136
Smart refrigerator light module	137
Landscape lighting module	138
LED outdoor lighting module	139
5) 紫光 UV LED	
UV:3535 LED	140
UV:3737	141
6) 植物照明 Horticulture lighting LEDs	
2835	142
3030/3535	142

Enterprise Introduction

-
企业简介



Enterprise introduction

关于我们

上市企业 Listed Enterprise

研发生产一体化 R&D and Production Integration

LED封装方案 LED Packaging Solution

科技创新 Scientific and Technological Innovation

技术领先 Advanced Technology

产品差异化 Differentiated Products

Shenzhen Refond Optoelectronics Co., Ltd. (stock code: 300241) is a world-renowned LED packaging solution and product provider, integrating R&D, production of LED light sources and application solutions.

Technological innovation, technology leadership, and product differentiation are the core competitiveness of our company. Refond has successively deployed and promoted the development of lighting, display, automotive, electrical and other professional fields. Refond has established deep business and strategic partnerships with the world's first-tier brands. At present, Refond focuses on Mini LED, Micro LED, AI sensor devices and other areas of research and development and business layout, to enhance the company's core competitiveness and sustainable profitability.

Refond was established in 2000. Scientific research and innovation have brought inexhaustible power to Refond development. We has helped customers in various industries and meet the needs of present and future social development with scientific and technological innovation. In the future, Refond Optoelectronics will continue to practice the brief of "enriching human life with innovation and technology", integrating global resources with technology, promoting innovation and development and taking "become the world's leading technology company" as the corporate vision.

深圳市瑞丰光电子股份有限公司(股票代码:300241)是一家集研发、生产LED光源并提供应用解决方案的全球知名LED封装方案及产品提供商。

科技创新、技术领先、产品差异化是瑞丰光电赖以生存的核心竞争力,瑞丰光电陆续布局 and 推动照明、显示、车用、电气等专业领域发展,并与全球一线品牌企业建立了深度的业务与战略合作关系。目前,公司将重点在Mini LED、Micro LED以及AI感测器件等新兴领域进行研发与业务布局,提升公司核心竞争力和持续盈利能力。

公司成立于2000年,科研创新为瑞丰的发展带来不竭的源动力,瑞丰光电致力于帮助各行业的客户满足当今和未来社会发展的需求。未来,瑞丰光电将继续秉承“创新科技 丰富人类生活”的理念,整合全球资源与技术,不断创新与发展,以“成为全球领先的科技公司”为企业愿景。

企业使命 Corporate Mission

创新科技,丰富人类生活

Innovation enriches life

企业愿景 Corporate Vision

成为全球领先的科技公司

Become the world's leading technology company

Corporate Core Values: Altruism & Self-discipline

企业核心价值观:利他律己

Altruism: Customer-focused: Creating value for customers is the only reason for Refond to survive. Refond all internal and external activities need to focus on customer satisfaction.

利他-以客户为中心: 为客户创造价值是瑞丰生存的唯一理由,瑞丰所有的内外部活动都需要围绕客户满意

Self-discipline: Keep open and enterprising: Complacency and Laziness are the biggest obstacle for pursuing excellence. Everyone in Refond must keep open, enterprising and self-criticism. Only through the hard work of several generations of Refond member, can we achieve the corporate mission and vision.

律己-坚持开放进取: 人性的自满和惰性是我们追求卓越的最大障碍,瑞丰人必须持续开放进取,自我批判,通过几代人的艰苦奋斗,才能成就使命和愿景

Development History

发展历程

In 2000,

公司成立

Refond founded

In 2004,

被授予高新技术企业
布局电气领域, 并与电力和自动化技术
领域的国际领导企业建立合作关系

Awarded the honor of high-tech
enterprises.
Established cooperative relation-
ship with international well-known
corporates in power and automa-
tion technology field.

In 2006,

创新引领, 与世界著名的国际综合性
电子技术企业集团建立合作关系

Innovation-oriented, established
cooperative relationship with the
world-renowned comprehensive
electronic technology group

In 2005,

强势进军海外市场, 成为全球领先
的有线和无线通信半导体公司
OEM/ODM合作伙伴

Enter overseas markets, and
become global leading wireline
and wireless communications
semiconductor compa-
nies' OEM/ODM partner

In 2015,

并购玲涛光电
获得CNAS国家实验室认证
获批深圳市LED电视背光源工程技术研究开发中心
获取TOYODA GOSEI白光专利授权

Mergered Shenzhen Ling Tao Optoelectronics Co.,
Ltd.

Obtained CNAS certification and the white light
patent license of TOYODA GOSEI

In 2011,

创业板上市

IPO succeed



In 2016,

浙江全资子公司成立, 开始建立义乌工业园
获取GE氟化物KSF荧光粉应用专利授权
获得国家技术发明一等奖和二等奖

Founded wholly-owned Zhejiang
subsidiary.

Started to establish Yiwu industrial park.
Obtained GE KSF phosphor application
patent authorization.

Obtained first prize and second prize of
national technical invention



In 2018,

Mini LED量产
获批广东省LED背光电视
工程技术研究中心

Mass production of MINI LED.
Approved as Guangdong LED backlight TV
engineering technology research center

In 2012-2016

全力发展,与世界知名企业陆续建立合作伙伴
关系

Established cooperative relationship with
well-known international enterprises

In 2020,

国内最早一批建成MINI LED量产线企业
与全球领先的ICT提供商建立合作伙伴关系
瑞丰深圳总部大厦主体封顶

The first batch of domestic enterprises to
build MINI LED production line
Established cooperative relationship with
global leading ICT supplier
The main body of Refond Shenzhen
headquarters building was capped



In 2019,

深圳创新企业70强

Top 70 Innovative enterprises
in Shenzhen



In 2021,

全资子公司湖北瑞华光电成立
湖北瑞华光电Mini LED产业基地开工
Mini LED背光终端产品上市
通过世界领先的汽车零部件审核并进入供应链体系

Founded wholly-owned Hubei subsidiary
Construction of Hubei subsidiary's MINI LED
industrial base started up
Mini LED backlight terminal products were launched
Approved by the world's leading auto parts corpora-
tion and into its supplying system

In 2022,

瑞丰RGB点亮北京冬奥大雪花
瑞丰助力发布Mini LED背光终端产品
瑞丰光电总部大厦投入使用
湖北瑞华Mini LED产业园建成投产

Refond RGB 1415 gold wire lighted up the
large snowflake at Winter Olympics in
Beijing.Helped launch Mini LED backlight
terminal product.The headquarters
building was put into use.Hubei subsidi-
ary's Mini LED industrial base construc-
tion finished and start mass production



Technology History

技术历程



In 2016,

倒装芯片支架式3D封装技术FEMC获得国家技术发明一等奖和二等奖

Flip-Chip Stand 3D Packaging Technology FEMC won the first and second prizes of National technology Invention

In 2015,

获得CNAS国际实验室认证

Refond laboratory obtained CNAS certification

In 2017,

Micro lens 制备技术封装应用解决方案

Micro lens fabrication technology and package application solution

In 2018,

获批建立广东省LED电视背光源工程技术研究中心Mini-LED P0.68 新型显示技术实现批量生产推出SMC LED

Approved as Guangdong LED backlight TV engineering technology research center. Mini-LED P0.68 new display technology realizes mass production. Promoted SMC LED

In 2019,

背光系列, 部分机种批量交付
直接显示系列P0.49及以上批量交付P0.39 样品交付

Partial backlight series, P0.49 of direct display series and P0.39 samples were delivered

In 2020,

背光系列覆盖VR/PAD/NB/NMT/TV等
全线量产直接显示系列P0.49及以上
产能扩充, 方量接单P0.39 小批量交付

Backlight series covered VR/PAD/NB/NMT/TV with mass production. P0.49 of direct display series expanded the yield

In 2021,

Micro Lens技术CSP背光匀光技术及Demura技术底部增光技术及超薄模压技术

Micro Lens technology, CSP backlight leveling technology, Demura technology, bottom polish technology and ultra-thin molding technology

In 2022,

建立车规级百级车间, 车载激光雷达产品量产
无机封装技术, 多次模压技术落地
光耦、VCSEL、光传感产品批量生产
推出零死灯失效产品解决方案

Built a automotive -level and 100-level dust-free workshop, Automotive lidar products started mass production
Inorganic packaging technology and multiple molding technology application
Optocouplers, VCSELs, and optical sensing products entered MP
Launched the product solution for 0 dead light failure

Honorary qualification & patent

荣誉资质+专利

Science and technology is the soul of human progress. Refond continues to uphold the mission of scientific and technological innovation, respecting knowledge, protecting innovation and listing the intellectual property strategy as one of the company's core strategies.

Refond has established and continued to optimize the enterprise intellectual property management system, and successfully passed the intellectual property certification in 2018. Currently, Refond has applied for over 400 patents, including over 140 invention patents, over 240 utility model patents, and over 55 appearance patents. In addition, there are 329 projects, of which 42 inventions, 234 utility models, and 53 appearance authorizations. The patents basically cover Refond various product technology fields, especially in the core technology MINI LED field with over 50 independent intellectual property rights.

In recent years, Refond has been actively deploying patents in overseas markets, such as Europe, America, Japan and South Korea.

科技是人类进步的灵魂，瑞丰光电持续秉承着科技创新的使命，尊重知识，保护创新，并将知识产权战略已经列为公司的核心战略之一。

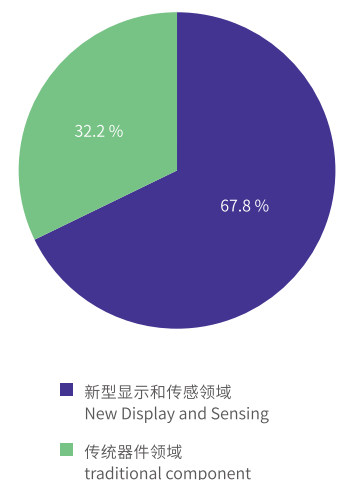
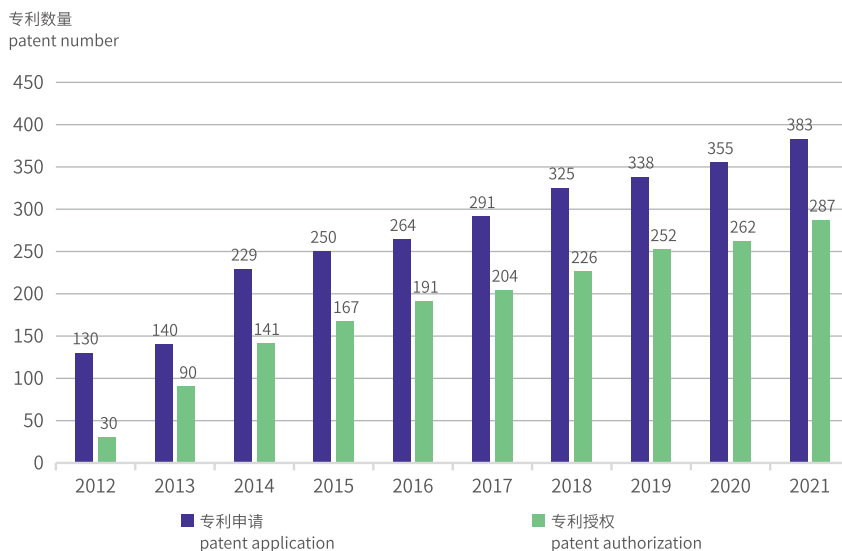
瑞丰光电建立并持续优化企业知识产权管理体系，2018年顺利通过知识产权认证；当前，瑞丰光电累计申请专利400+，其中发明专利140+项，实用新型240+，外观专利55+；专利基本覆盖公司产品技术领域，尤其是在核心技术MINI LED领域拥有自主知识产权超80项。

近年来，瑞丰光电积极布局海外市场专利，当前已在欧美、日韩等地区进行专利布局。

公司获专利授权 **300⁺** 件
Refond has obtained **300⁺** patent authorizations

Refond patent layout focuses on the field of innovative technology. In recent years, about 70% of patent layout is in the field of new display and sensing

公司专利布局侧重于创新科技领域，近年约七成专利布局于新型显示和传感领域。



Honorary qualification

荣誉资质



行业认可 | Award from LED industry



研发技术类奖项 | R&D technology award



参会单位 | Industry association participated



客户褒奖 | Praise from customer



patent

专利



实用新型专利证书 | Utility model patent certificate



外观设计专利证书 | Appearance design patent certificate



R&D capability (laboratory)

科研实力(实验室)

Refond got CNAS certificate in December 2015 and is listed as a national laboratory. It provides complete-testing methods for company technology innovation and product development, and flexible testing data for LED quality control and management.

Refond adheres to the concept of emphasizing talents, scientific research and innovation. There are 377 high-tech talents and scientific research personnel, accounting for 22.5% of the total employees, 14 of them are masters and doctors (including national commissioners).

Refond Experimental Center adopts the latest theories and experimental technologies of various disciplines, and conducts continuous innovation and in-depth research in the three major blocks of product software and hardware development, advanced process development, and material opening. Meanwhile, Refond establishes a special group to develop and design advanced equipment, from product and process design to reference guidelines and test feedback. It will reduce product failure rate and provide better systematic optical design solutions.

The service scope of the experimental center covers optical, electrical, thermal parameter testing, environmental testing, mechanical strength testing, IP protection testing and failure analysis of LED packaging and device modules etc. The main standards include optical related CIE127:2007, JESD51-51, environmental related GB/T 2423 series national standards and IEC, ISO and other international standards.

瑞丰实验中心于2015年获得CNAS认可,由深圳实验室、义乌实验室,葛店实验室(筹建中)组成。凭借完整的实验室能力,致力于打造一流的LED研发中心,并先后获批国家级实验室、深圳LED电视背光工程技术研发中心、广东省LED电视背光工程技术研究开发中心,荣获CNAS证书。

瑞丰秉承重人才、重科研、重创新的理念。吸纳377名高技术人才科研人员,占瑞发总人数的22.5%,更有硕士、博士等(含国家特派员)在内的顶级技术人才14名。

瑞丰实验中心采用各学科最新的理论和实验技术,在产品软硬件开发、先进工艺开发、材料开放三大块不断革新深入研究,并成立专项组对先进设备进行联合开发设计,从产品设计、工艺设计到引用指引和测试反馈,全流程降低产品失效率,提供最佳的系统光学设计方案。

实验中心服务范围包含(LED封装及器件模组的光学、电学、热学参数测试、环境测试、机械强度测试、IP防护类测试、失效分析等)。主要覆盖的标准有:光学相关CIE127:2007、JESD51-51、环境相关GB/T 2423系列的国家标准以及IEC、ISO等国际标准。

377 名研发人员,占总人数的
R&D employees

22.5 %
of the total employees

14 名博士&硕士
masters and doctors

R&D Center 研发中心

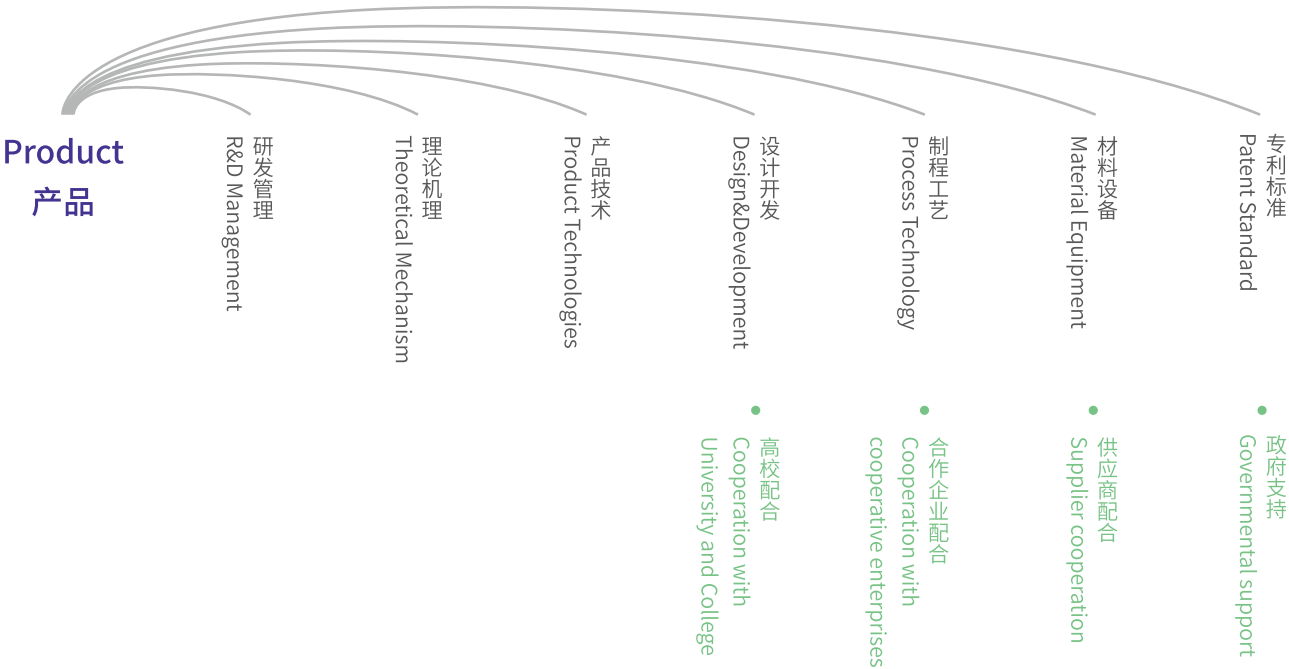


Got CNAS certificate in December 2015 and listed as a national laboratory
Guangdong LED TV Backlight Engineering Technology Research and Development Center
Shenzhen LED TV backlight engineering technology research and development center

中国合格评定国家认可委员会 CNAS认可
广东电视背光源工程实验中心
深圳电视背光源工程实验中心

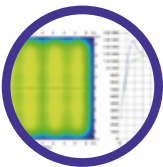
R&D management mechanism

研发管理机制

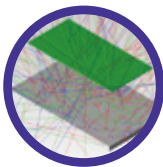


Product design ability

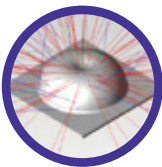
产品设计能力



模组: 光学亮度
Module: optical brightness



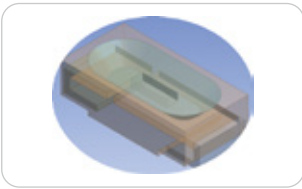
模组: 光学路径
Module: Optical path



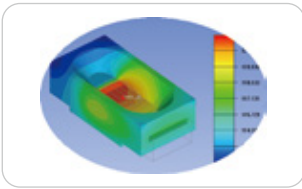
器件: 光学路径
Component: Optical path

Optical design: Design and simulation capability for chip, device, mode-level lighting and display optics. The customer provides the optical design of the system

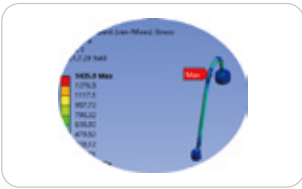
光学设计: 具备芯片、器件、模组级照明和显示光学设计仿真能力, 可以为客户提供系统的光学设计方案



产品概念
Product concept



产品设计
Product design



工艺设计
Process design



应用仿真
Application of the simulation



Thermodynamic design: From product design, process design, to application guidance and test feedback, the whole process reduces product failure rate

热力学设计: 从产品设计、工艺设计, 到应用指引和测试反馈, 全流程降低产品失效率

Develop ability

开发能力

Software and hardware development

软硬件开发

硬件 | Hardware

Schematic design
PCB Layout
Selection of electronic components
Functional module hardware design

原理图设计
PCB Layout
电子元器件选型
功能模组硬件设计



软件 | Software

FPGA develop
MCU develop
Functional module function realization

FPGA开发
MCU开发
功能模组功能实现



测试 | Test

Function test
Electronic components test
Software test
Failure analysis

功能测试
电子元器件测试
软件测试
失效分析



Advanced process development

先进工艺开发

瑞丰 R&D provides various advanced process development programs to deal with the development of all kinds of LED related products, such as Mini LED/Micro LED/ flexible products/ sensing/functional modules and other products

Mass transfer technology
COF Bonding
3D shape
Precise welding
Molding

瑞丰研发提供各类先进工艺开发方案, 以应对各类LED相关产品的开发落地 (如 Mini LED/Micro LED/柔性产品/传感/功能模组等产品)。

巨量转移技术
COF Bonding
3D 成型
精密焊接
Molding

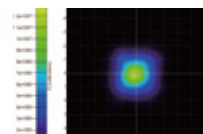
Material development

材料开发

设计模拟 | Design simulation

Self-designed high reflection cup
Ultra-high energy efficiency Flip chip
No line, no failure risk
High reflection dispensing technology
Low thermal resistance, long life

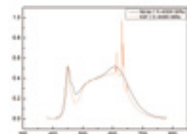
自主设计高反射杯
超高能效 Flip chip
免打线, 无死灯风险
高反射点胶技术
低热阻, 超长寿命



技术路线 | Technical route

Material Technology Route
Process technology route
Product life capacity

材料技术路线
工艺技术路线
产品寿命能力



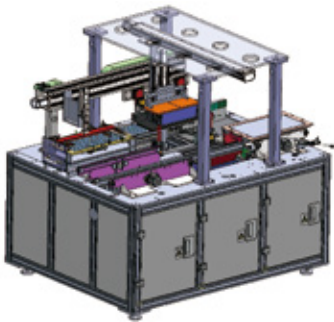
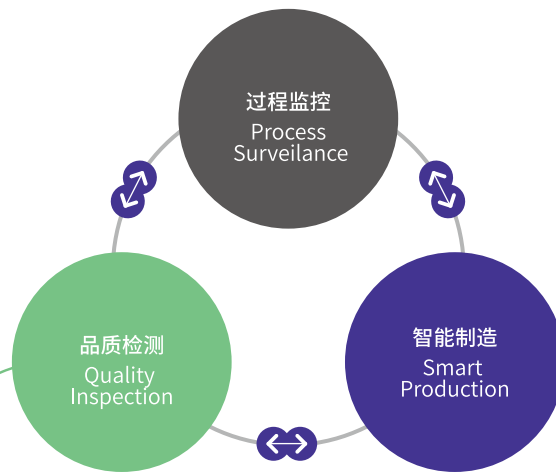
材料机理分析 | Material mechanism analysis

Metal migration short circuit analysis
Electrode corrosion open circuit analysis
Light decay, voltage rise, ITO and P-GaN stripping

金属迁移短路分析
电极腐蚀断路分析
光衰、电压升、ITO与P-GaN剥离

Advanced equipment joint development ability

先进设备联合开发能力



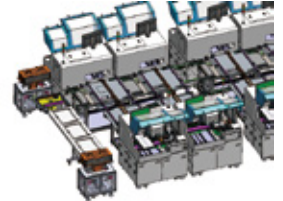
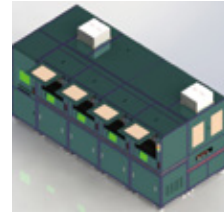
Automatic testing equipment for raw materials
High precision test equipment for solder paste
Mount high precision test equipment
Optical high precision test equipment
...

原物料自动检测设备
锡膏高精度测试设备
贴装高精度测试设备
光学高精度测试设备
...



Automatic X-ray test equipment
High precision push and pull test equipment
High precision electrical test equipment
...

全自动X-ray测试设备
高精度推拉测试设备
高精密电性测试设备
...



Automatic Molding equipment
Automatic Die Bonding production line
Automatic assembly line
Intelligent aging test line
High precision laser welding equipment
Massive transfer equipment
Whole line with MES plant management
...

全自动Molding设备
全自动Die Bonding线
全自动组装线
智能aging测试线
高精度激光焊接设备
巨量转移设备
整线MES工厂管理
...

Manufacturing strength (Production & Quality)

制造实力 (生产+品质)

Shenzhen Refond Optoelectronics Co., Ltd. is a world-renowned LED packaging solution and optoelectronic semiconductor manufacturer. We have 3 production bases located in Shenzhen Guangdong Province, Gedian Hubei Province and Yiwu Zhejiang Province, with a total area of about 294,000m². We have mature process technology, perfect production and processing equipments, with more than 6000 sets of advanced mechanical processing equipment (sets). Meanwhile, Refond also has advanced inspection and testing equipments. Annual qualified product rate is more than 99%. High automation and informization degree are the guarantee of Refond's strong production capacity.

深圳市瑞丰光电子股份有限公司作为全球知名的LED封装解决方案和光电半导体制造商,我们拥有坐落于广东深圳、湖北葛店、浙江义乌等3座生产基地,总面积约294000m²。我们具有成熟的制程工艺和完善的生产加工设备,拥有先进机械加工设备6000+台(套),同时公司也拥有先进的检验和检测设备,年均生产良率高达99%以上,强大的自动化和信息化程度是我们强大生产实力的保证。

Directly managed by the CEO, Refond quality management center is responsible for all product lines, the whole process quality control and after-sales service. It has set up quality management platforms in Shenzhen, Zhejiang and Hubei production bases, and established SQE, DQA, system, laboratory these four function platforms in Shenzhen headquarters. These platforms will help to achieve the same quality standard between clients and suppliers, as well as to standardize Refond quality management process.

The quality management center is about 380 employees, covering all the quality management functions such as SQE/IQC, PQE, DQA, CQS, QS and laboratory.

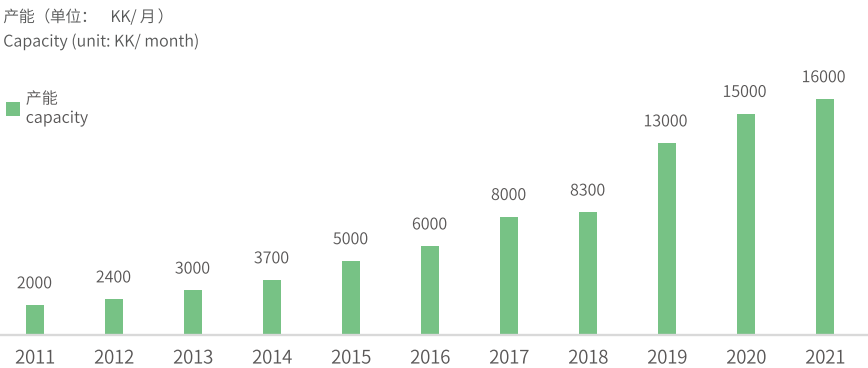
瑞丰光电品质管理中心直属公司CEO管理,负责对公司所有产品线全流程品质管控及售后服务,组织内设立深圳、浙江、湖北三大生产基地的质量管理平台,并建立了SQE/DQA/体系/实验室四大总部职能平台,内外拉通供应商到客户端的品质标准及管控目标,统一规范公司品质管理流程。

品质管理中心总人力约380人,涵盖SQE/IQC、PQE、DQA、CQS、QS和实验室等所有品质管理职能。



Yielding capacity

产能效率



1	Refond Shenzhen headquaters	瑞丰深圳总部大厦
2	Shenzhen production base Area: 34,000m ² Pruduct: Automotive LED/Large size backlight LED Small size backlight LED/ Mini LED	深圳生产基地 面积: 34,000m ² 生产: 车用LED/大、小背光/Mini LED
3	Zhejiang production base Area: 160,000m ² Pruduct: LED Lighting/chip LED	浙江生产基地 面积: 160,000m ² 生产: LED Lighting/chip LED
4	Hubei production base Area: 100,000m ² Pruduct: Mini LED/Micro LED, RGB	湖北生产基地 面积: 100,000m ² 生产: Mini LED/Micro LED, RGB

Quality control

质量保证

SYSTEM 体系认证
CERTIFICATION

>

IATF 16949
ISO 9001
IECQ QC 080000
ISO 14001

ISO 17025
ISO 45001
IEC 27001
ESD (ANSI S20.20)



Passed the audit of international TOP customers and SGS social responsibility of third party, in compliance with the requirements of the EICC electronic industry code of conduct.

Confirms to the international standard of ROHS, REACH, HF, IEC/EN62471 and LM-80.

通过国际标杆大企业和第三方SGS社会责任审核,符合EICC电子行业行为准则要求。

第三方检测符合ROHS、REACH、HF、IEC/EN 62471、LM-80等国际标准要求

Automotive application

-
车用产品



Car exterior lighting application

车外应用

1. Super high reliability, 0 ppm defective rate

2. AEC-Q102 solution, good air tightness and anti-vulcanization performance

3. Complete product line, meet various scenes demand, support pin to pin replace

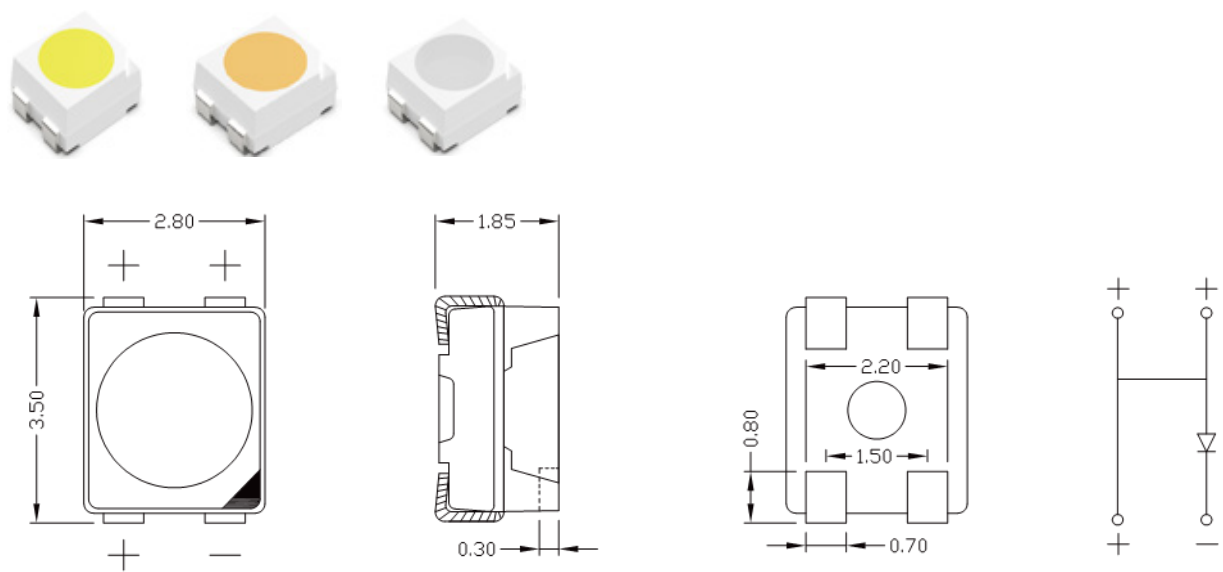
4. Ceramic material and high power, industry first hot pressing eutectic process, low thermal resistance
- 1.超高可靠性, 产品质量零缺陷、零失效率

2.AEC-Q102解决方案, 产品气密性/防硫化性能好

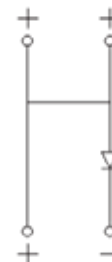
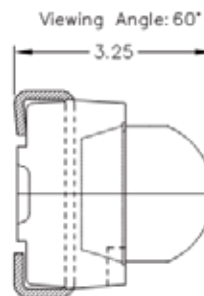
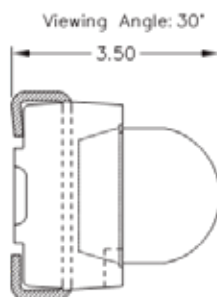
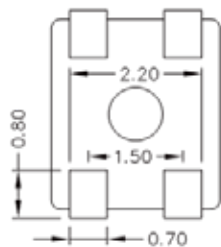
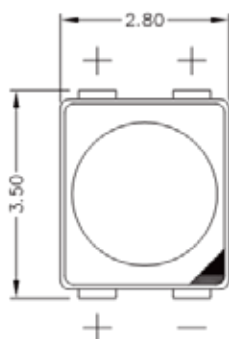
3.产品家族齐全,, 矩阵丰富, 满足各类型场景需求, 可pin to pin替代

4.陶瓷大功率热压共晶工艺行业首创, 热阻低

3528PLCC4

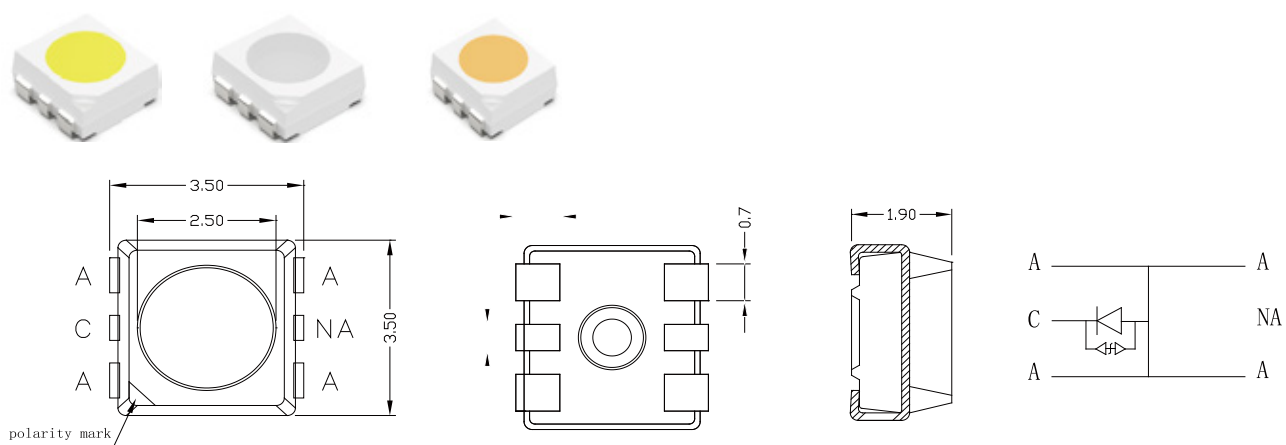


Color	Part No.	Forward Current		Forward Voltage	Luminous Intensity	CIE x/y or Dominant Wavelength	Rth j-s el.	TjMax.	Viewing Angle
		mA		V	mcd	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A2A31-W578-A2	50	70	3.0	6000	(0.326,0.345)	123	125	120
PC Amber	RF-A2A31-WYS8-A4	50	70	3.0	5000	(0.572,0.417)	123	125	120
Red	RF-OMRA30TS-AM-G	50	70	2.0	2500	622	100	125	120
Red	RF-RSRA30TS-CD-G	50	70	2.0	2300	631	100	125	120
Amber	RF-OMRA30TS-BM-G	50	70	2.0	2500	617	100	125	120
Yellow	RF-YMRA30TS-AB-G	50	70	2.0	2000	590	100	125	120



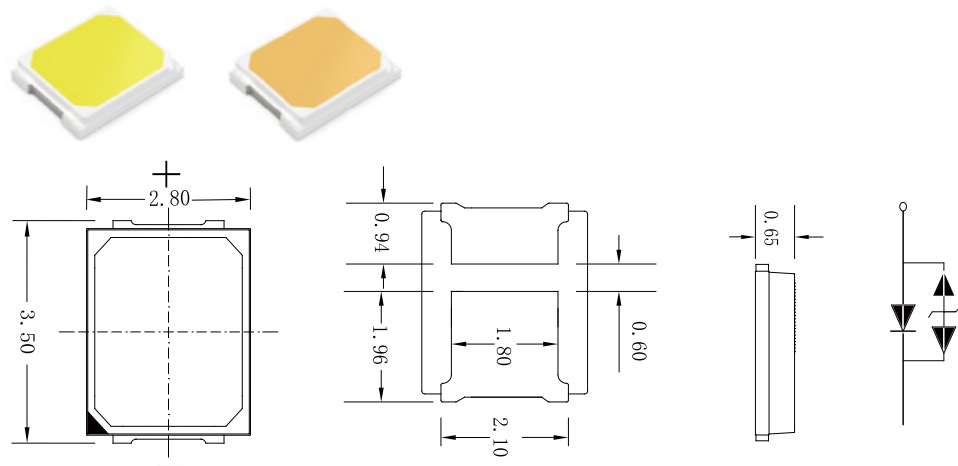
Color	Part No.	Forward Current		Forward Voltage	Luminous Intensity	CIE x/y or Dominant Wavelength	R _{thj-s} el.	T _J Max.	Viewing Angle
		mA		V	mcd	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
Red	RF-OMRL30TS-CG-G	50	70	2.0	20000	622	130	125	30
Red	RF-RSRL30TS-CG-G	50	70	2.0	14000	631	130	125	30
Yellow	RF-YMRL30TS-CG-G	50	70	2.0	18000	590	130	125	30
Green	RF-GNRL30TS-CG-G	50	70	2.0	18000	520	130	125	30
Blue	RF-BNRL30TS-CG-G	50	70	2.0	5500	470	130	125	30
Red	RF-OMRL30TS-AB-G	50	70	2.0	5500	622	130	125	60
Red	RF-RSRL30TS-AB-G	50	70	2.0	4800	631	130	125	60
Yellow	RF-YMRL30TS-AB-G	50	70	2.0	5600	590	130	125	60
Green	RF-GNRL30TS-AB-G	50	70	2.0	14000	520	130	125	60
Blue	RF-BNRL30TS-AB-G	50	70	2.0	2300	470	130	125	60

3535PLCC6

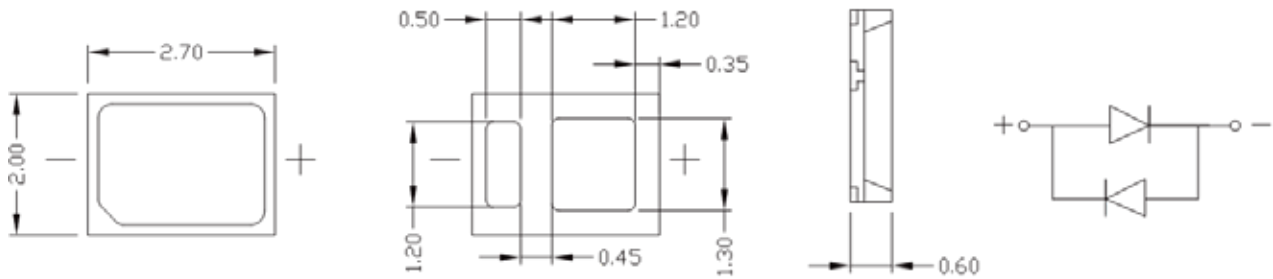


Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rth _{j-s} el.	T _J Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A1T35-W5SE-A9	150	180	3.0	61	(0.326,0.345)	40	150	120
PC Amber	RF-A1T35-WYSE-A9	150	180	3.0	48	(0.572,0.417)	40	150	120
Red	RF-OMRA35TS-AB-J	150	160	2.0	22	622	60	150	120
Yellow	RF-A2T35-Y93E-Y6	150	160	2.0	22	590	60	150	120

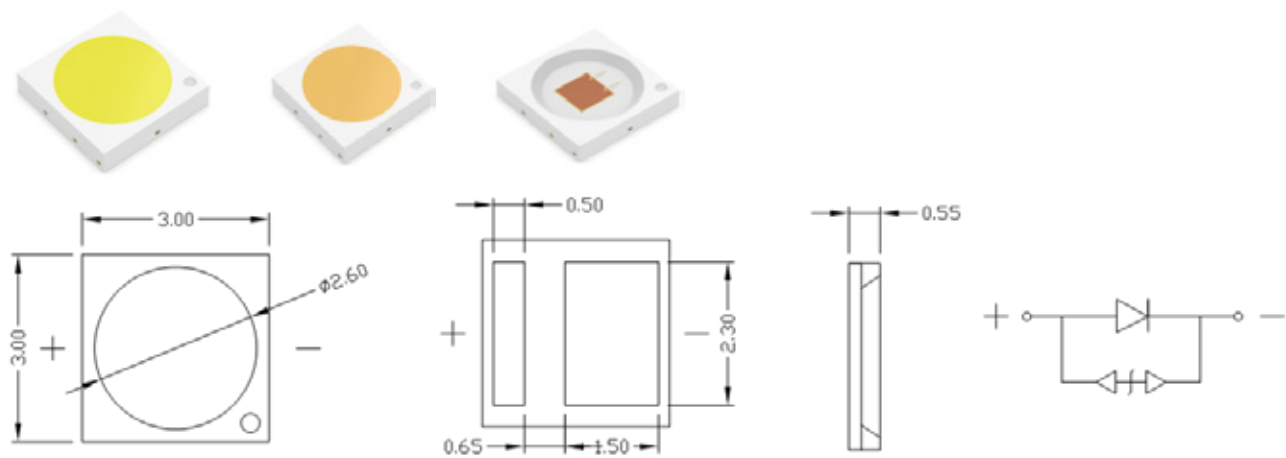
2835



Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rth _{j-s} el.	T _J Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A1T28-W57E-A9	150	180	3.0	62	(0.326,0.345)	36	150	120
PC Amber	RF-WMRI32DS-FH-JZ	150	180	3.0	45	(0.572,0.417)	36	150	120
Red	RF-OMRI32TS-CE-J	150	160	2.2	22	622	55	150	120
Yellow	RF-YMRI32TS-CE-J	150	160	2.2	22	590	55	150	120

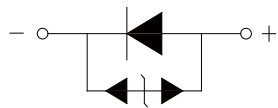
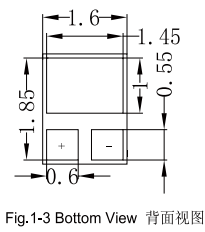
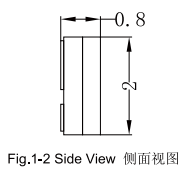
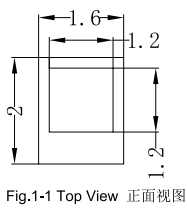


Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	$R_{th, j-s}$ el.	T_J Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A3E27-W60E-A8	150	180	3.2	60	(0.323,0.3349)	30	150	120
White	RF-A3E27-W60H-B3	350	380	3.2	125	(0.323,0.3349)	15	150	120
PC Amber	RF-A3E27-WYSE-A8	150	180	3.2	43	(0.572,0.417)	30	150	120
PC Amber	RF-A3E27-WYSG-B3	300	350	3.1	75	(0.572,0.417)	17	150	120
Red	RF-A4E27-R22E-R4	150	160	2.2	24	621	30	150	120
Red	RF-A4E27-R22H-S1	350	380	2.3	62	623	15	150	120
Red	RF-A4E27-R22M-S2	700	700	2.6	102	623	12	150	120
Yellow	RF-A4E27-Y92E-Y4	150	160	2.2	21	590	30	150	120
Yellow	RF-A4E27-Y92H-Y9	350	380	2.2	44	590	15	150	120
Yellow	RF-A4E27-Y92M-S0	700	700	2.5	88	590	12	150	120



Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rth _{J-<i>s</i>} el.	T _J Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A3E31-W60H-B3	350	380	3.1	125	(0.323,0.3349)	15	150	120
PC Amber	RF-A3E31-WYSG-B6	300	350	3.1	80	(0.572,0.417)	13	150	120
Red	RF-A4E31-R22H-S4	350	380	2.3	58	622	12	150	120
Yellow	RF-A4E31-Y90H-S4	350	380	2.3	45	592	12	150	120

Ceramic with one chip-3W series



Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rth _{J-<i>s</i>} el.	T _J Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A3H10-W60P-E4	1000	1200	3.2	330	(0.33,0.34)	4.5	150	120
White	RF-A3H10-W60P-E5	1000	1200	3.2	380	(0.33,0.34)	4.5	150	120
PC Amber	RF-A3H10-WYSP-E5	1000	1200	3.2	170	(0.572,0.417)	4.5	150	120

Ceramic with two chip-6W series

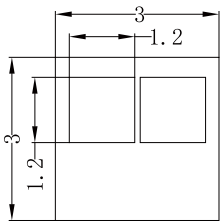


Fig.1-1 Top View 正面视图

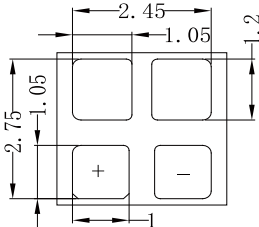


Fig.1-3 Bottom View 背面视图

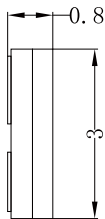


Fig.1-2 Side View 侧面视图

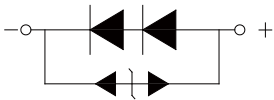
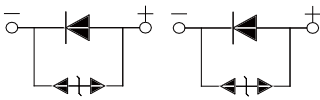
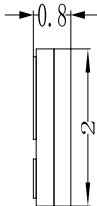
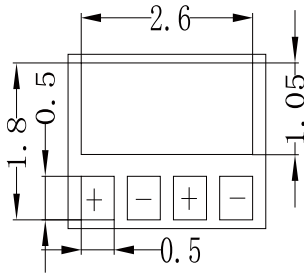
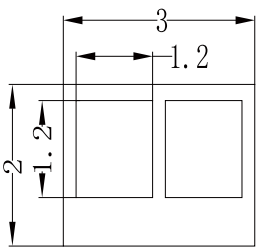


Fig.1-4 Polarity 极性

Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rthj-s el.	TjMax.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A3H22-W60P-E4	1000	1200	6.5	600	(0.33,0.34)	2.9	150	120
White	RF-A3H22-W60P-E5	1000	1200	6.5	660	(0.33,0.34)	2.9	150	120

Ceramic with two chip-3W / 3W bi-color series



Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rthj-s el.	TjMax.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
Bi color	RF-A3H21-2B1P-E5	1000	1200	3.2	White:325 Amber:170	White: (0.33,0.34) Amber: (0.57,0.42)	3.2	150	120

Ceramic with three chip-9W series

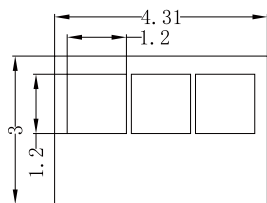


Fig.1-1 Top View 正面视图

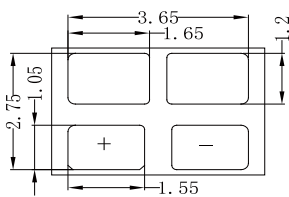


Fig.1-3 Bottom View 背面视图

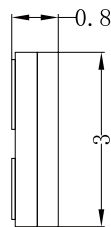


Fig.1-2 Side View 侧面视图

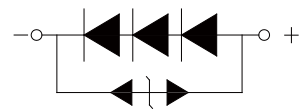
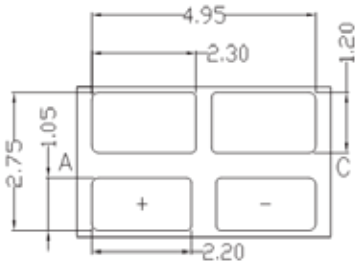
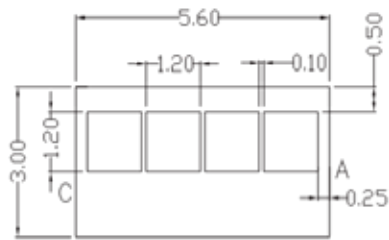


Fig.1-4 Polarity 极性

Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rth _{j-s} el.	T _J Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A3H30-W60P-E5	1000	1200	10	1000	(0.33,0.34)	2.9	150	120

Ceramic with four chip-12W series



Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rth _{j-s} el.	T _J Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A3H40-W60P-E5	1000	1200	13	1400	(0.33,0.34)	2.2	150	120

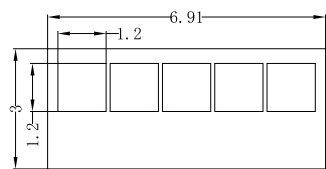


Fig.1-1 Top View 正面视图

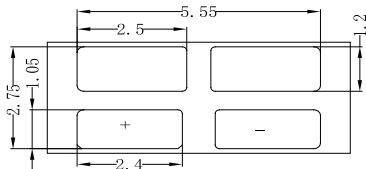


Fig.1-3 Bottom View 背面视图

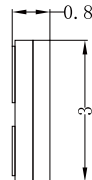


Fig.1-2 Side View 侧面视图

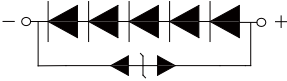


Fig.1-4 Polarity 极性

Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	CIE x/y or Dominant Wavelength	Rth j-s el.	TjMax.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A3H50-W60P-E5	1000	1200	16	1600	(0.33,0.34)	2.2	150	120

Car interior lighting application

车内应用

1. Super high reliability, 0 ppm defective rate

2. Customized color, full colors, single bin no chromatic aberration

3. AEC-Q102 solution, good air tightness and anti-vulcanization performance

4. Good service and quick delivery, shortest lead time for sample is only 3 days

5. Complete product line, meet various scenes demand, support pin to pin replace

6. Excellent color matching ability, provide equivalence LED module color solution in a short time once get the module from customer
1. 超高可靠性, 产品质量零缺陷、零失效率

2. 光色可选自由定制, 单bin无色差

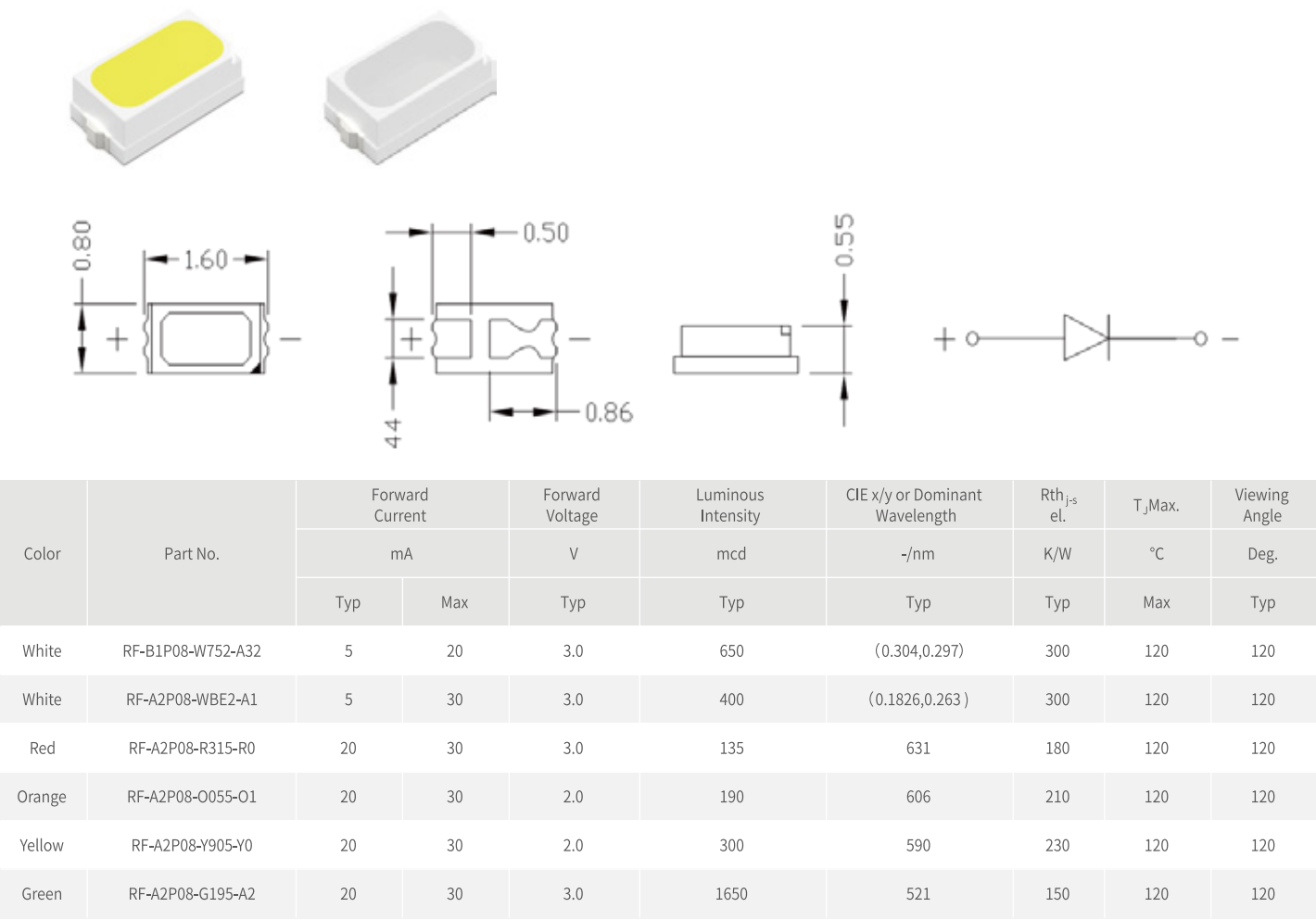
3. AEC-Q102解决方案, 产品气密性/防硫化性能好

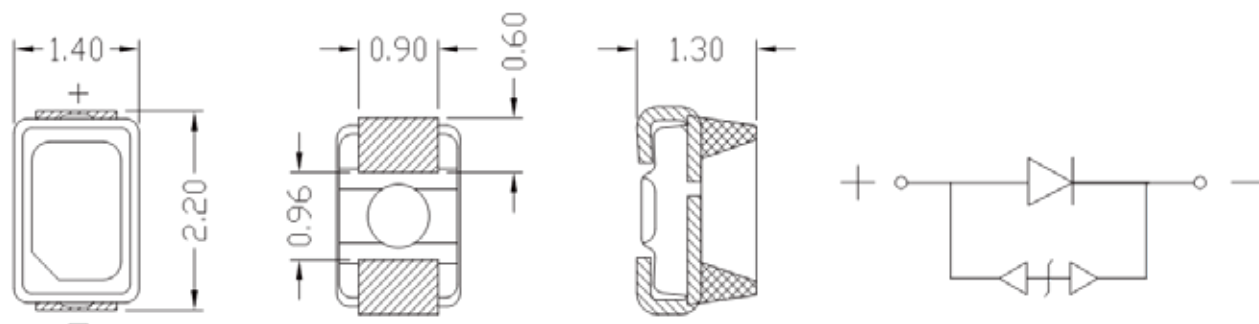
4. 快速响应及综合服务能力, 样品最快3天交样

5. 产品家族齐全, 矩阵丰富, 满足各类型场景需求

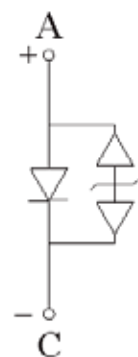
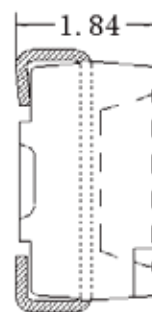
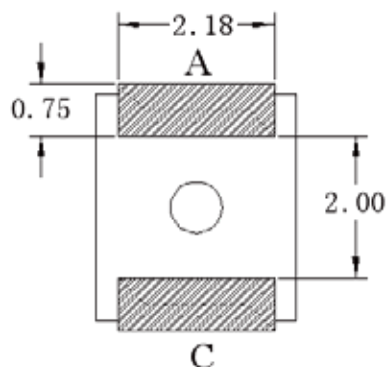
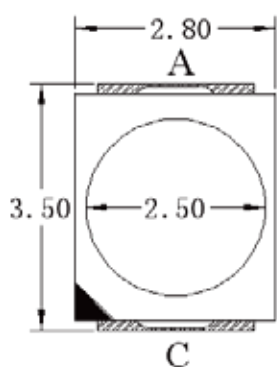
6. 模组调色能力优, 可实现从客户提供模组, 到LED模组颜色对标替换方案快速响应

1608



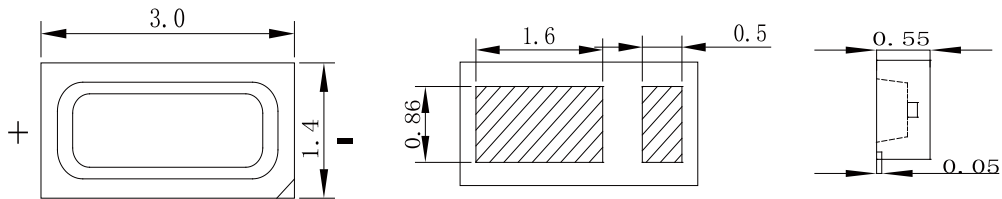


Color	Part No.	Forward Current		Forward Voltage	Luminous Intensity	CIE x/y or Dominant Wavelength	R _{th j-s} el.	T _j Max.	Viewing Angle
		mA		V	mcd	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-WMRB14DS-GG-Z	20	30	3.0	600	(0.3103,0.2975)	300	120	120
White	RF-WMRB14DS-FL-BZ	20	30	3.0	250	(0.3177,0.306)	360	120	120
White	RF-A1P14-W892-A11	5	30	3.0	55	(0.2805,0.294)	360	120	120
White	RF-A1P14-W122-A11	5	30	3.0	330	(0.2807,0.2737)	360	120	120
White	RF-BWRB14DS-FW-BZ	5	30	3.0	350	(0.264,0.247)	360	120	120
White	RF-A1P14-WBF2-A2	5	30	3.0	300	(0.2202,0.188)	360	120	120
White	RF-A1P14-WA52-A4	5	30	3.0	250	(0.1559,0.08)	360	120	120
PC Amber	RF-WMRB14DS-WY-F	20	30	3.0	2600	(0.572,0.417)	300	120	120
Red	RF-OMRB14TS-AK	20	30	2.0	1000	618	350	120	120
Red	RF-OMRB14TS-AA	20	30	2.0	1100	621	350	120	120
Red	RF-RSRB14TS-BB	20	30	2.0	700	631	350	120	120
Orange	RF-AURB14TS-AA-B	5	30	2.0	90	606	350	120	120
Yellow	RF-YMRB14TS-BB	20	30	2.0	900	590	340	120	120
Green	RF-GNRB14TS-CF-Z	20	30	3.0	1100	521	260	120	120
Blue	RF-BNRB14TS-AK-Z	20	30	3.0	450	469	250	120	120



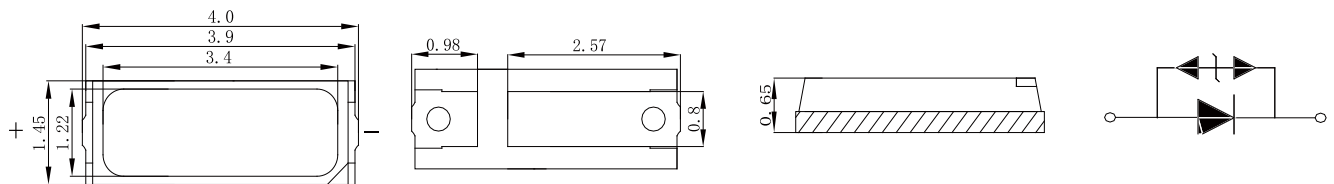
Color	Part No.	Forward Current		Forward Voltage	Luminous Intensity	CIE x/y or Dominant Wavelength	Rth _{J-s} el.	T _J Max.	Viewing Angle
		mA		V	mcd	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
White	RF-WNRA30DS-ED(1)	20	30	3.0	2700	(0.3325,0.3405)	160	120	120
White	RF-BWRA30DS-EG-Z	20	30	3.0	2500	(0.283,0.2777)	160	120	120
White	RF-WMRA30DS-AZ-D	15	30	3.0	2000	(0.304,0.297)	180	120	120
White	RA-A30Z-W01B-J23	5	30	3.0	560	(0.3025,0.313)	240	120	120
White	RF-A1A30-WD92-A31	5	30	3.0	250	(0.269,0.26)	240	120	120
White	RF-A1A30-WB12-A2	5	30	3.0	600	(0.2145,0.2)	240	120	120
White	RF-A1A30-WA02-A4	5	30	3.0	480	(0.1935,0.17)	240	120	120
PC Amber	RF-A1A30-WYS5-A1	5	30	3.0	1600	(0.154,0.0673)	240	120	120
Red	RF-A1A3F-R165-R1	20	30	2.0	1100	618	300	120	120
Red	RF-OURA30TS-AE	20	30	2.0	300	621	300	120	120
Red	RF-RSRA30TS-DD	20	30	2.0	450	631	300	120	120
Orange	RF-AURA30TS-ED(1)	20	30	2.0	300	606	300	120	120
Yellow	RF-A1A3F-Y895-Y1	20	30	2.0	750	590	300	120	120
Yellow	RF-AURA30TS-BB-Z	20	30	2.0	1100	590	300	120	120
Green	RF-GNRA30TS-CF-Z	20	30	2.0	1200	522	200	120	120
Blue	RF-BNRA30DS-BB-C	10	30	3.0	160	470	200	120	120

EMC3014 series

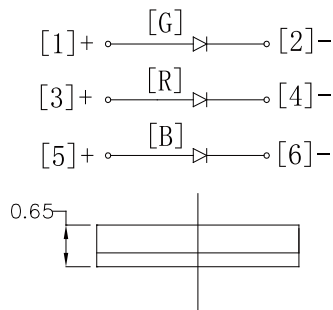
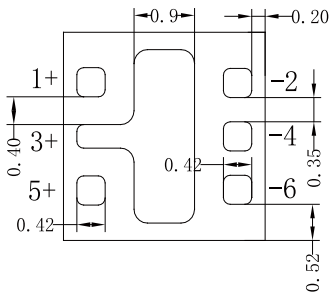
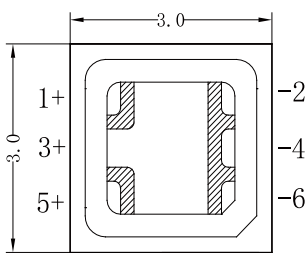


Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	Efficacy	CIE x/y or Dominant Wavelength	R _{thj-s} el.	T _j Max.	Viewing Angle
		mA		V	lm	lm/W	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Typ	Max	Typ
White	RF-A1F30-W1FD-B1	120	150	3.0	46	102	(0.26,0.24)	23	125	120
White(高色域)	RF-A1F30-W1ED-B1	120	150	3.0	44	97	(0.26,0.24)	23	125	120
White	RF-A1F30-W1FN-B1	80	150	2.9	33	76	(0.26,0.24)	50	125	120

EMC4014 series



Color	Part No.	Forward Current		Forward Voltage	Luminous Flux	Efficacy	CIE x/y or Dominant Wavelength	R _{thj-s} el.	T _j Max.	Viewing Angle
		mA		V	lm	lm/W	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Typ	Max	Typ
Red	RF-A2F40-R23D-R6	120	150	2.0	18	/	623	300	115	120
Yellow	RF-A2F40-Y93D-Y6	120	150	2.0	18	/	593	300	115	120
White	RF-A1F40-W15B-A8	90	120	3.0	35	110	(0.28,0.27)	300	115	120
White	RF-A1F40-W75B-A8	90	120	3.0	32	107	(0.30,0.29)	300	115	120



Color	Part No.	Forward Current		Forward Voltage	Luminous Intensity	CIE x/y or Dominant Wavelength	Rth _{j-s} el.	T _j Max.	Viewing Angle
		mA		V	lm	-/nm	K/W	°C	Deg.
		Typ	Max	Typ	Typ	Typ	Typ	Max	Typ
RGB	RF-A2E31-RGB9-W1	R:60 G:60 B:60	60	R:2.2 G:3.3 B:3.3	R:8-12 G:12-18 B:3-6	R:624 G:520 B:467	50	125	120
RGB	RF-A2E31-RGBE-W1	R:150 G:150 B:150	160	R:2.2 G:3.2 B:3.2	R:13-19.6 G:24.2-37 B:6.9-13	R:624 G:525 B:465	10	125	120

Electrical products

-
电气产品



Module

模组

1. Power coverage is complete, and various types of security lighting boards can be customized

2. The module can match LEDs with different viewing angle and realize secondary optical design

3. Complete product supporting services, support one stop development, sampling, mass production and delivery services

4. It can be equipped with different CMOS schemes,perfect design from device to module

5. Stable performance, high reliability and long service life
1. 功率覆盖齐全, 可定制各类安防补光灯板

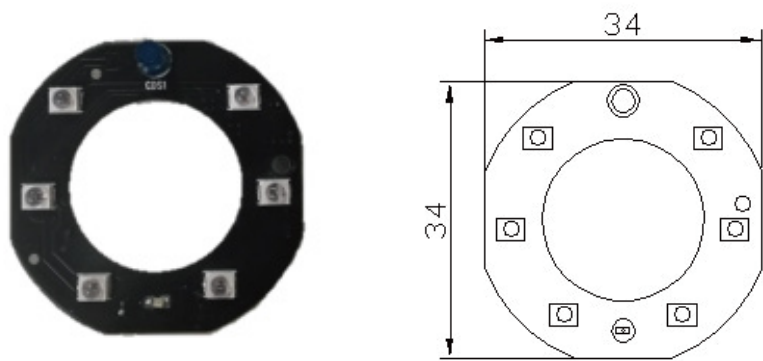
2. 模组匹配不同封装角度灯珠和实现二次光学设计

3. 产品配套服务能力齐全, 支持一站式开发打样量产交付服务

4. 可搭载不同的CMOS方案从器件到模组设计优化

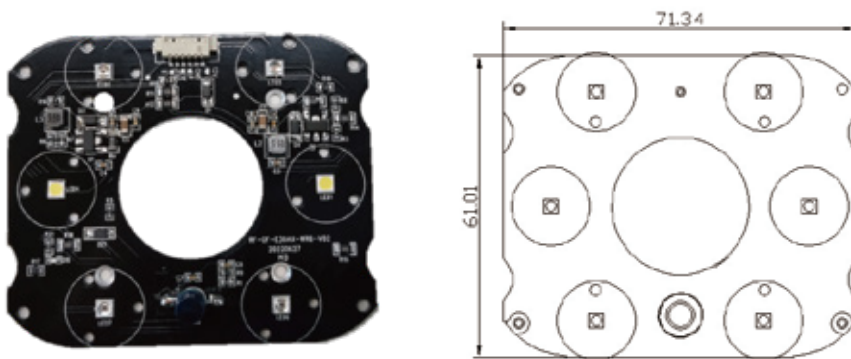
5. 性能稳定, 可靠性高, 寿命长

Fixed turret surveillance camera series



Part No.	Photosensitive device		Driving Voltage	Light source type	IR Dominant Wavelength	Temperature Color of White Light
	Sizi	Photosensitive wavelength				
	mm	nm	V	Typ	nm	K
RF-MZ-IR-P28-6-V10	Φ3/Φ5	400-700	5V	IR	850/940	/
RF-MZ-IR-P28-8-V10	Φ3/Φ5	400-700	5V	IR	850/940	/
RF-HSP28-IR6-V10	/	/	5V	IR	850/940	/
RF-YSP28-IR6-V11	/	/	5V	IR	850/940	/

Bullet surveillance camera series



Part No.	Photosensitive device		Driving Voltage	Light source type	IR Dominant Wavelength	Temperature Color of White Light
	Sizi	Photosensitive wavelength				
	mm	nm		Typ	nm	K
RF-OF-E30AX-WR6-V01	φ5	400-700	12V	IR+W	850	3000/4000/5000/6000
RF-XLE30-WR8A-V01	φ5	400-700	12V	IR+W	850	3000/4000/5000/6000
RF-SBP28-BG4-V01	/	/	12V	W/IR/IR+W	850	3000/4000/5000/6000
RF-JXE30-IR4-V01	φ5	400-700	5V	IR	850	/
RF-SBE30-WR2-8305-V01	/	/	12V	W/IR/IR+W	850	3000/4000/5000/6000

Dome surveillance camera series



Part No.	Photosensitive device		Driving Voltage	Light source type	IR Dominant Wavelength	Temperature Color of White Light
	Sizi	Photosensitive wavelength				
	mm	nm		Typ	nm	K
RF-ZX-E30-BG6-V01	/	/	12V	W	/	3000
RF-SBP28-BG2-V01	/	/	12V	W	/	3000/4000/5000/6000
RF-JXE30-WR8-V01	/	/	5V	IR+W	850	3000/4000/5000/6000

IR
红外

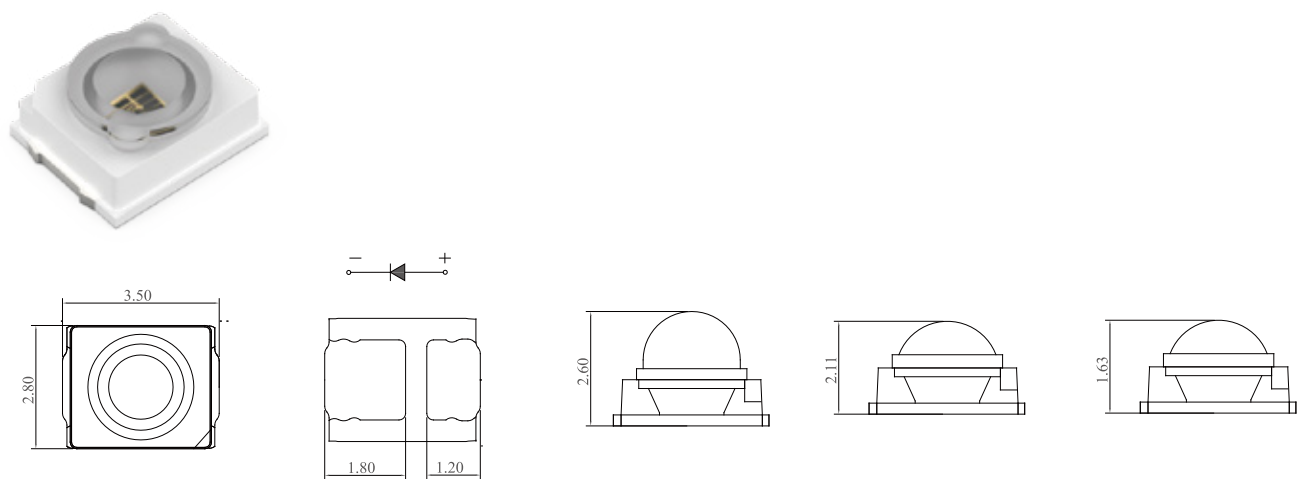
Full power from 0.2W to 5W

- 1. Full power range
- 2. Various viewing angles
- 3. Customized viewing angles
- 4. Full product types, pin to pin replace

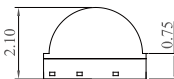
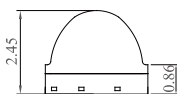
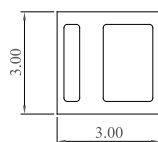
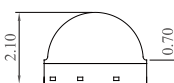
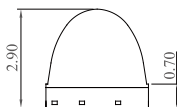
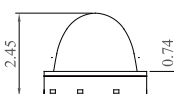
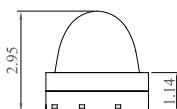
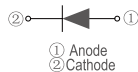
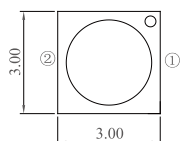
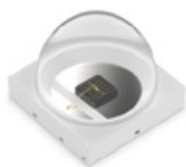
产品功率覆盖从0.2w到5w

- 1.角度丰富
- 2. 功率覆盖齐全
- 3.角度定制化
- 4.产品齐全, pin to pin替代

2835 series

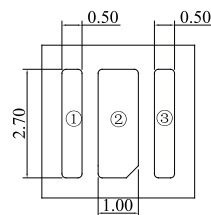
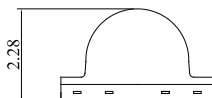
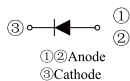
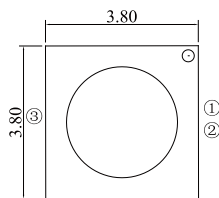
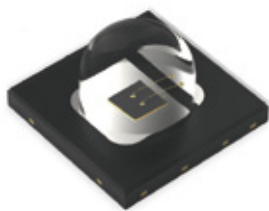


Part No.	Forward Current		Forward Voltage	Total radiant flux/Luminous Flux	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/lm	‘-/nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-P28A3-IRN-FT	100	100	1.6	65	850	17
RF-P28Q3-IRN-FT	100	100	1.6	65	850	17
RF-P28A3-IRL-FT	100	100	1.6	60	850	17
RF-P28Q3-IRJ-FT	50	50	1.6	28	850	17
RF-P28D3-IPN-FT	100	100	1.6	60	940	17
RF-P28A6-IRN-FT	100	100	1.6	65	850	70
RF-P28Q6-IRN-FT	100	100	1.6	65	850	70
RF-P28A6-IRL-FT	50	50	1.6	60	850	70
RF-P28Q6-IRJ-FT	50	50	1.6	28	850	70
RF-P28D6-IPN-FT	100	100	1.6	65	940	70
RF-P28Q8-IRN-FT	100	100	1.6	65	850	80
RF-P28A8-IRL-FT	100	100	1.6	60	850	80
RF-P28A8-IRN-FT	100	100	1.6	65	850	80



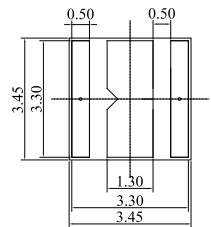
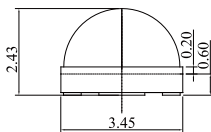
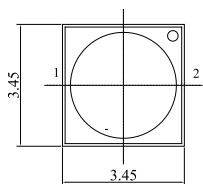
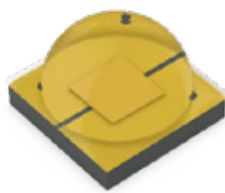
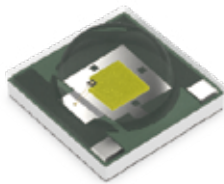
Part No.	Forward Current		Forward Voltage	Total radiant flux/Luminous Flux	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/lm	°/nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-E30AH-IRT-FS	500	500	1.6	350	850	20
RF-E30AE-IRT-FS	500	500	1.6	350	850	20
RF-E30A4-IRT-FS	500	500	1.6	350	850	45
RF-E30A9-IRT-FS	500	500	1.6	350	850	100
RF-E30AG-IRT-FS	500	500	1.6	350	850	90
RF-E30AF-IRT-FS	500	500	1.6	350	850	50
RF-E30A6-IPX-FS	500	500	1.6	224	940	45
RF-E30AX-IPX-FS	500	500	1.6	224	940	100
RE30A0-IPX-FR	500	500	1.6	224	940	120
RF-E30AX-BNZ-FS	500	500	3.2	20	460	100
RF-E30AX-OUH-FS	500	500	2.2	45	620	100
RF-E30AX-GNZ-FS	500	500	3.2	100	520	100
RF-E30J5-WHZ-FS	350	500	3.2	90	0.4365/0.4091	30
RF-E30J8-WHZ-FS	350	500	3.2	90	0.4365/0.4091	45
RF-E30JG-WHZ-FS	350	500	3.2	90	0.4365/0.4091	90
RF-E30S9-IRS-FS-J	500	500	16	320	850	35°60
RF-E30SF-IRS-FS-J	500	500	16	320	850	25°50

3838 series

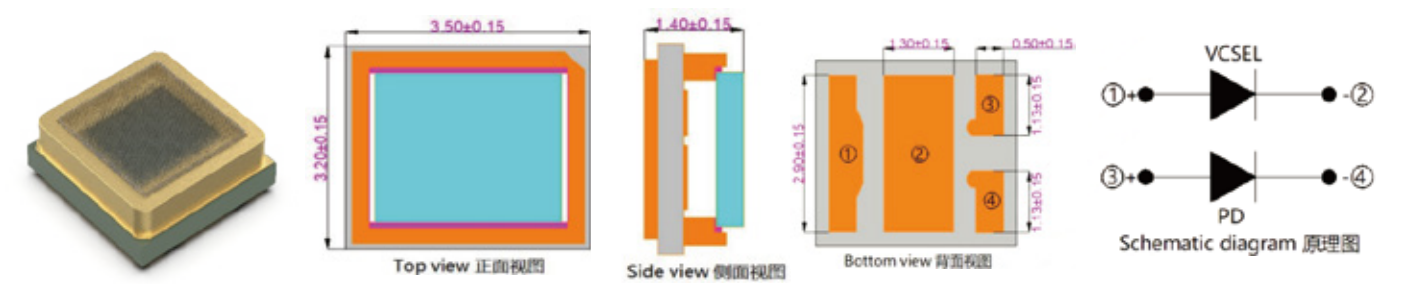


Part No.	Forward Current		Forward Voltage	Total radiant flux	Peak Wavelength	Viewing Angle
	mA		V	mW	nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-E38A8-IRB-FR	1000	1000	1.8	800	850	80
RF-E38A8-IRD-FR	1000	1500	1.8	900	850	80
RF-E38A8-IRD-FR-D	1000	1500	3.2	1400	850	80
RF-E38A8-IQD-FR	1000	1500	1.8	900	940	80
RF-E38A8-IQD-FR-D	1000	1500	3.2	1400	940	80

3535 series



Part No.	Forward Current		Forward Voltage	Total radiant flux/Luminous Flux	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/lm	°/nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-X35E0-WMF-DR	350	1500	3	165	0.318/0.338	110
RF-X35E0-WHF-DR	350	1500	3	160	0.4365/0.4091	110
RF-C35J0-WMB-FS	230	800	3	90	0.318/0.338	120



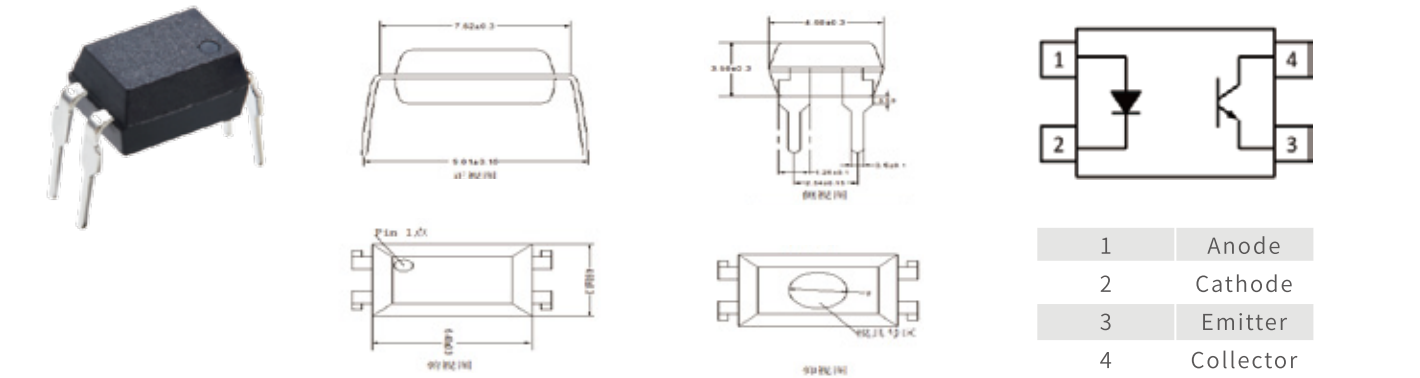
Part No.	Forward Current		Forward Voltage	Total radiant flux/Luminous Flux	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/lm	nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-TAD3203PA00-C78	3500	3500	2.1	3000	940	72°58

Optocoupler
光耦

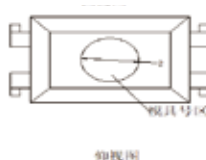
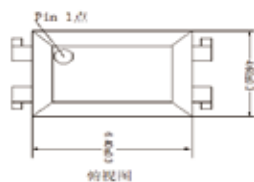
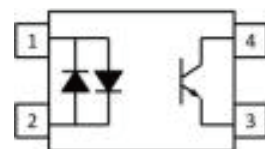
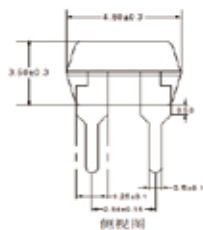
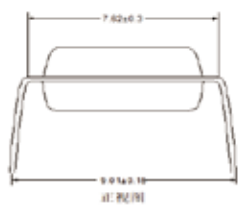
81X
Optocoupler 81X series including 817, 814 and 816 etc.
1. Special dispensing red silica gel, then AOI full inspection, 0 ppm of no glue dispersion failure.
2. PIN TO PIN compatible for the first-Line brands
3. Large size chip can improve the yield and bin drop rate
4. Two-piece leadframe to match each other with high reliabilityhigh stability.
5. Materials solution: using environmental harmony type halogen-free materials.

81X
光耦81X晶体管系列, 其中包括817、814、816等
1.红胶工艺 零缺陷失效率
2.PIN TO PIN 替代一线品牌
3.内部采用大尺寸芯片搭配, 分档细, 客制化高, 落IBIN率集中
4.采用传统的工艺, 双片支架, 上下对射, 稳定性高。
5. 材料选择环保无卤素方案

8XX series



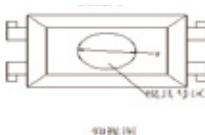
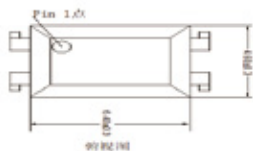
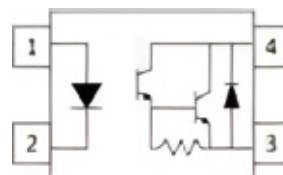
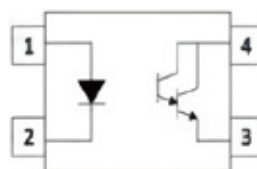
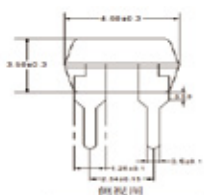
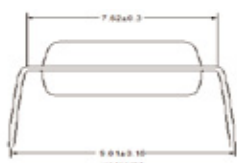
Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCØ min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR(%)
RF-816	6.4 × 4.6 × 3.50	1.2	4 / 3	80	5000	0.2	50-600
RF-817	6.4 × 4.6 × 3.50	1.2	4 / 3	35	5000	0.2	50-600
RF-851	6.4 × 4.6 × 3.50	1.2	4 / 3	350	5000	0.2	50-600



1	Anode
2	Cathode
3	Emitter
4	Collector

Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCE min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR(%)
RF-814	6.4 × 4.6 × 3.50	1.2	4 / 3	80	5000	0.2	200-300

8XX series



815

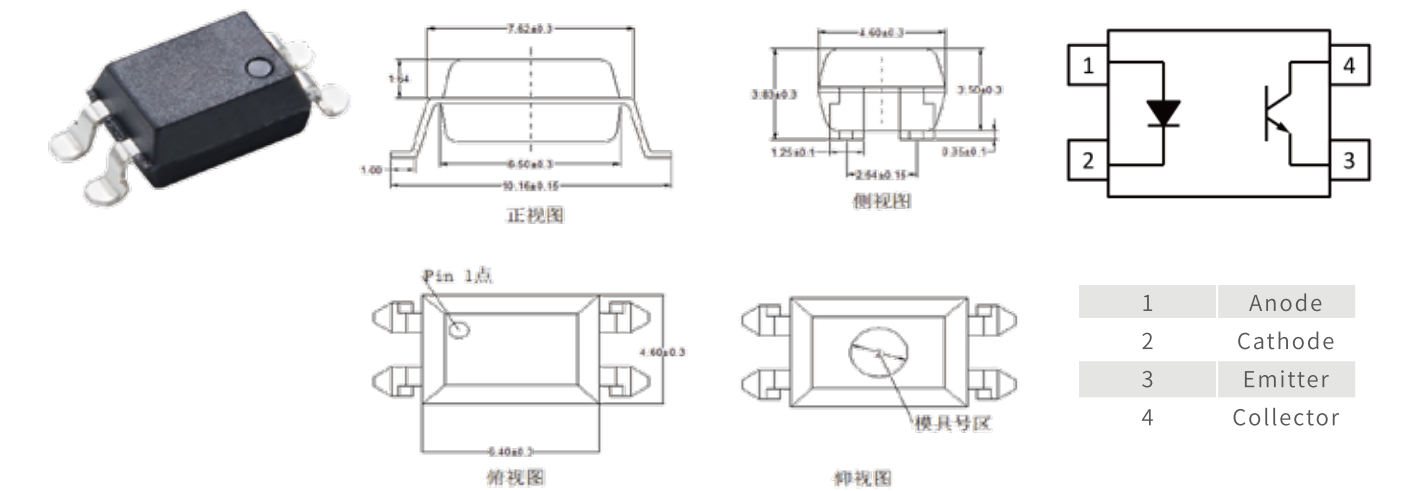
852

1	Anode
2	Cathode
3	Emitter
4	Collector

1	Anode
2	Cathode
3	Emitter
4	Collector

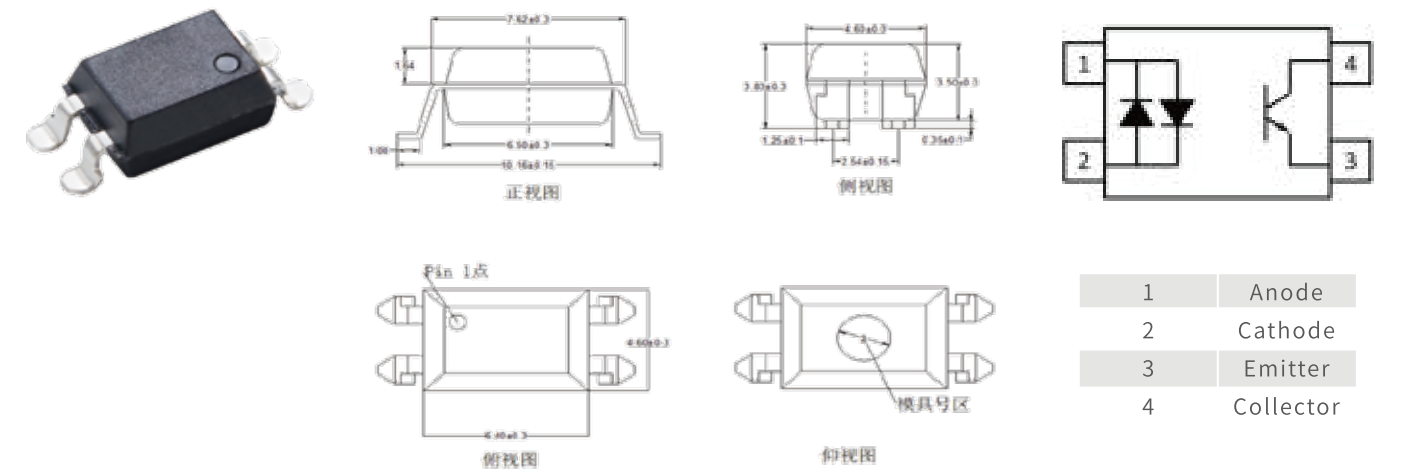
Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR (%)
RF-815	6.4 × 4.6 × 3.50	1.2	60 / 53	35	5000	1	600-7500
RF-852	6.4 × 4.6 × 3.50	1.2	300/100	350	5000	1.2	1000-15000

8XXS series



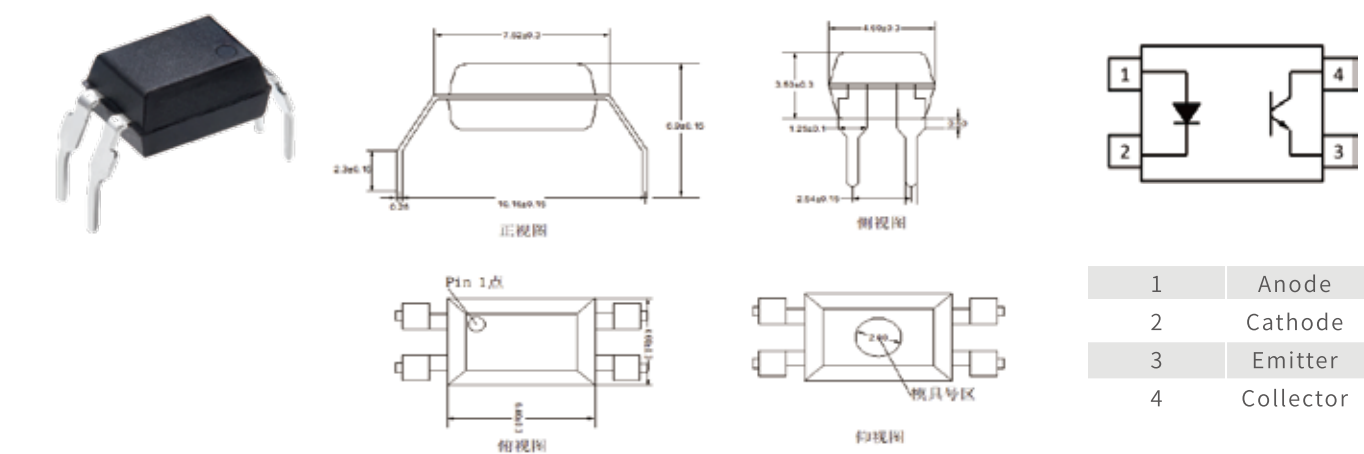
Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time (us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR(%)
RF-816S	6.4 × 4.6 × 3.50	1.2	4 / 3	80	5000	0.2	50-600
RF-817S	6.4 × 4.6 × 3.50	1.2	4 / 3	80	5000	0.2	50-600
RF-851S	6.4 × 4.6 × 3.50	1.2	4 / 3	350	5000	0.2	50-600

8XXS series



Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time (us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR(%)
RF-814S	6.4 × 4.6 × 3.50	1.2	4 / 3	80	5000	0.2	200-300

8XXM series

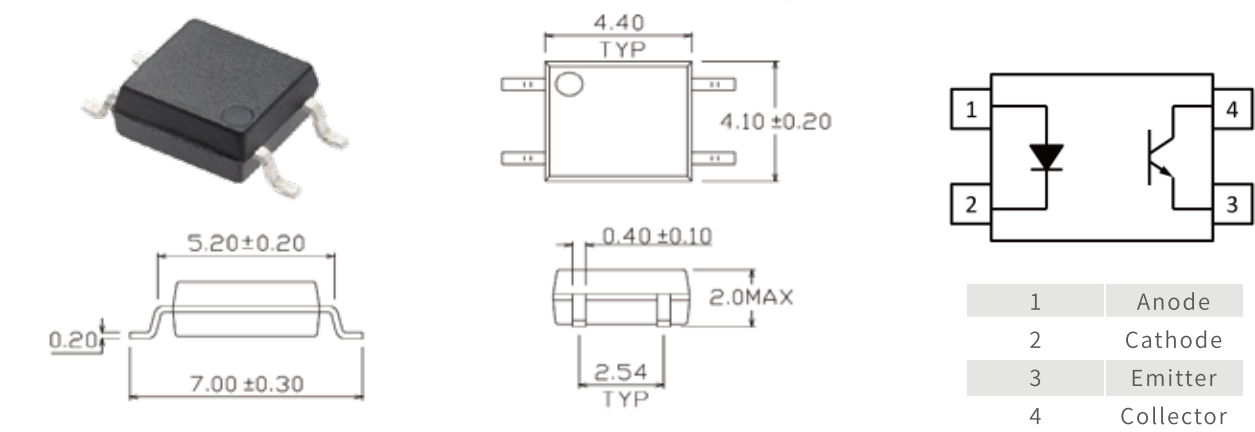


Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time (us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR(%)
RF-816M	6.4 × 4.6 × 3.50	1.2	4 / 3	80	5000	0.2	50-600
RF-817M	6.4 × 4.6 × 3.50	1.2	4 / 3	80	5000	0.2	50-600
RF-851M	6.4 × 4.6 × 3.50	1.2	4 / 3	350	5000	0.2	50-600

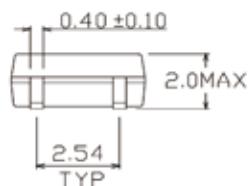
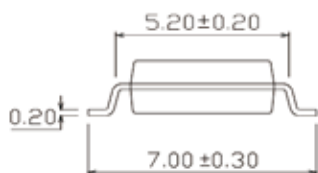
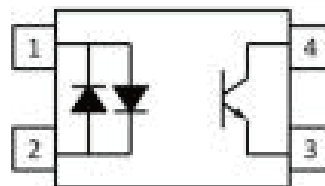
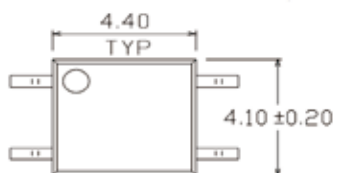
35X
Optocoupler 81X series including 357, 354 and 351 etc.
1. Special dispensing red silica gel, AOI full inspection, 0 ppm of no glue dispension failure.
2. PIN TO PIN compatible for the first-Line brands
3. Large size chip can improve the yield and bin drop rate
4. Materials solution: using environmental harmony type halogen-free materials.

35X
光耦35X晶体管系列, 其中包括357、354、351等
1.红胶工艺 零缺陷失效率
2.PIN TO PIN 替代一线品牌
3.采用传统的工艺, 双片支架, 上下对射, 稳定性高
4.材料选择环保无卤素方案

35X series



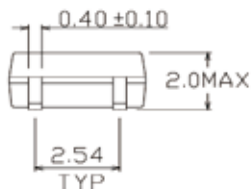
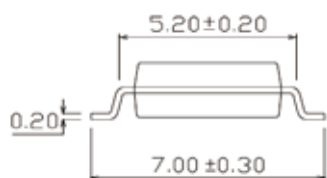
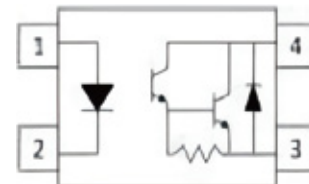
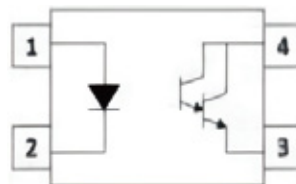
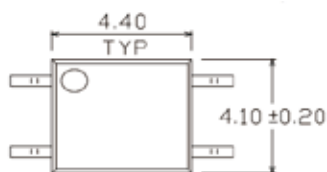
Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time (us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR(%)
RF-357	4.4 × 3.85 × 2	1.2	3 / 4	80	3750	0.2	50-600
RF-351	4.4 × 3.85 × 2	1.2	4 / 3	350	5000	0.2	50-600



1	Anode
2	Cathode
3	Emitter
4	Collector

Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR (%)
RF-354	4.4 × 3.85 × 2	1.2	3 / 4	80	3750	0.2	200-300

35X series



355

1	Anode
2	Cathode
3	Emitter
4	Collector

352

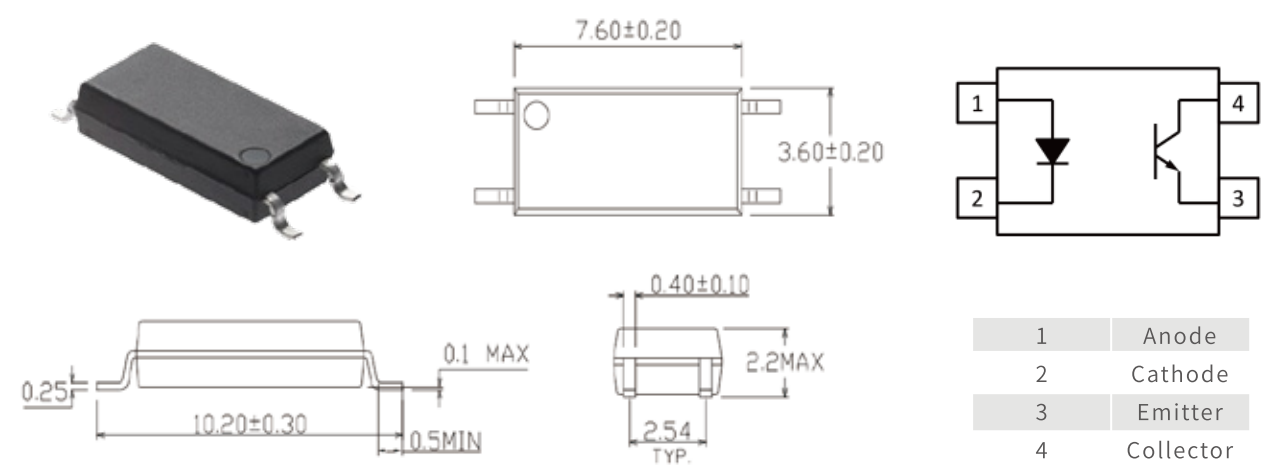
1	Anode
2	Cathode
3	Emitter
4	Collector

Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR (%)
RF-355	4.4 × 3.85 × 2	1.2	60 / 53	35	3750	1	600-7500
RF-352	4.4 × 3.85 × 2	1.2	100 / 20	350	3750	1.2	1000 min.

10XX-2023 new product
Optocoupler 10XX series, miniaturized and long creepage distance
1. Special dispensing red silica gel, then AOI full inspection, 0 ppm of no glue dispensing failure.
2. PIN TO PIN compatible for the first-Line brands
3. Large size chip can improve the yield and bin drop rate
4. Materials solution: using environmental harmony type halogen-free materials.

10XX-2023新品
光耦10XX晶体管系列,小型化光耦,长爬电距离光耦
1.红胶工艺 零缺陷失效率
2.PIN TO PIN 替代一线品牌
3.采用传统的工艺,双片支架,上下对射,稳定性高
4.材料选择环保无卤素方案

10XX series




Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCE min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR (%)
RF-1000	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	50-600
RF-1001	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	100-150
RF-1002	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	60-125
RF-1003	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	100-200
RF-1004	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	160-320
RF-1005	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	50-150
RF-1006	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	100-300
RF-1007	7.5 × 3.6 × 2	1.25	2 / 3	80	5000	0.3	80-160
RF-1008	7.5×3.6×2	1.25	2 / 3	70	5000	0.3	130-260
RF-1009	7.5×3.6×2	1.25	2 / 3	70	5000	0.3	200-400

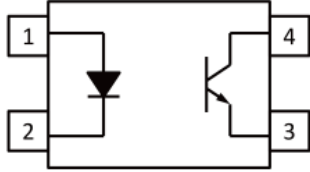
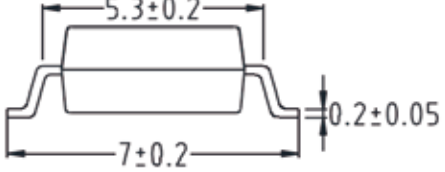
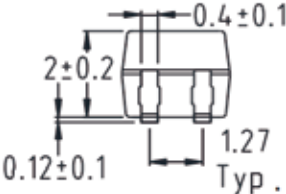
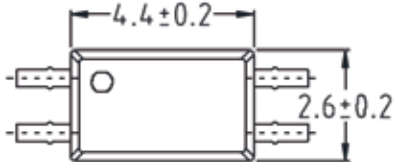
3HX-2023 new product
Optocoupler 3HX series, belonging to mini optocoupler
1. Special dispensing red silica gel, then AOI full inspection, 0 ppm of no glue dispensation failure.
2. PIN TO PIN replace.
3. Large size chip can improve the yield and bin drop rate
4. Materials solution: using environmental harmony type halogen-free materials.

3HX-2023新品
光耦3HX晶体管系列,小型化光耦,属于mini型光耦
1.红胶工艺 零缺陷失效率
2.PIN TO PIN 替代一线品牌
3.采用传统的工艺,双片支架,上下对射,稳定性高
4.材料选择环保无卤素方案

3HX series




Unit:mm

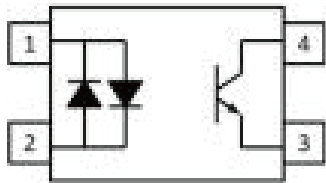
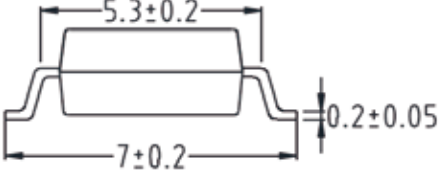
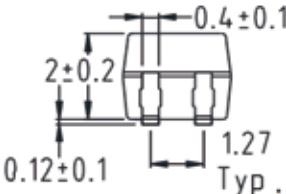
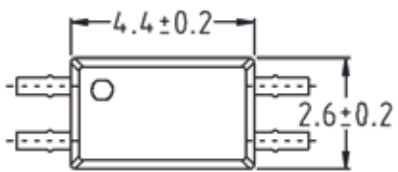


1	Anode
2	Cathode
3	Emitter
4	Collector

Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR (%)
RF-3H7	4.4 × 2.6 × 2	1.2	5 / 3	80	3750	0.2	20-400

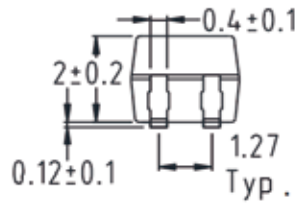


Unit:mm

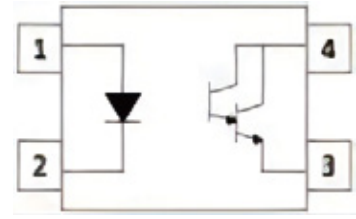
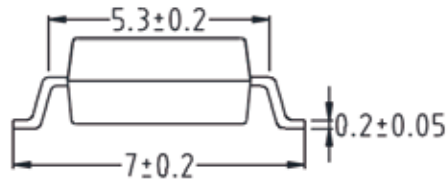
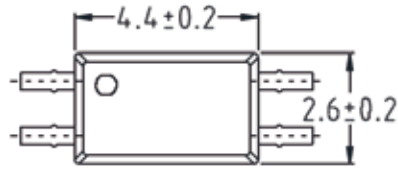


1	Anode
2	Cathode
3	Emitter
4	Collector

Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time(us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR (%)
RF-3H4	4.4 × 2.6 × 2	1.2	6 / 8	80	3750	0.2	20-400



Unit:mm



1	Anode
2	Cathode
3	Emitter
4	Collector

Product	Size (L*W*H mm)	VF Typ(V)	Rise/Fall Time (us)	BVCEO min(V)	Viso (Vrms)	VCE(SAT) max(V)	CTR (%)
RF-3H5	4.4 × 2.6 × 2	1.2	60 / 53	35	3750	1	600-7500

High-speed optocoupler 6N13X Series -2024New Product

高速光耦6N13X系列-2024新品

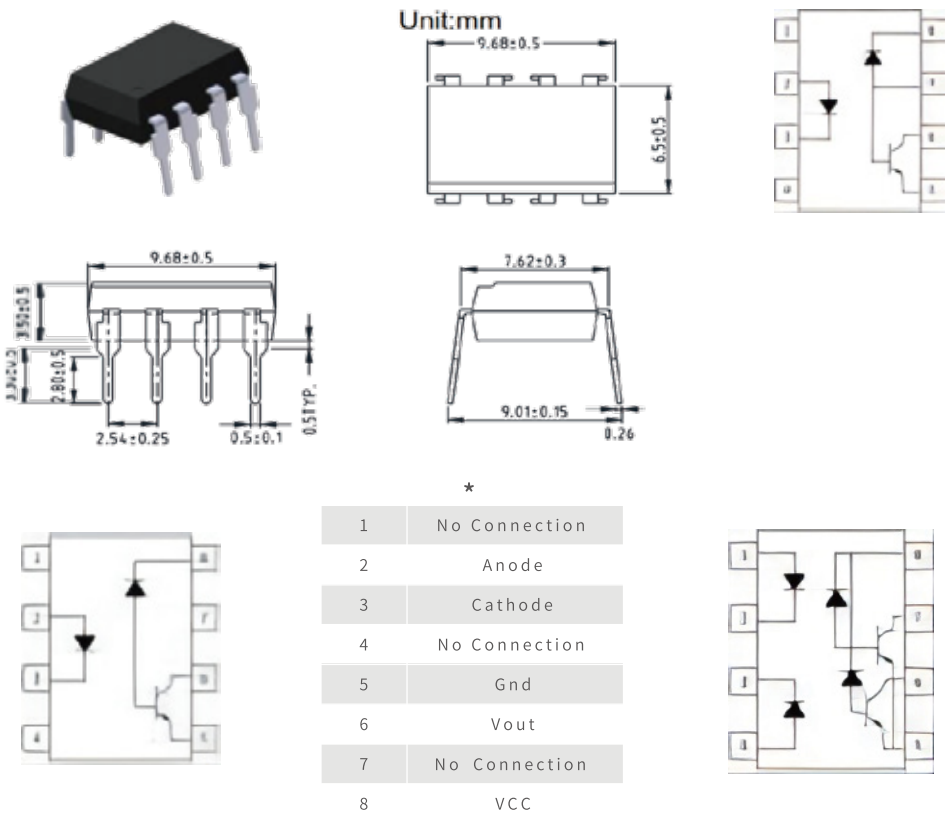
6N13X Series, belongs to the high-speed optocoupler , whose structure is a photodiode amplification drive circuit

- 1. Red glue process: zero defect and failure
- 2. PIN TO PIN compatible for the first-Line brands
- 3. Adopt the traditional technics , two brackets, emitter at the top and the receiver right under the emitter to ensure the high stability
- 4. Materials solution: using environmental harmony type halogen-free materials.

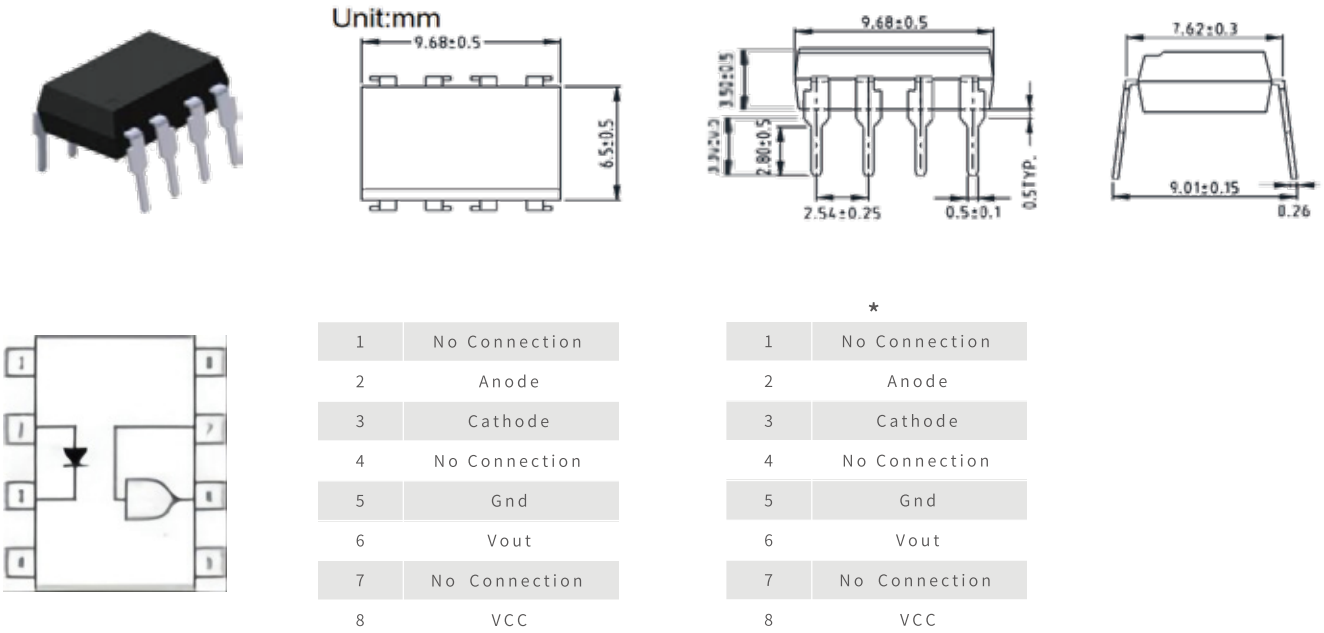
6N13X系列, 属于高速光耦, 它的结构是光电二极管放大驱动电路

- 1.红胶工艺 零缺陷失效率
- 2.PIN TO PIN 替代一线品牌
- 3.采用传统的工艺, 双片支架, 上下对射, 稳定性高
- 4.材料选择环保无卤素方案

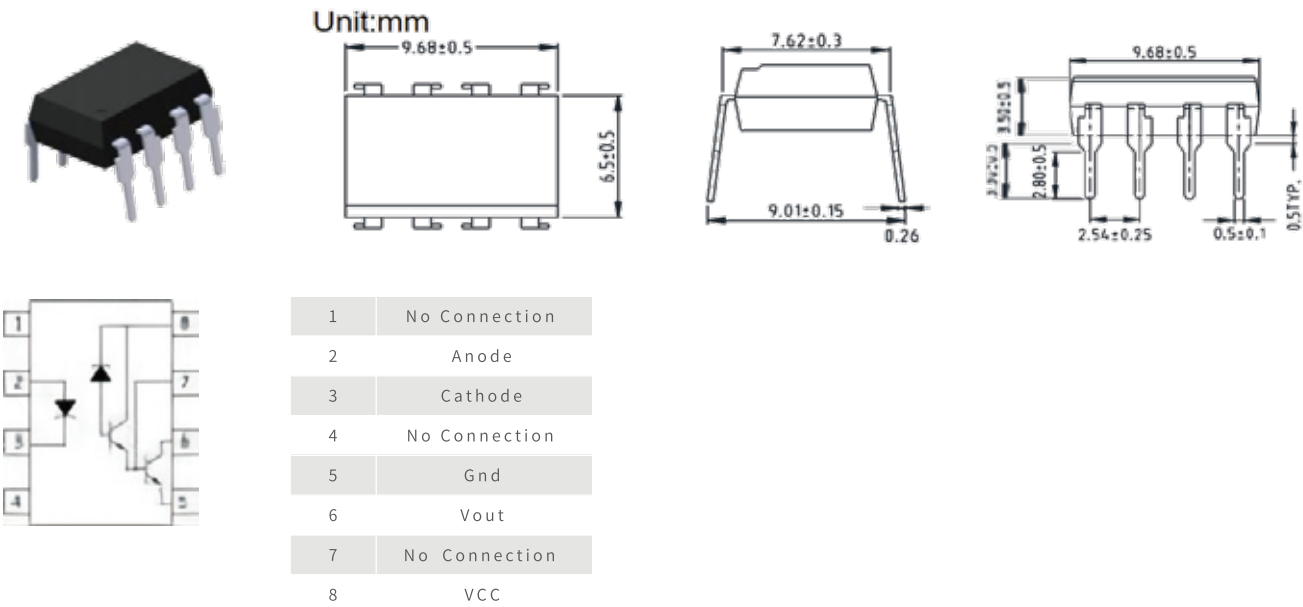
6N13X / 45XX / 25XX series



Product	Size (L*W*H mm)	Supply Voltage(V)	tPHL/tPLH (ns)	CTR (%)	Viso (Vrms)	CMR (KV/us)	IO (mA)
RF-6N135	9.68×6.5×3.5	30 max.	2000 / 2000	7-50	5000	1	8
RF-6N136	9.68×6.5×3.5	30 max.	1000 / 1000	19-50	5000	1	8
*RF-4502	9.68×6.5×3.5	30 max.	1000 / 1000	19-50	5000	1	8
*RF-4503	9.68×6.5×3.5	30 max.	1000 / 1000	19-50	5000	15	8
*RF-4504	9.68×6.5×3.5	30 max.	400 / 400	25-60	5000	15	8
**RF-2530	9.68×6.5×3.5	30 max.	2000 / 2000	7-50	5000	1	8
**RF-2531	9.68×6.5×3.5	30 max.	1000 / 1000	19-50	5000	1	8



Product	Size (L*W*H mm)	Supply Voltage(V)	tPHL/tPLH (ns)	IFT(mA)	Viso (Vrms)	CMR (KV/us)	IO (mA)
RF-6N137	9.68×6.5×3.5	7 max.	75 / 75	5	5000	-	50 max.
RF-2601	9.68×6.5×3.5	7 max.	75 / 75	5	5000	5	50 max.
RF-2611	9.68×6.5×3.5	7 max.	75 / 75	5	5000	10	50 max.
RF-260L	9.68×6.5×3.5	7 max.	75 / 75	5	5000	10	50 max.
*RF-2630	9.68×6.5×3.5	7 max.	100 / 100	5	5000	5	50 max.
*RF-2631	9.68×6.5×3.5	7 max.	100 / 100	5	5000	10	50 max.



Product	Size (L*W*H mm)	Supply Voltage(V)	tPHL/tPLH (ns)	CTR (%)	Viso (Vrm)s	CMR (KV/us)	IO (mA)
RF-6N138	9.68×6.5×3.5	7 max.	15000 /50000	300 min.	5000	1	60 max.
RF-6N139	9.68×6.5×3.5	18 max.	30000 / 90000	500 min.	5000	1	60 max.

Thyristor Optocoupler MOC30XX Series -2024 New product

可控硅光耦MOC30XX系列-2024新品

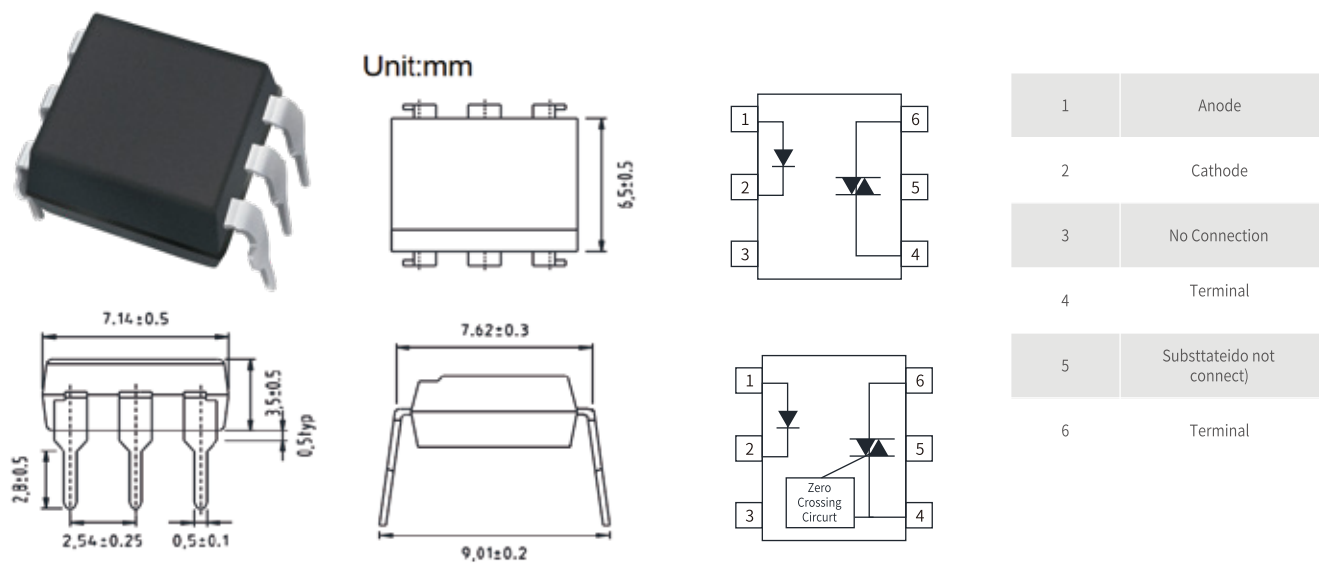
MOC30XX Series, belongs to Thyristor Optocoupler . Except output from crystal , there are also controllable optocouplers.

- 1. Red glue process: zero defect and failure
- 2. PIN TO PIN compatible for the first-Line brand
- 3. Adopt the traditional technics, two brackets, emitter at the top and the receiver right under the emitter to ensure the high stability
- 4. Materials solution: using environmental harmony type halogen-free materials.

MOC30XX系列, 属于可控硅光耦, 从晶体输出以外, 同样有可控制的光耦

- 1.红胶工艺 零缺陷失效率
- 2.PIN TO PIN 替代一线品牌
- 3.采用传统的工艺, 双片支架, 上下对射, 稳定性高
- 4.材料选择环保无卤素方案

MOC30XX series



Product	Size	VTM(V)	VINH (V)	VDRM(V)	Viso (Vrms)	VF,Max (V)	IFT (mA)
RF-MOC3061	7.14 x 6.5 x 3.5	3	20	600	5000	1.2	15
RF-MOC3062	7.14 x 6.5 x 3.5	3	20	600	5000	1.2	10
RF-MOC3063	7.14 x 6.5 x 3.5	3	20	600	5000	1.2	5
RF-MOC3081	7.14 x 6.5 x 3.5	3	20	800	5000	1.2	15
RF-MOC3082	7.14 x 6.5 x 3.5	3	20	800	5000	1.2	10
RF-MOC3083	7.14 x 6.5 x 3.5	3	20	800	5000	1.2	5

CHIP LED

1. Zero defect and failure

2. Customized and full color

3. High ESD and high reliability

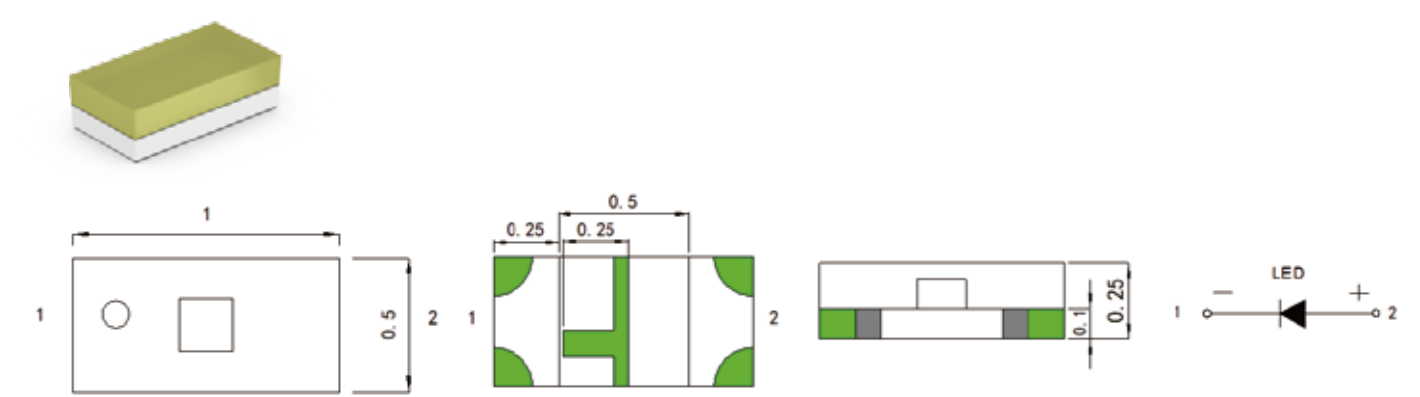
4. Complete product family, pin to pin compatible
- 1.零缺陷失效率

2.颜色定制,全色系覆盖

3.高ESD 高耐候性

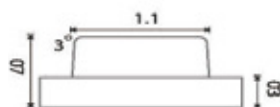
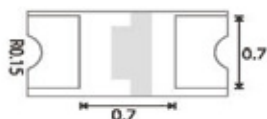
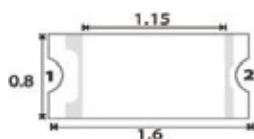
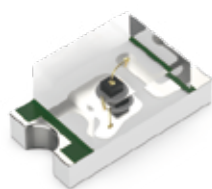
4.产品家族齐全, pin to pin替代

T402 series



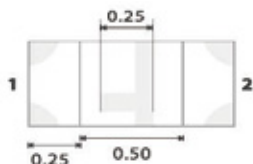
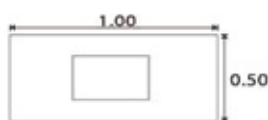
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF(V)	IV (mcd)	2θ1/2 (°)
RF-BUT402TS-CE-E0	Blue	20	470	3.1	150	140
RF-TUT402TS-CF-E0	Green	20	525	3.1	900	140
RF-GUT402TS-BF-E0	Yellow Green	20	570	2.0	50	140
RF-OUT402TS-CB-E0	Orange	20	625	2.0	100	140
RF-RUT402TS-BD-E0	Red	20	633	2.2	70	140
RF-WUT402DS-CK-B0	White	5	0.294/0.324	2.7	400	140

B190 series



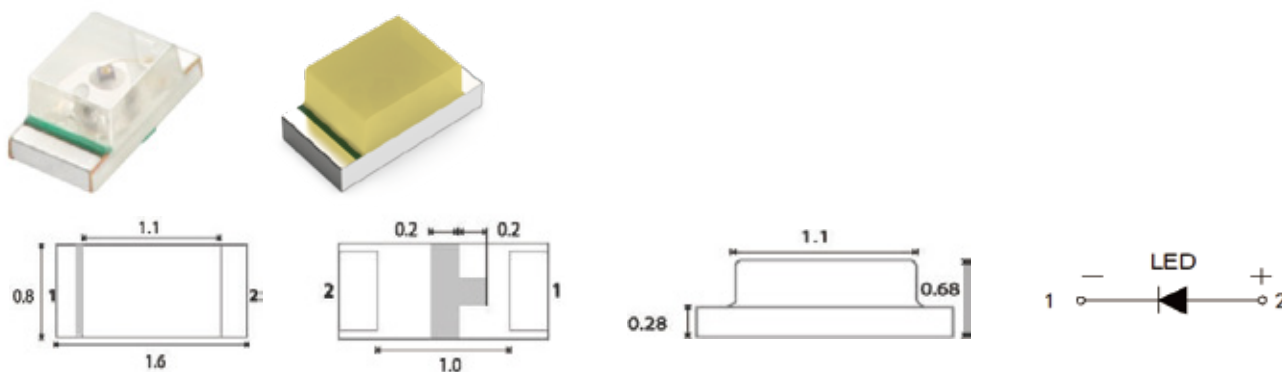
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-GTB190TS-CA	Yellow Green	20	570	2.0	23	140
RF-YUB190TS-CA	Yellow	20	588	2.0	120	140
RF-AUB190TS-CA	Amber	20	603	2.0	120	140
RF-OUB190TS-CA	Orange	20	620	2.0	120	140
RF-RUB190TS-CA	Red	20	630	2.0	60	140
RF-GUB190TS-CA	Green	20	522	3.0	500	140
RF-BUB190TS-CA	Blue	20	470	3.0	150	140
RF-WUB190DS-DC-B1	White	5	0.28/0.27	2.7	210	140
RF-WUB190DS-JD-E0	White	20	0.24/0.22	3.0	900	140
RT-WUB190DS-DD-E0	White	20	0.2380/0.2458	3.0	800	140
RF-WUB190DS-DD-E2	White	20	0.2380/0.2458	3.0	850	140

0402 series



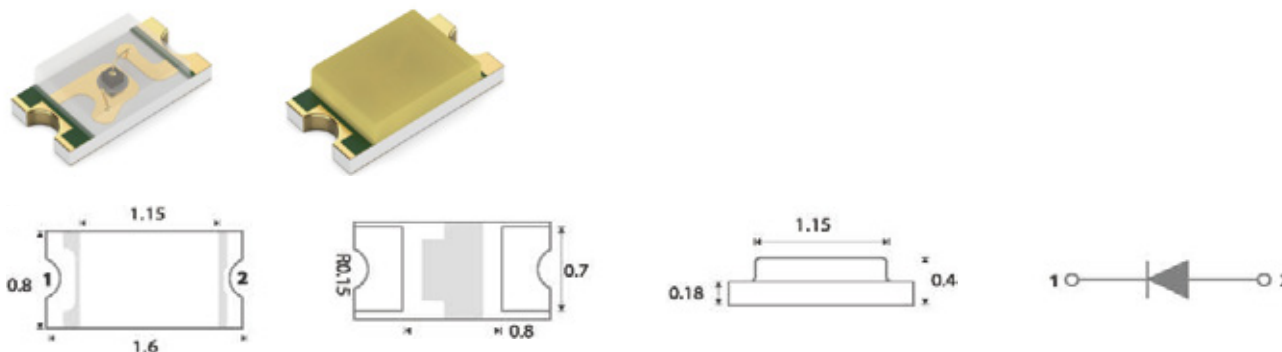
Part No.	Color	IF (mA)	WLD/XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-BU0402TS-CE-B	Blue	5	470	2.8	70	140
RF-GN0402TS-CF-B	Green	5	527	2.7	290	140
RF-YU0402TS-CE-B	Yellow	5	588	1.9	35	140
RF-OU0402TS-CE-B	Orange	5	622	1.9	28	140
RF-WU0402DS-DD-B	White	5	0.27/0.27	2.75	300	140

B191 series



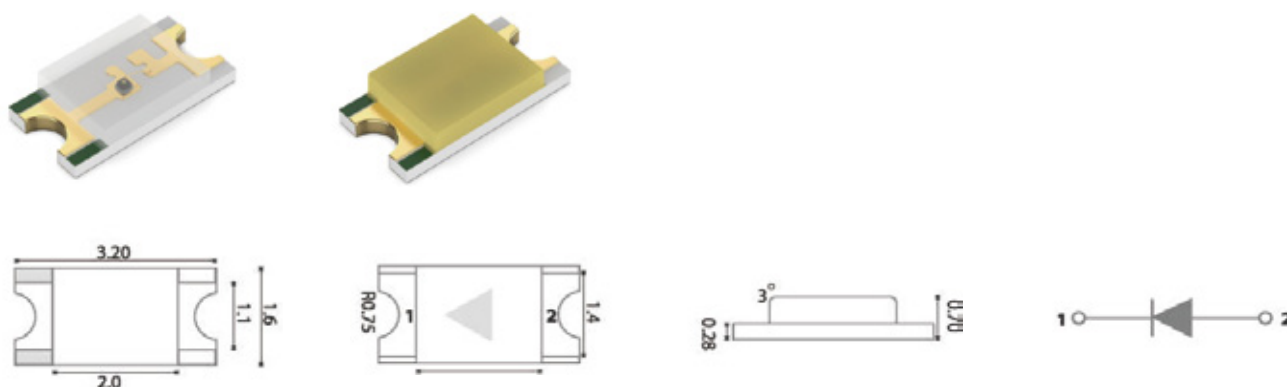
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-BUB191TS-CE	Blue	20	467	3.1	240	140
RF-GNB191TS-CF	Green	20	525	3.1	650	140
RF-YUB191TS-AE	Yellow	20	590	2	180	140
RF-OUB191TS-CE	Orange	20	622	2	120	140
RF-GTB191TS-BC	Yellow Green	20	570	2	70	140
RF-WUB191DS-DD	White	20	0.255/0.240	3.0	800	140
RF-WUB191DS-DD-P	White	20	0.255/0.240	3.1	800	140
RF-WUB191DS-DD-GP	White	20	0.255/0.240	3.1	800	140
RF-BWB191DS-DD	White	20	0.227/0.185	3.1	700	140
RF-BWB191DS-CE	White	20	0.215/0.170	3.1	520	140
RF-BWB191DS-EB-C	White	10	0.2196/0.2164	3	350	140

M190 series



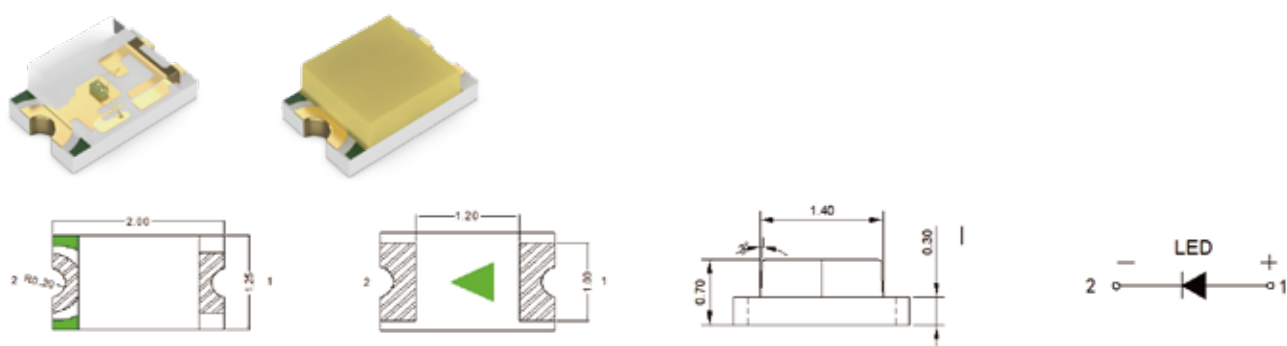
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-OUM190TS-CA-E1	Orange	20	625	2.0	150	140
RF-TGM190TS-CA-P1	Green	2	530	2.7	120	140
RF-WNM190DS-DB-B	White	5	0.265/0.25	2.8	150	140
RF-WUM190DS-DC-B	White	5	0.29/0.30	2.8	150	140

S150 series



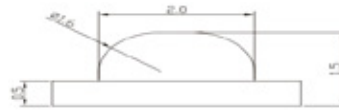
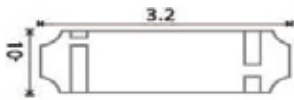
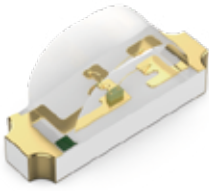
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-GSS150TS-BC	Yellow Green	20	570	2	50	140
RF-BNS150TS-CE	Blue	20	470	3.1	150	140
RF-YUS150TS-AE	Yellow	20	588	2	150	140
RF-GNS150TS-CF	Green	20	525	3.1	650	140
RF-OUS150TS-CE	Orange	20	620	2	150	140
RF-RUS150TS-BD	Red	20	630	2	90	140
RF-WNS150DS-DD	White	20	0.28/0.28	3	660	140

B170 series



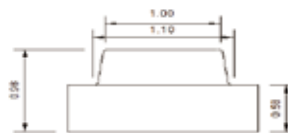
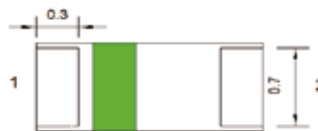
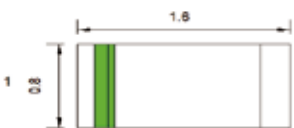
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-BNB170TS-CE	Blue	20	465	3.2	120	140
RF-GNB170TS-CF	Green	20	525	3.1	650	140
RF-GSB170TS-BC	Yellow Green	20	570	2.1	50	140
RF-OUB170TS-CE	Orange	20	620	2.0	170	140
RF-RUB170TS-BD	Red	20	629	2.0	80	140
RF-WNB170DS-DD	White	20	0.28/0.28	3.0	690	140

T112 series

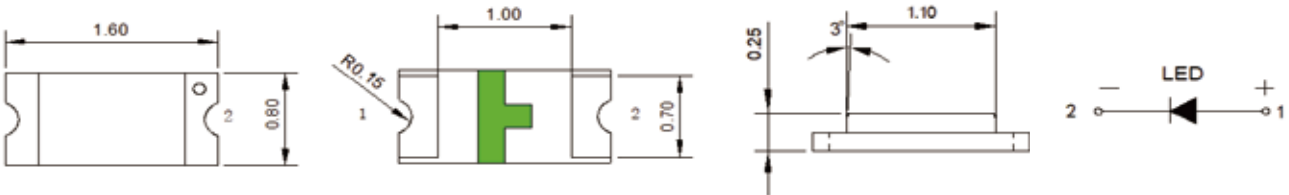
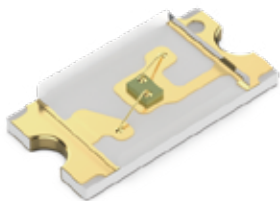


Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-RUT112TS-BD	Red	20	630	2	70	140
RF-OUT112TS-CE	Orange	20	622	2.1	173	140
RF-YUT112TS-AE	Yellow	20	588	2.1	95	140
RF-BNT112TS-CF	Blue	20	466	3.1	121	140
RF-GNT112TS-CF	Green	20	525	3.1	650	140
RF-GST112TS-BC	Yellow Green	20	570	2.1	66	140

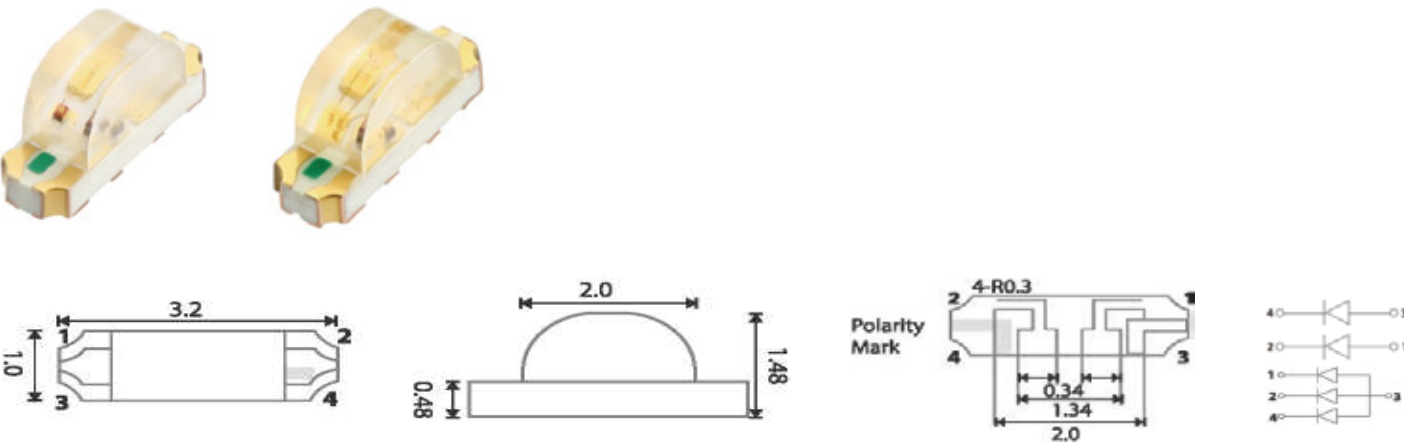
D191 series



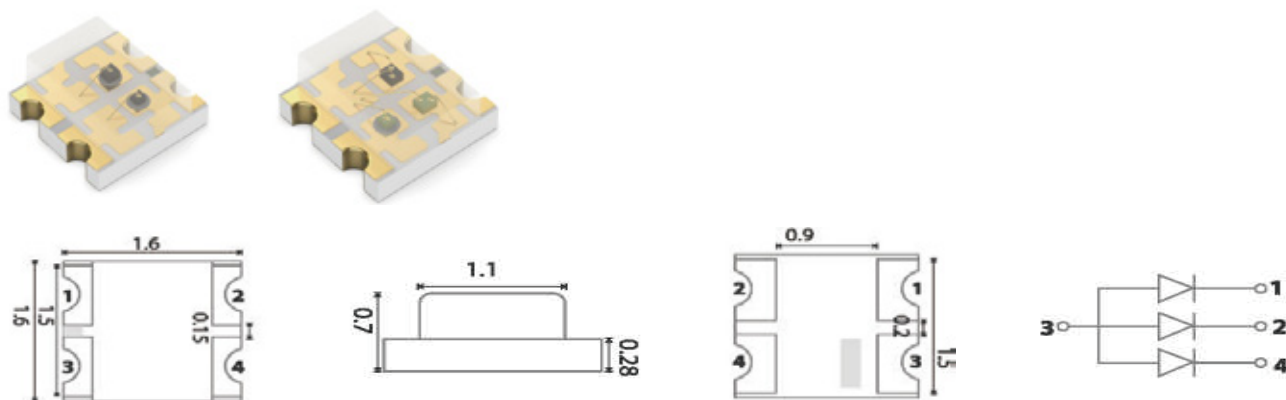
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF(V)	IV (mcd)	2θ1/2 (°)
RF-BUD191TS-CA-E1	Blue	20	465	3.2	120	140
RF-TUD191TS-CA-E1	Green	20	525	3.1	650	140
RF-GUD191TS-CA-E1	Yellow Green	20	572	2.1	35	140
RF-ODU191TS-CA-E1	Orange	20	620	2.0	100	140
RF-RUD191TS-CA-E1	Red	20	629	2.0	80	140
RF-AUD191TS-CA-E1	Amber	20	603	2.0	140	140



Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-BUT130TS-CE	Blue	20	470	3.1	150	140
RF-TUT130TS-CF	Green	20	525	3.1	1000	140
RF-GUT130TS-BF	Yellow Green	20	570	2.0	50	140
RF-OUT130TS-CB	Orange	20	625	2.0	100	140
RF-RUT130TS-BD	Red	20	633	2.2	70	140
RF-AUT130TS-EB	Amber	20	603	2.0	140	140

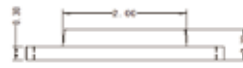
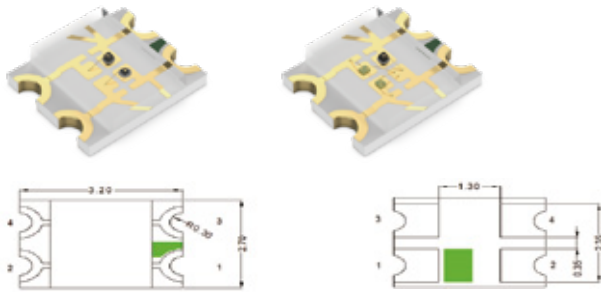


Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-W1S118TS-A42	Orange	20	622	2	157	140
	Green	20	525	3.1	650	
	Blue	20	467	3.2	140	
RF-W2S118TS-A41	Red	20	630	2	66	140
	Green	20	525	3.1	650	
	Blue	20	470	3.2	120	
RF-P3S115TS-B09	Orange	20	629	2	125	140
	Yellow Green	20	590	2.1	40	
RF-P3S115TS-B37	Red	20	634	2.1	65	140
	Yellow Green	20	570	2.1	50	
RF-P3S115TS-B51	Yellow	20	589	2.1	175	140
	Yellow Green	20	572	2.1	45	
RF-P3S115TS-B52	Red	20	630	2	60	140
	Yellow Green	20	587	2	90	



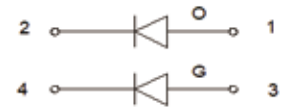
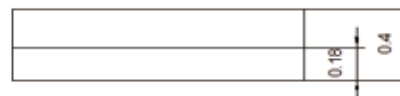
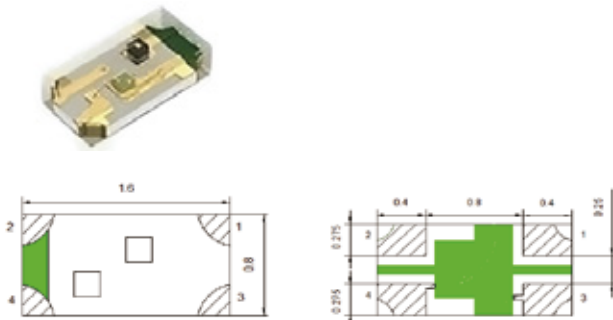
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	$2\theta_{1/2}$ (°)
RF-P1S196TS-B49	Yellow	20	590	2	120	140
	Green	20	525	3.1	650	140
RF-P1S196TS-B53	Red	20	630	2	80	140
	YellowGreen	20	570	2	30	140
RF-P1S196TS-B54	Orange	20	621	2.0	240	140
	Green	20	525	3.1	650	140
RF-P2S196TS-B38	Orange	20	622	2	210	140
	Blue	20	460	3.1	40	140
RF-W3S198TS-A12	Orange	20	622	2	120	140
	Green	20	525	3.1	650	140
	Blue	20	466	3.1	100	140
RF-W3S198TS-A37	Yellow	20	590	2	120	140
	Green	20	525	3.1	650	140
	Blue	20	467	3.1	140	140
RF-W3S198TS-A41	Red	20	630	2	60	140
	Green	20	525	3.1	650	140
	Blue	20	466	3.1	140	140

S155 series

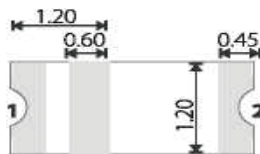
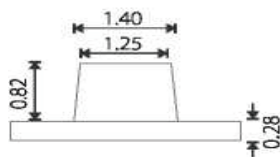
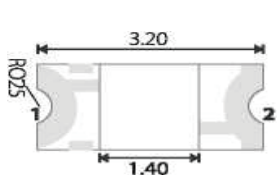


Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-P3S155TS-B51	Yellow	20	590	2.1	130	140
	Yellow Green	20	565	2.1	45	
RF-P3S155TS-B53	Red	20	634	2.1	60	140
	Yellow Green	20	570	2.1	63	
RF-P3S155TS-B54	Orange	20	621	2.1	135	140
	Green	20	525	3.1	650	
RF-W2S155TS-A41	Red	20	633	2.0	70	140
	Green	20	525	3.1	650	
	Blue	20	467	3.1	140	

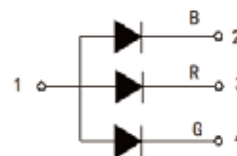
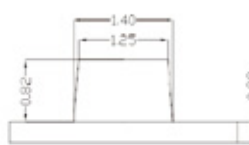
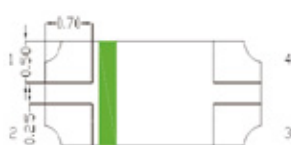
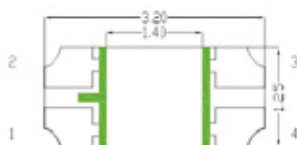
S191 series



Part No.	Color	IF (mA)	WLD (nm)/ XY	VF(V)	IV (mcd)	2θ1/2 (°)
RF-P1S191TS-B47	Amber	5	605	2.0	60	140
	Yellow-green	5	570	2.0	25	
RF-P1S191TS-B51	Yellow-green	5	570	2.0	25	140
	Yellow	5	590	2.0	65	
RF-P1S191TS-B53	Yellow-green	5	570	2.0	25	140
	Red	5	625	2.0	60	
RF-P1S191TS-B59-E1	Green	20	525	3.1	650	140
	Red	20	625	2.0	160	
RF-P1S191TS-B62-E0	Yellow	20	590	2.0	150	140
	Blue	20	470	2.8	180	

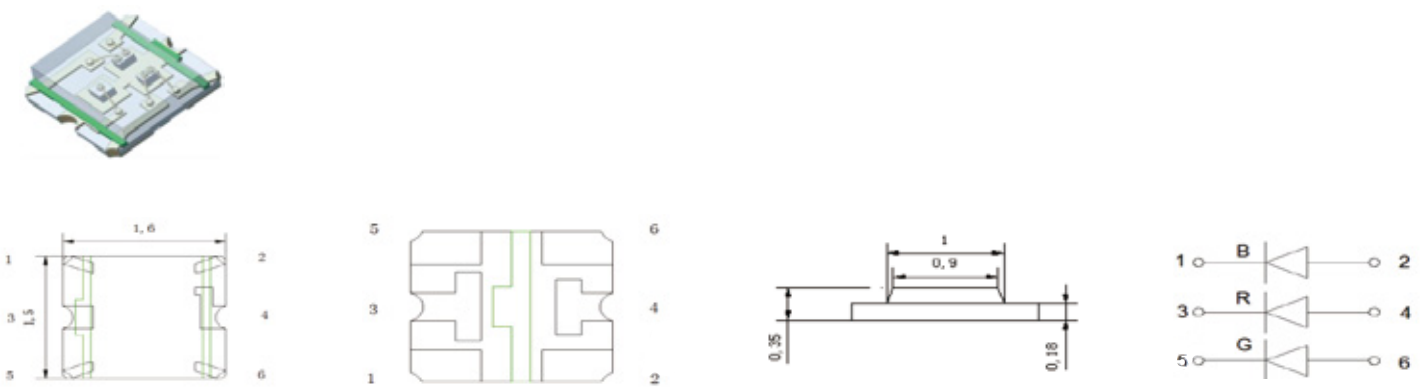


Part No.	Color	(mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-BUR150TS-BF-E1	Blue	20	465	3.0	140	140
RF-GUR150TS-BF-E1	Yellow-green	20	570	2.1	40	140
RF-OUR150TS-BF-E1	Orange	20	621	2.0	180	140
RF-RUR150TS-BF-E1	Red	20	630	2.0	60	140
RF-YUR150TS-CA-E1	Yellow	20	589	2.1	65	140
RF-WUR150DS-EC-E1	White	20	0.26/0.27	3.0	350	140



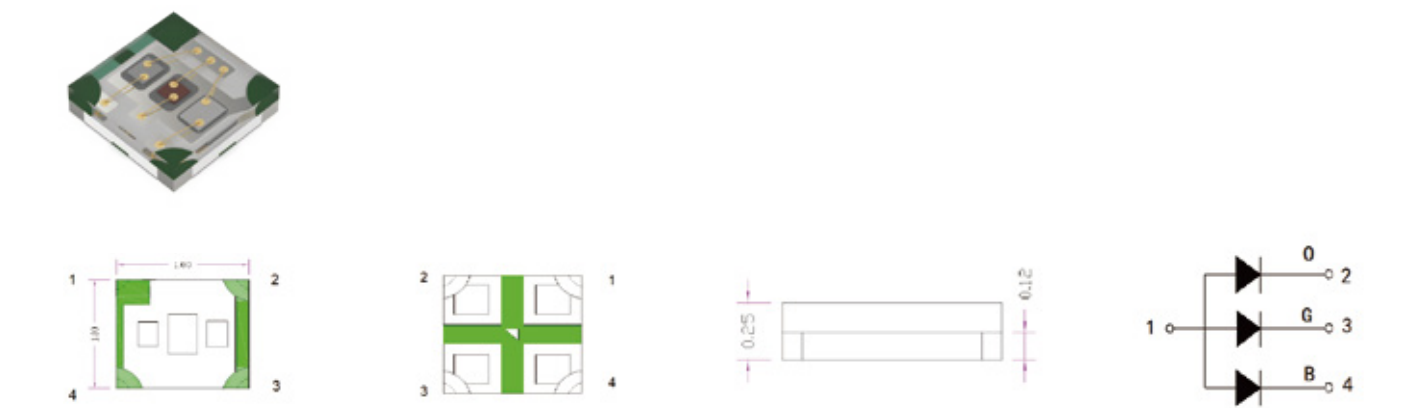
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-W3R158TS-A41	Red	20	625	2.0	60	140
	Green		525	3.0	500	
	Blue		470	2.0	130	
RF-W3R158TS-A37	Yellow	20	590	2.0	120	140
	Green		525	3.1	500	
	Blue		467	3.1	140	

1615 series



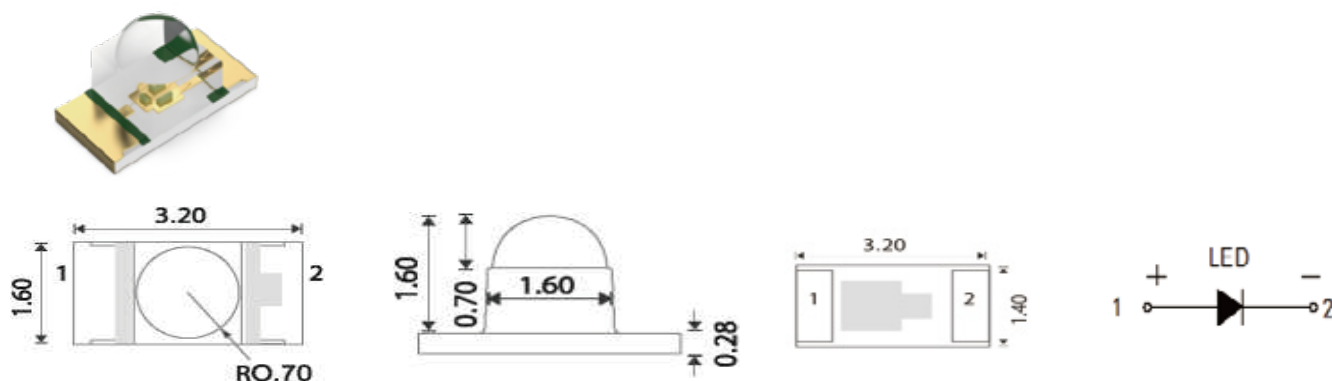
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-W61615TS-A42	Red	20	625	2.0	150	140
	Green		525	2.8	500	
	Blue		470	2.8	130	
RF-W61615TS-A37	Yellow	20	590	2	120	140
	Green		525	3.1	500	
	Blue		467	3.1	140	

1010 series



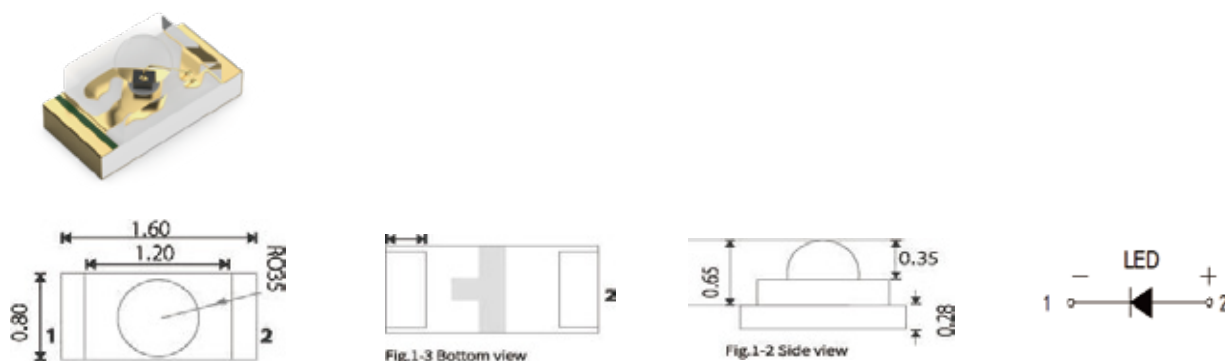
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-W11010TS-A42-P0	Red	2	620	1.8	45	140
	Green		531	2.5	140	
	Blue		470	2.6	24	
RF-W11010TS-HW-P0	White	2	0.2754/0.3233	2.0	250	140

L150 series



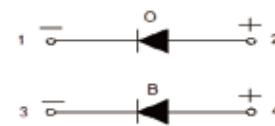
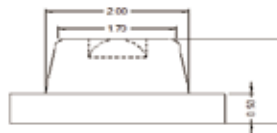
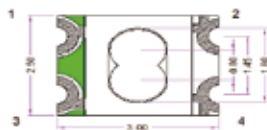
Part No.	Color	IF (mA)	IV (mcd)	WLD (nm)/ XY	VF(V)	2θ1/2 (°)
RF-AUL150TS-CB-E1	Amber	20	1800	630	2	30
RF-BUL150TS-CE-E1	Blue	20	1000	470	3	30
RF-GUL150TS-BE-E1	Yellow-green	20	500	570	2	30
RF-OUL150TS-CA-E1	Orange	20	1800	625	2	30
RF-RUL150TS-CA-E1	Red	20	1600	629	2	30
RF-TUL150TS-CG-E1	Green	20	5000	520	3.2	30
RF-YUL150TS-AC-E1	Yellow	20	1200	587	2	30

L191 series



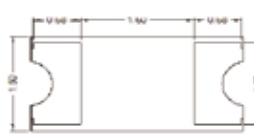
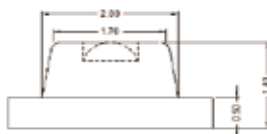
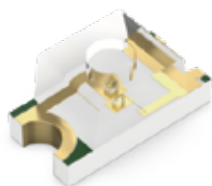
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-AUL191TS-BC-E1	Amber	20	602	2.1	500	60
RF-BUL191TS-BC-E1	Blue	20	468	3	400	60
RF-BWL191DS-DD-E1	White	20	0.23/0.22	2	1500	60
RF-GUL191TS-BC-E1	Yellow-green	20	570	2.9	150	60
RF-OUL191TS-BC-E1	Orange	20	622	2	350	60
RF-TUL191TS-BC-E1	Green	20	525	3	1800	60
RF-YUL191TS-BC-E1	Yellow	20	588	2	400	60
RF-RUL191TS-CE-E0	Red	20	622	2.1	2200	60

3025 series



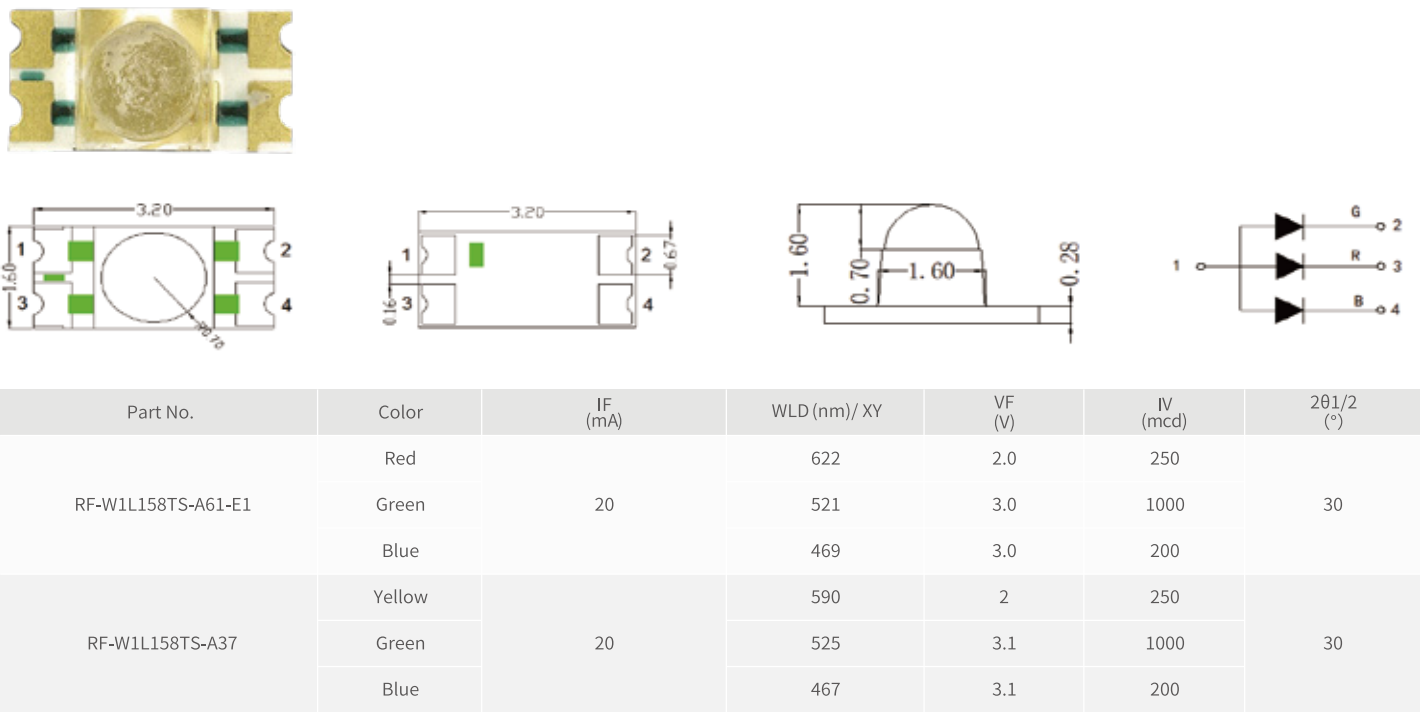
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-P13025TS-B37	Blue	20	467	3.1	600	60
	Orange		621	2.0	680	
RF-P13025TS-B53	Red	20	630	2	400	60
	YellowGreen		570	2	150	

3015 series



Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-GU3015TS-BF-E0	Yellow Green	20	570	2.0	130	70
RF-OU3015TS-CA-E0	Orange	20	625	2.0	500	70
RF-TU3015TS-CA-E0	Green	20	525	3.0	1800	70
RF-BU3015TS-CA-E0	Blue	20	470	3.0	450	70

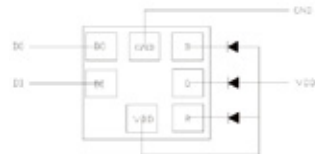
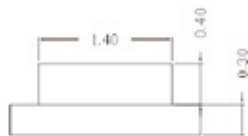
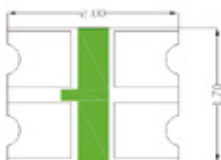
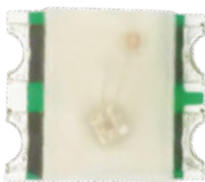
L158 series



3224 series

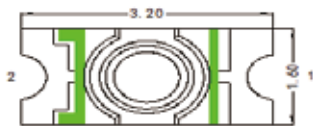
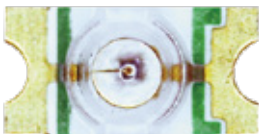


0807 series



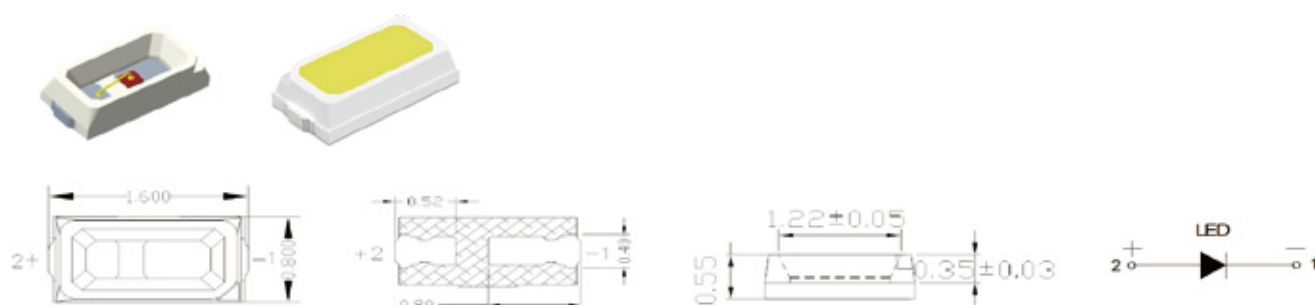
Part No.	Color	VDD (V)	WLD (nm)	IV (mcd)	2θ1/2 (°)
RF-IC30807TS-H01-B0	Red	5	625	200	140
	Green		525	650	
	Blue		470	150	
RF-IC30807TS-H01-B1	Red	5	625	500	140
	Green		525	1200	
	Blue		465	300	

A150 series



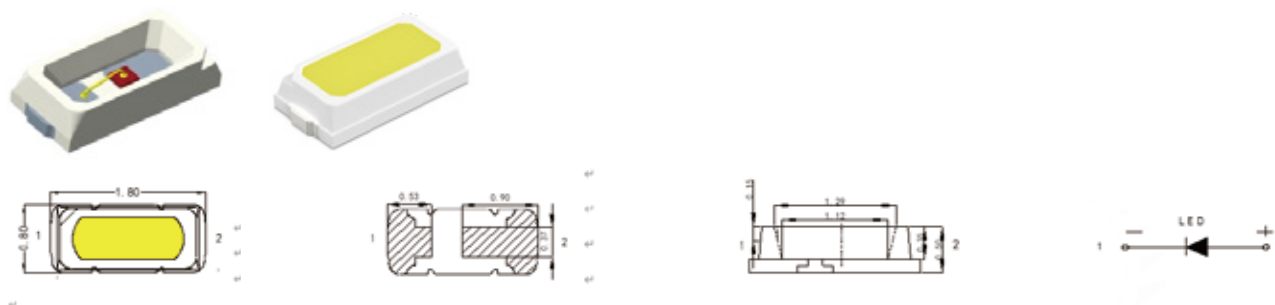
Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-YUA150TS-AE-E0	Yellow	20	589	2.1	425	70
RF-OUA150TS-CA-E0	Orange	20	625	2.0	520	70
RF-TUA150TS-CA-E0	Green	20	525	3.0	1700	70
RF-BUA150TS-CA-E0	Blue	20	470	3.0	480	70

1608 series

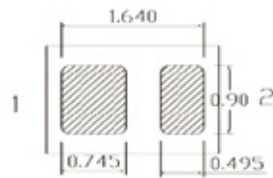
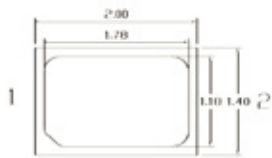


Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-AG1608TS-EB-E0	Amber	20	602	2.07	222	140
RF-BU1608TS-DC-E0	Blue	20	470	3.0	204	140
RF-GG1608TS-BE-E0	yellow green	20	571	2.0	70	140
RF-OG1608TS-CE-E0	Orange	20	622	2.0	300	140
RF-RG1608TS-BC-E0	Red	20	630	2.0	109	140
RF-TG1608TS-CF-E0	green	20	523	3.0	1976	140
RF-YG1608TS-AE-E0	yellow	20	588	2.1	200	140
RF-GW1608DS-DD-B0	White	5	0.1841/0.1838	2.7	367	140
RF-WU1608DS-DD-E0	White	20	0.27/0.256	3.1	1670	140

1808 series



Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-AG1808TS-ED-E0	Amber	20	602	2.07	500	140
RF-BU1808TS-DC-E0	Blue	20	470	3.0	204	140
RF-GG1808TS-BE-E0	yellow green	20	571	2.0	70	140
RF-OG1808TS-CB-E0	Orange	20	622	2.0	600	140
RF-RG1808TS-BC-E0	Red	20	630	2.0	109	140
RF-TG1808TS-CF-E0	green	20	523	3.0	1500	140
RF-YG1808TS-AC-E0	yellow	20	588	2.1	500	140
RF-WN1808DS-DD-E1	White	20	0.255/0.245	3.1	1800	140
RF-WU1808DS-DD-C0	White	10	0.3/0.305	3.1	1000	140
RF-WU1808DS-DD-E1	White	20	0.231/0.198	3.1	2100	140
RF-WN1808DS-DD-E3	White	20	0.252/0.238	3.1	2000	140



Part No.	Color	IF (mA)	WLD (nm)/ XY	VF (V)	IV (mcd)	2θ1/2 (°)
RF-AG2014TS-CF-E0	Amber	20	602	2.07	300	140
RF-BG2014TS-CK-E0	Blue	20	470	3.0	204	140
RF-GG2014TS-AE-E0	yellow green	20	571	2.0	70	140
RF-OG2014TS-CF-E0	Orange	20	622	2.0	800	140
RF-RG2014TS-CA-E0	Red	20	630	2.0	300	140
RF-TG2014TS-CK-E0	green	20	523	3.0	1500	140
RF-YG2014TS-AE-E0	yellow	20	588	2.1	500	140
RF-WU2014DS-CK-E1	White	20	6500K	3.1	1800	140
RF-WU2014DS-CK-E3	White	20	3000K	3.1	1000	140
RF-WU2014DS-CK-N0	White	60	9000K	3.1	2100	140
RF-WU2014DS-CK-N1	White	60	6500K	3.1	2000	140

Optical Sensor

光传感

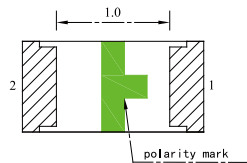
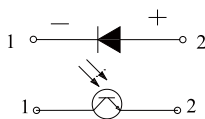
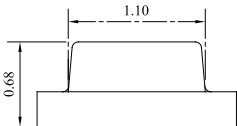
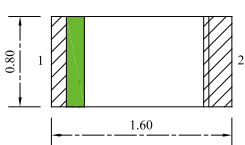
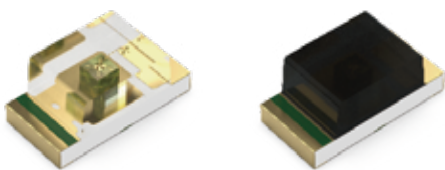
From intelligent water and gas meter to intelligent remote control and intelligent wearing, infrared sensing is applied in all aspects of our life.

- 1. Various viewing angle
- 2. Various application
- 3. Angle customization available
- 4. Complete product range

从智能水气表, 到智能遥控, 智能穿戴等, 红外传感应用在我们生活的方方面面。

- 1.角度丰富
- 2. 应用丰富
- 3.角度定制化
- 4.产品齐全

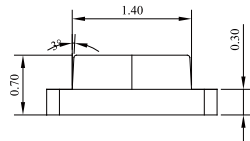
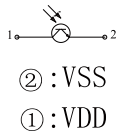
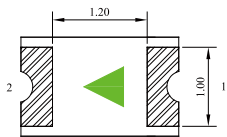
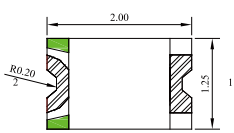
0603 series



Part No.	Forward Current		Forward Voltage	Radiant Intensity	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/sr	°/nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-IRDB191TS-12-E2	20	65	1.3	1.12	940	140

Part No.	Collector-Emitter Breakdown Voltage	Emitter-Collector-Voltage	Optical Current	Wavelength corresponding range	Viewing Angle
	v	v	mA	nm	Deg
	Min	Min	Typ	/	Typ
RF-PTDB191TB-21-G	30	5	1.52	700-1100	140

B170 series



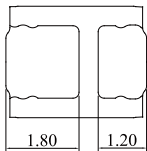
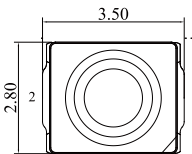
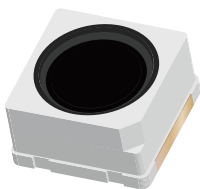
Part No.	Collector-Emitter Breakdown Voltage	Emitter-Collector-Voltage	Light Current	Wavelength corresponding range	Viewing Angle
	v	v	mA	nm	Deg
	Min	Min	Typ	/	Typ

RF-PTDB170TS-21-G	30	5	1.52	400-1100	140
-------------------	----	---	------	----------	-----

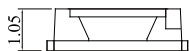
Part No.	Collector-Emitter Breakdown Voltage	Emitter-Collector-Voltage	Light Current	Spectral range of sensitivity	Viewing Angle
	v	v	mA	nm	Deg
	Min	Min	Typ	/	Typ

RF-PTDB170TS-21-G	30	5	1.52	400-1100	140
-------------------	----	---	------	----------	-----

2835 Photosensitive Series



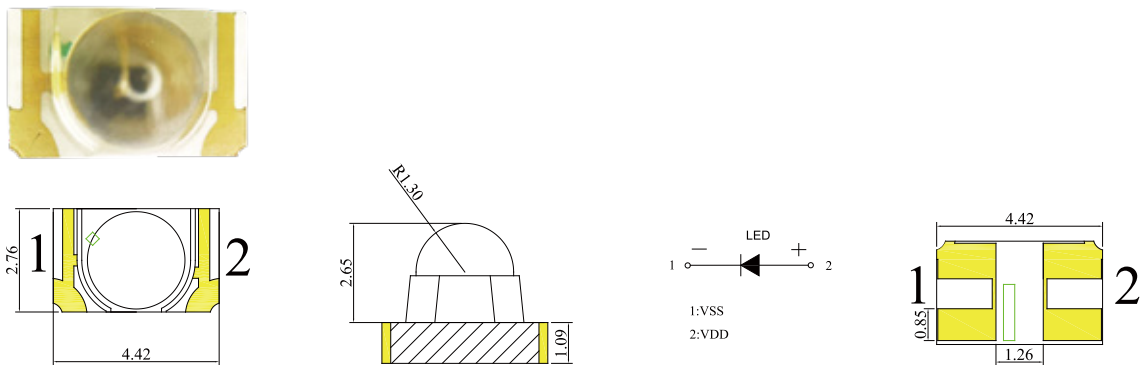
1:VSS
2:VDD



Part No.	Operating Voltage	Light Current	Peak Spectral Response	Rang of Spectral Bandwidth
	v	nA	nm	nm
	Min	Typ	/	/

RF-P28W0-PDO-FUG	1 - 12	4	550	400-700
------------------	--------	---	-----	---------

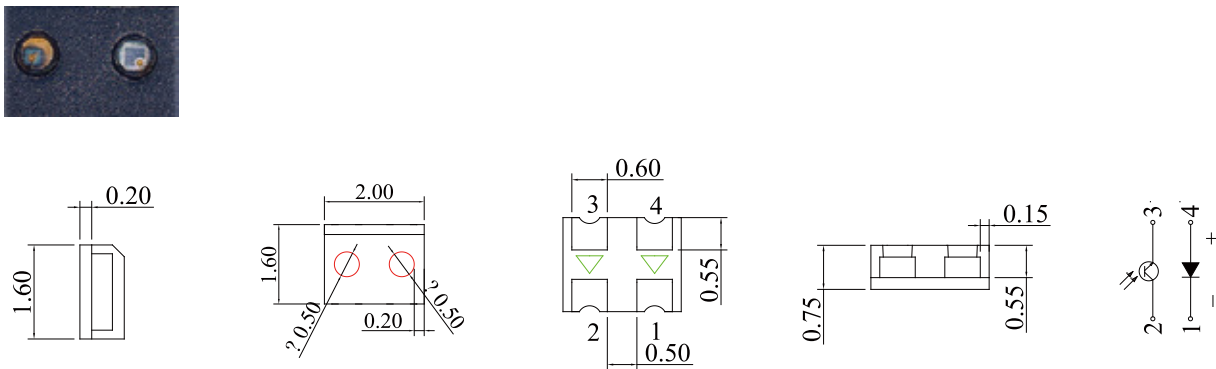
4428 Series



Part No.	Forward Current		Forward Voltage	Radiant Intensity	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/sr	nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-IPD4428TS-14-G	50	100	1.4	60	940	30

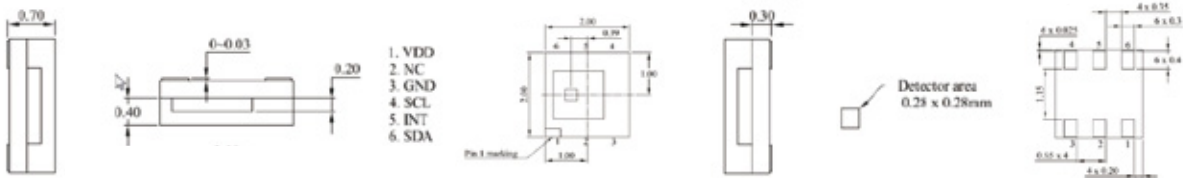
Part No.	Operating Voltage	Light Current	Peak Spectral Response	Range of Spectral Bandwidth
	v	nA	nm	nm
	Min	Typ	/	/
RF-ICD4428TS-14-G	1-10	400-1200	550	400-700

2016 Series



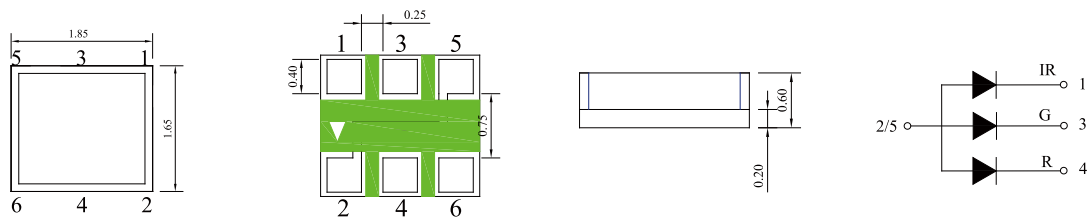
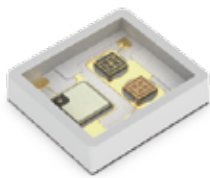
Part No.	Dice	Forward Current		Forward Voltage	Total radiant flux/Luminous Flux	CIE x/y or Dominant Wavelength	Viewing Angle
	mA	mA		V	mW/sr	nm	Deg
	Typ	Typ	Max	Typ	Typ	Typ	Typ
RF-PNB21A5PA00C78	IR	5	15	1.7	3	940	120
	PT	/	/	0.9	/	/	/

2020 Series



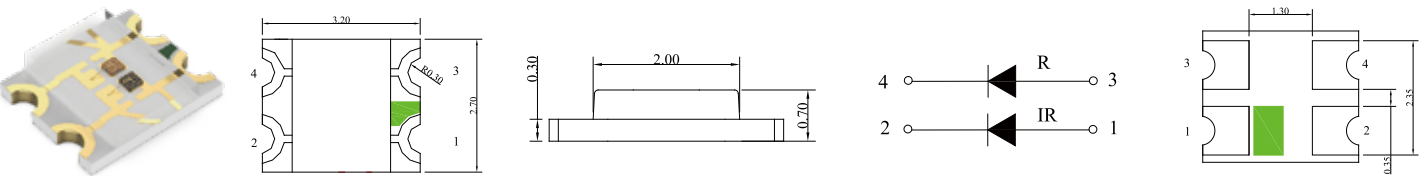
Product	Supply Voltage(V)	Full scale ADC counts value	Full scale ADC counts per step	Rangeλ(nm)	ADC Resolution
ALS-IC-2020	1.7-3.6	65535	1023	550	Up to 16 bit

Blood Oxygen Emission Series



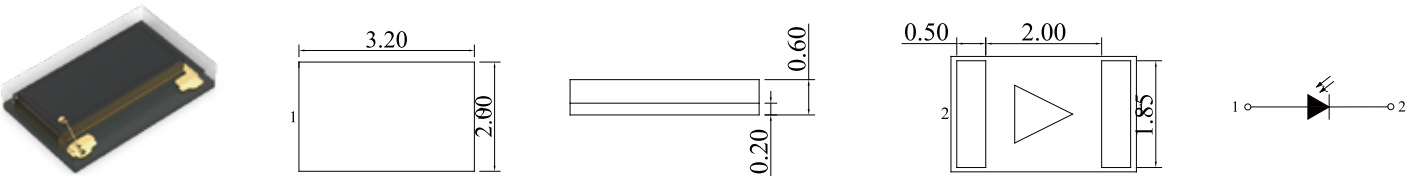
Part No.	Forward Current		Forward Voltage	Radiant Intensity	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/sr	λ-/nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-W31816TS-A56-E	20	IR:60;R:40;G:30	IR:1.3;R:2.0;G:2.4	IR:3;R:4;G:3.5	IR:940;R:660;G:530	120

Blood Oxygen Emission Series



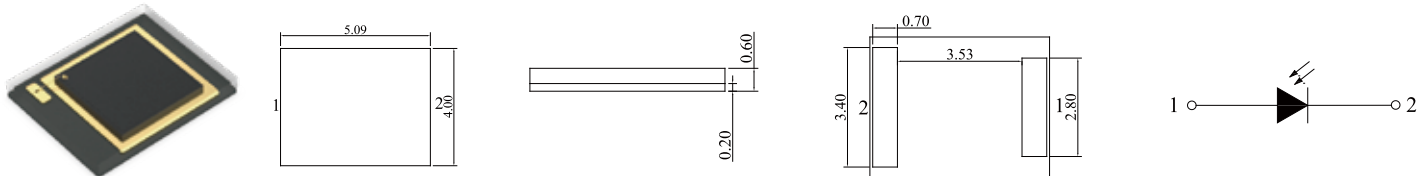
Part No.	Forward Current		Forward Voltage	Radiant Intensity	CIE x/y or Dominant Wavelength	Viewing Angle
	mA		V	mW/sr	°/nm	Deg
	Typ	Max	Typ	Typ	Typ	Typ
RF-P3S155TS-B96-E	20	IR:100;R:80	IR:1.3;R:2.2	IR:2.2;R:4.5	IR:905;R:660	120

Blood Oxygen Reception Series



Part No.	Photocurrent	Range of Spectral Bandwidth
	μA/(mW/cm2)	nm
	Typ	/
RF-PDD3220TS-80-C	2.3@940nm; 1.6@660nm; 1.1@530nm	400-1100

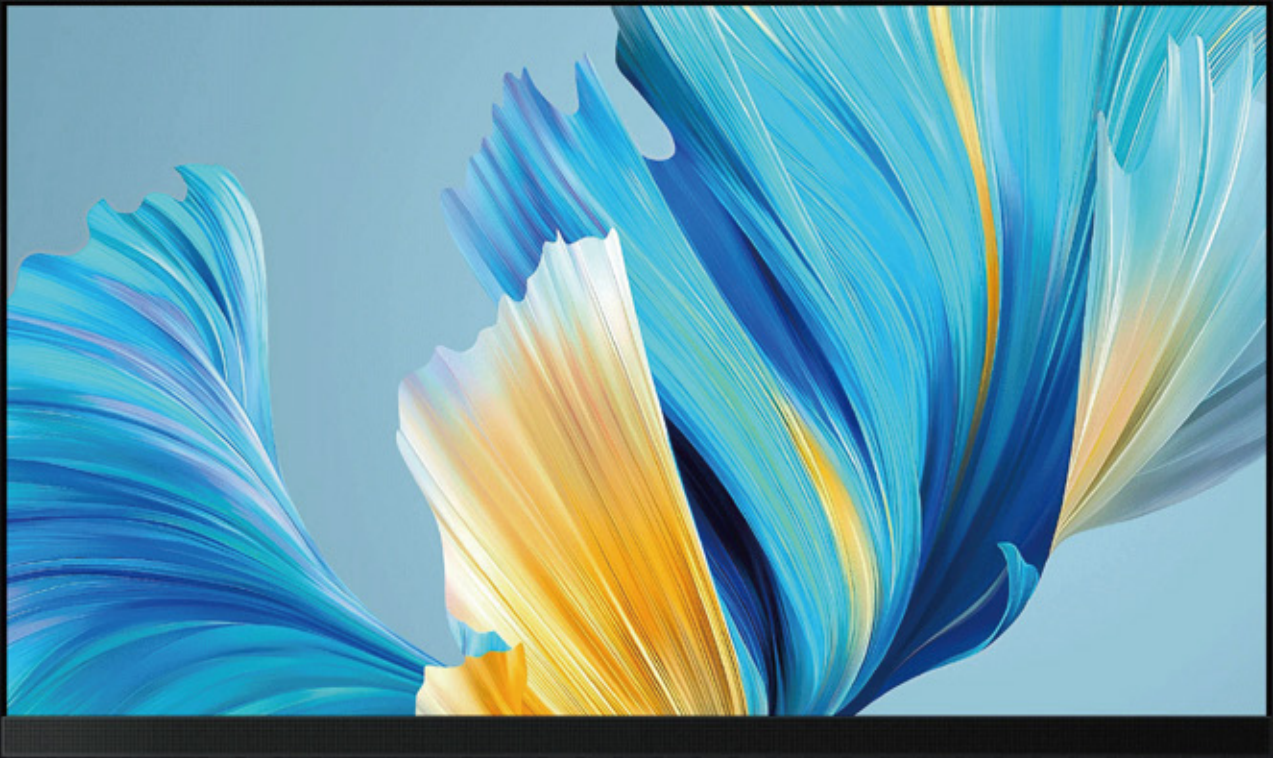
Blood Oxygen Reception Series



Part No.	Light current	Range of Spectral Bandwidth
	μA/(mW/cm2)	nm
	Typ	/
RF-PDD5040TS-120-C	4.6@940nm; 3.1@660nm; 2.1@530nm	400-1100

Display product

显示产品



Backlight

背光

REFOND display backlight product line is specialized in the R & D, production and sales of backlight LED products, providing various display backlight LED solutions from industrial control display, TFT small size to large size products.

Products includes Mini LED、Micro LED、Automotive Mini LED 、Automotive 3014、Automotive 4014、Side View (3806、3805、3804、3006、3004、2604) , Top View (3030、flip 3030、3014、4014、2835) LED.

REFOND display backlight technology has been settled for more than 20 years. It has rich product types and professional packaging technology, and constantly improves itself, providing high-quality products and fast response services for backlight customers, and providing integrated services for customers.

瑞丰显示背光产品线专业从事背光源 LED产品的研发、生产和销售，提供从工控显示、TFT小尺寸到大尺寸各类显示背光源LED解决方案。

产品以Mini LED、Micro LED，车载Mini LED 、车规3014、车规4014，Side View (3806、3805、3804、3006、3004、2604) ， Top View (3030、倒装3030、3014、4014、2835) LED为主。

瑞丰显示背光技术沉淀20余年，具有丰富的产品种类及专业的封装技术，不断沉淀升华提升自身，为背光源客户提供高品质的产品和快速响应的服务，为客户提供一体化服务。


Side View Product Series

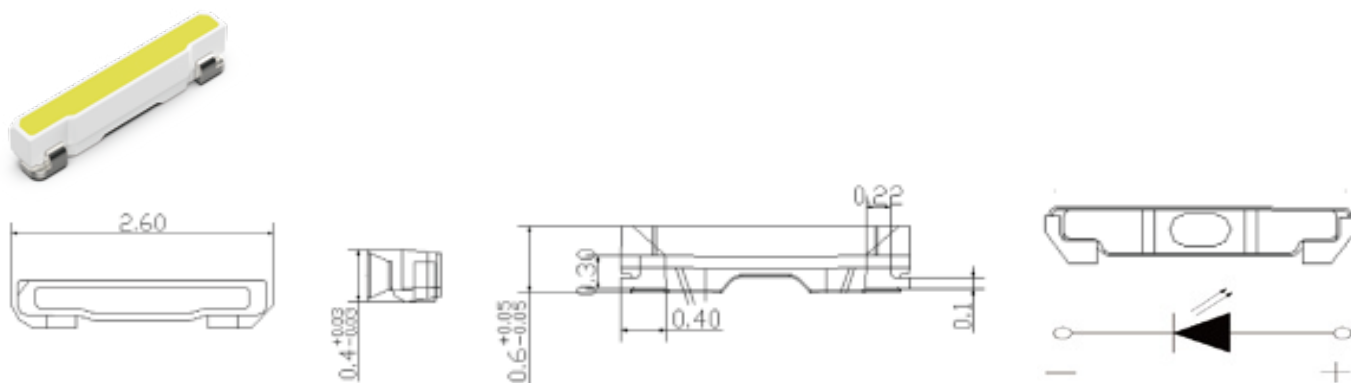
Realize full screen, ultra-thin and narrow bezel of mobile phone

- 1.Backlight of mobile phone, tablet PC and Laptop ;
- 2. High quality, high light efficiency, long lifespan, high NTCs, comprehensive cost-effective advantages;
- 3. Deeply explore consumer demand, realize full screen, ultra-thin and narrow border of mobile phone, improve end-product consumer satisfaction.
- 4. Rich product range could meet various customer needs, perfect global patent protection solutions available.

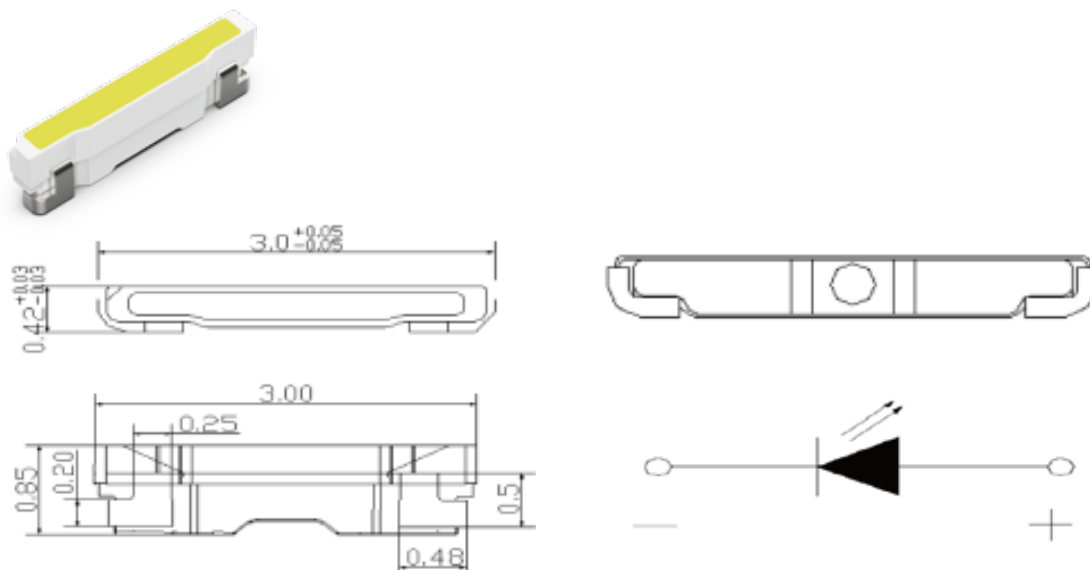
实现手机全面屏、超薄、窄边框

- 1.手机、平板电脑和笔记本电脑等产品背光源；
- 2.高品质、高光效、高寿命、高NTCS，综合性价比优势；
- 3.深度挖掘消费者需求，实现手机全面屏、超薄、窄边框，提升终端产品消费者满意度。
- 4.产品丰富满足各类客户需求，完善的全球专利保障。

Typical case	Border	PKG	Phosphor solution		
	3.0~5.0mm	3806	Silicate	Nitride	B 塞隆+KSF
		3805	蓝光护眼		
	2.8~3.2mm	3006	Silicate	Nitride	B 塞隆+KSF
		3004	蓝光护眼		
	2.0~2.4mm	2605	Silicate	Nitride	B 塞隆+KSF
		2604	蓝光护眼		

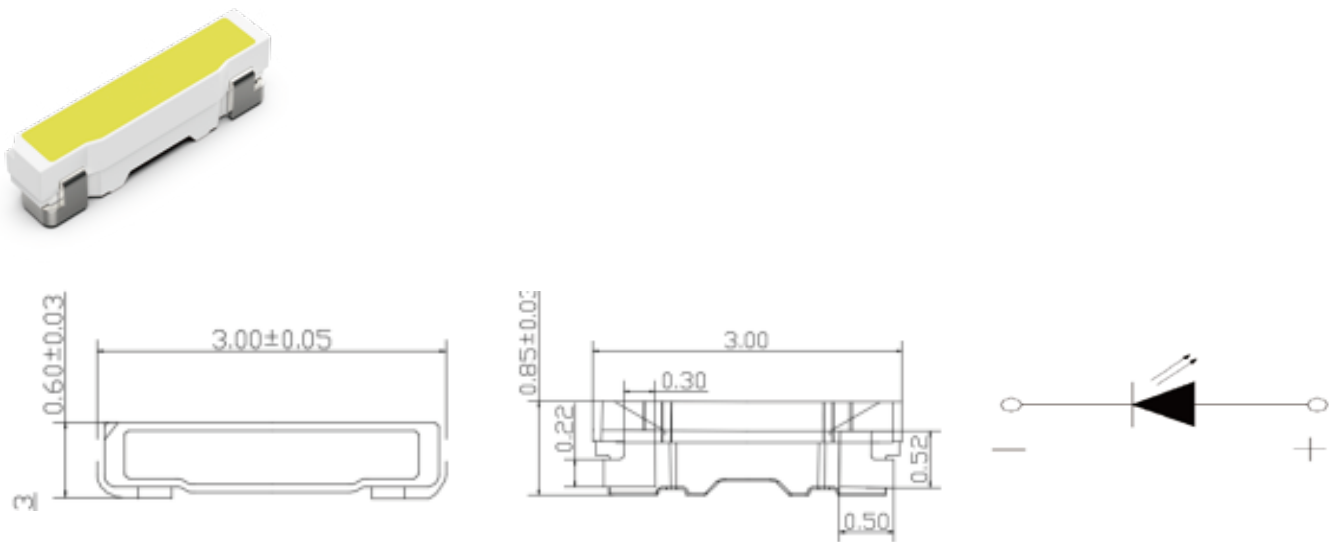


Part No.	IV(MCD)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
LT264WH-A-Q	2950	(0.29,0.28)	3.0	20	120	105	White
LT264WHS-A-Q	3050	(0.29,0.28)	3.0	20	120	105	White
LT264WH-GL	2750	(0.29,0.28)	3.0	20	120	105	White



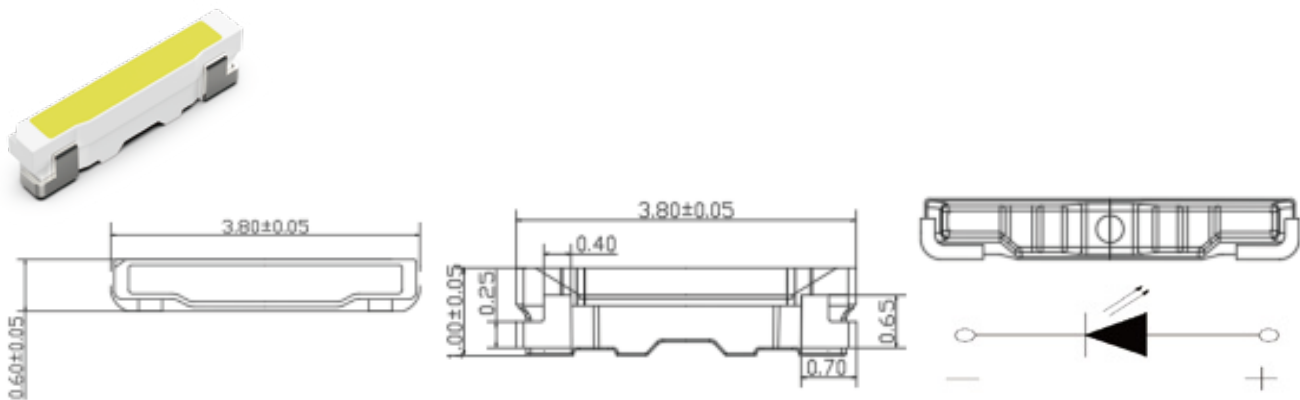
Part No.	IV(MCD)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
LT3004WH-A-Q	2950	(0.29,0.28)	3.0	20	120	105	White
LT3004WHS-A-Q	3050	(0.29,0.28)	3.0	20	120	105	White
LT3004WH-GL	2750	(0.29,0.28)	3.0	20	120	105	White
LT304WH-A-Q	2950	(0.29,0.28)	3.0	20	120	105	White
LT304WHS-A-Q	3050	(0.29,0.28)	3.0	20	120	105	White
LT304WH-GL	2750	(0.29,0.28)	3.0	20	120	105	White

3006



Part No.	IV(MCD)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
LT3006WH-A-Q	3050	(0.29,0.28)	3.0	20	120	105	White
LT3006WHS-A-Q	3150	(0.29,0.28)	3.0	20	120	105	White
LT3006WH-GL	2850	(0.29,0.28)	3.0	20	120	105	White
LT3006WH-GL-E	2650	(0.29,0.28)	3.0	20	120	105	White

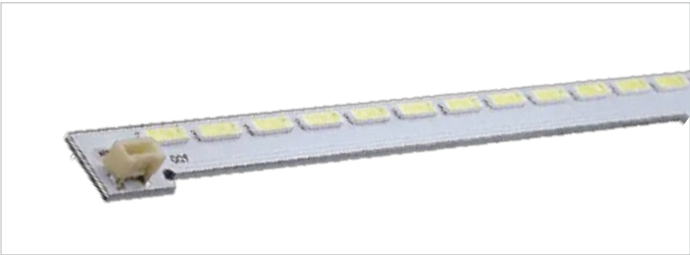
3806



Part No.	IV(MCD)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
LT3806WH-A-Q	3050	(0.29,0.28)	3.0	20	120	105	White
LT3806WHS-A-Q	3150	(0.29,0.28)	3.0	20	120	105	White
LT3806WH-GL	2850	(0.29,0.28)	3.0	20	120	105	White
LT3806WH-GL-E	2650	(0.29,0.28)	3.0	20	120	105	White



Side view LED strips



规格描述 Specifications	贴装精度	共线性 0.15mm MAX	SMD precision	Collinearity 0.15mm MAX
	LED倾斜角	<1.5 度	LEDInclination angle	<1.5degrees
	小电流测试	0.3mA 测试电亮	Small current test	0.3mA Test electric light
	ESD管控	2KV~15KV	ESD Control	2KV~15KV
	模组色域	80% Min	Module color gamut	80% Min
	LED焊接强度	1.5KG Min	LED Welding strength	1.5KG Min
	亮度1000 尼特	Min	Luminance 1000 nit	Min
产品特点 Features	尺寸支持定制		Size customization	
	丰富的色系选型，满足客户任意颜色要求		RRich color system selection to meet any color requirements of customers	
	高显示指数，满足客户 NTSC，sRGB，Adobe，DCI-P3任意		High display index, meet customers NTSC，sRGB，adobe，dci-p3 any Color demand	
	显色需求		Color demand	
产品应用 Application	全球专利保证		Global patent guarantee	
	适用于PAD/ 笔电背光源产品		Suitable for pad / laptop backlight products	

Automotive backlight product series

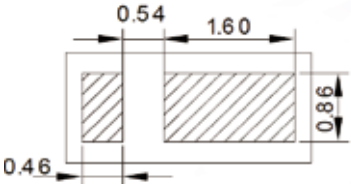

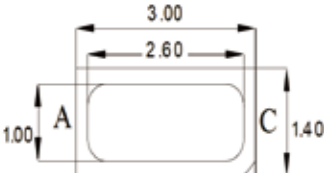
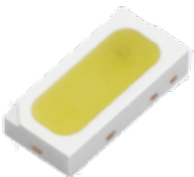
Full screen, ultra-thin and narrow bezel of mobile phone could be achieved.

- 1. high reliability, Lifespan reach 50000H
- 2.AEC-Q102certification
- 3. High color rendering index scheme, color zone diversification customization
- 4. Customized in any size, rich solutions to meet customer needs
- 5. Automotive Mini LED full pitch solution realizes mass production at full spacing, realizes the integration of lamp and driver, and meets the visual perception of different angles.

实现手机全面屏、超薄、窄边框


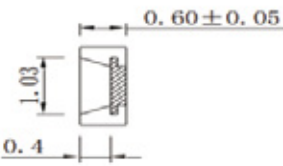
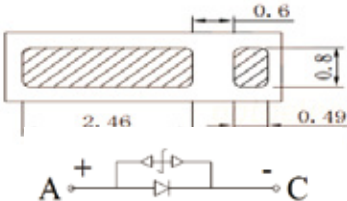
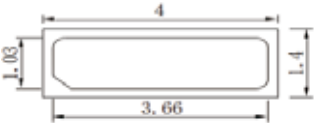
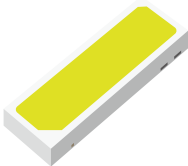
- 1.高可靠性, 寿命满足50000H
- 2.通过AEC-Q102认证
- 3.高显色指数方案, 色区多元化定制
- 4.任意尺寸定制, 解决方案丰富满足客户需求
- 5.Mini车载方案全间距实现量产, 实现灯驱一体, 满足不同角度视觉感受。

EMC3014



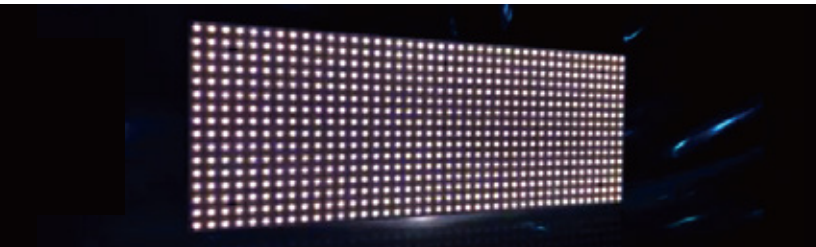
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	NTSC
	Typ	Typ	Typ	Typ	Typ	Max	
RF3014ZWH-EMC-F-YAG	50	0.28,0.265	3	120	120	120	75%
RF3014ZWH-EMC-F-GL	45	0.28,0.265	3	120	120	120	85%
RF3014ZWH-EMC-F-GL-E (lower blue light energy)	32	0.28,0.265	3	80	120	100	85%
RF3014ZWH-EMC-E-YAG	35	0.28,0.265	3	80	120	100	75%
RF3014ZWH-EMC-E-GL	30	0.28,0.265	3	80	120	100	85%

EMC4014



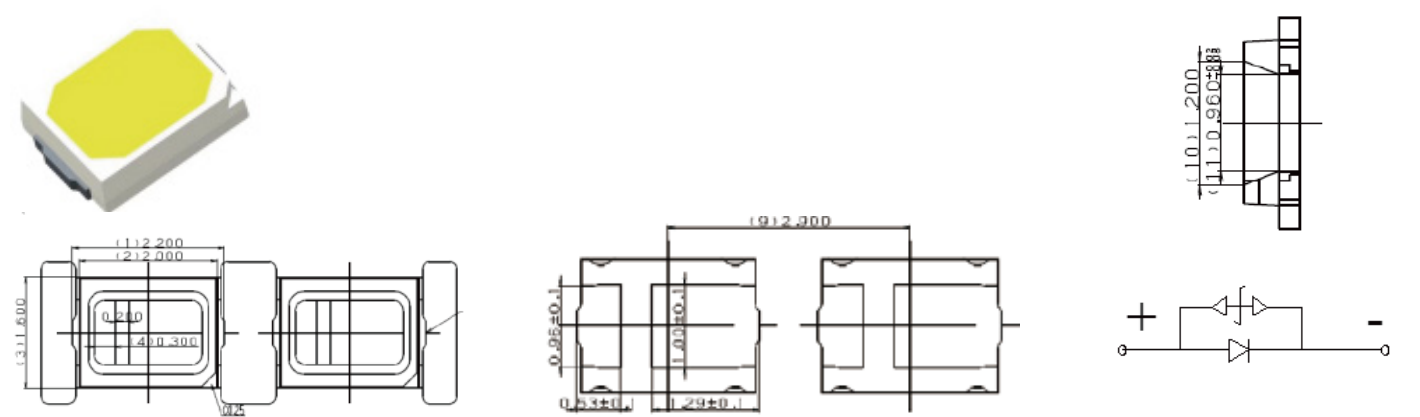
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	NTSC
	Typ	Typ	Typ	Typ	Typ	Max	
RF4014ZWH-EMC-F-YAG	60	0.28,0.265	3	120	120	120	75%
RF4014ZWH-EMC-F-GL	55	0.28,0.265	3	120	120	120	85%
RF4014ZWH-EMC-F-GL-E (lower blue light energy)	52	0.28,0.265	3	120	120	120	85%
RF4014ZWH-EMC-E-YAG	40	0.28,0.265	3	80	120	120	75%
RF4014ZWH-EMC-E-GL	35	0.28,0.265	3	80	120	120	85%

Mini COB/POB Vehicle Product



规格描述 Specifications	灯驱一体，千级分区，一灯一驱； 超高显色、亮色一致性； 高可靠性，通过 AEC Q102 认证 适应于 OD0-OD10 ESD 能力 ≥8KV	IC integrated, with 1000 level zoning, one lamp and one drive; Ultra high color rendering and bright color consistency; High reliability, passed AEC Q102 certification Adapted to OD0-OD10 ESD ability≥8KV
产品特点 Features	任意尺寸定制化 全球专利保证 高对比度，有效缩短视距 满足不同角度视效 根据客户需求设计不同分区控制，满足客户需求	Any size customization Global patent guarantee High contrast, effectively shortening sight distance Meet the visual effects of different angles According to the customer's needs, diverse zoning solutions are designed to meet the customer's need
产品应用 Application	适用于车用背光显示	Suitable for automotive backlight display

车载2016



Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	NTSC
	Typ	Typ	Typ	Typ	Typ	Max	
RF2016ZWH-A-GL-YAG	8	0.28,0.265	3	20	120	120	75%
RF2016ZWH-A-GL	7	0.28,0.265	3	20	120	120	85%
RF2016ZWH-A-GL-E (lower blue light energy)	6	0.28,0.265	3	20	120	120	85%
RF2016ZWH-A-GL3	6	0.28,0.265	3	20	120	120	95%
RF2016TWH-A-GL-YAG	8	0.28,0.265	3	20	135 (large viewing angle)	120	75%
RF2016TWH-A-GL	7	0.28,0.265	3	20	135 (large viewing angle)	120	85%
RF2016TWH-A-GL-E (lower blue light energy)	6	0.28,0.265	3	20	135 (large viewing angle)	120	85%
RF2016TWH-A-GL3	6	0.28,0.265	3	20	135 (large viewing angle)	120	95%

TOP View Product Series

1. High brightness, high luminous efficiency, different color gamut schemes to meet customer needs

2. High reliability, stable performance, L50 life guarantee 30000h

3. Phosphor convert technology, high color gamut KSF powder global patent protection

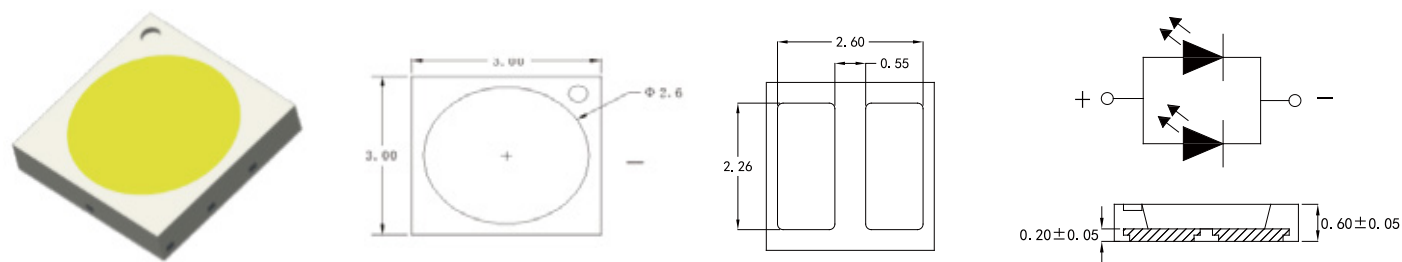
4. Various CIE color points, covering all color bins in the industry
- 1.高亮度、高光效、不同色域方案匹配客户需求

2.可靠性高,性能稳定,L50寿命保证30000H

3.白光转换专利,高色域KSF粉全球专利保障

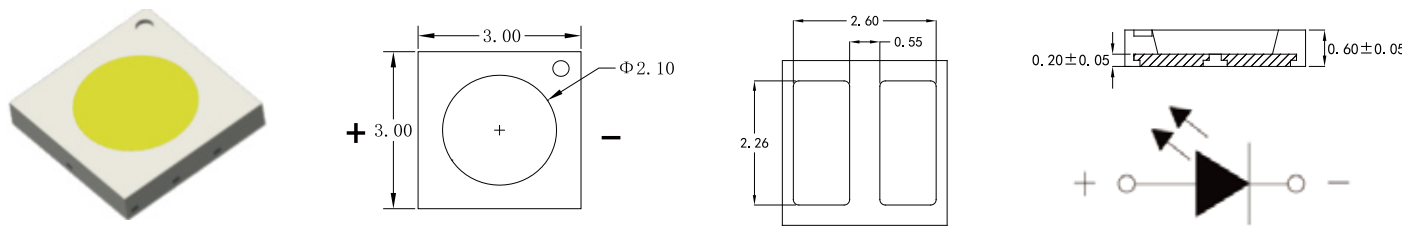
4.CIE色点丰富,覆盖行业所有色块

Nomal 3030-EMC3030(2.6 cup)



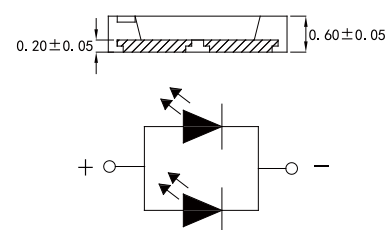
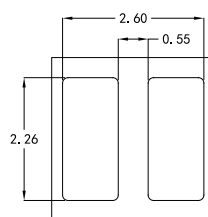
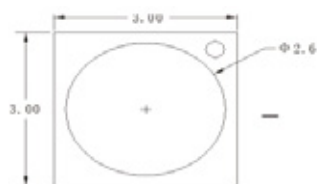
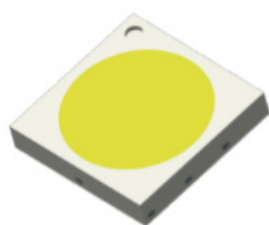
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
RF-TVY UE33MCN	200	(0.28,0.25)	3.2	600	120	115	White
RF-TVH UE33MCN	180	(0.28,0.25)	3.2	600	120	115	White
RF-TVY UE33LBN	200	(0.28,0.25)	3.2	300	120	115	White
RF-TVH UE33LBN	180	(0.28,0.25)	3.2	300	120	115	White

Nomal 3030-EMC3030(2.1 cup)



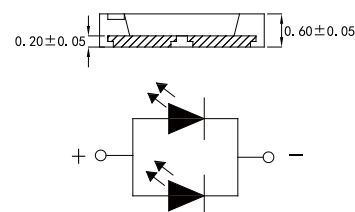
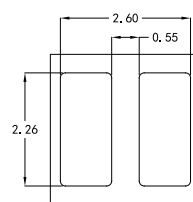
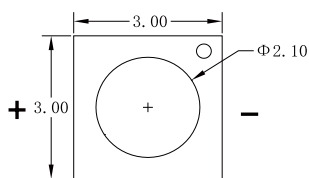
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
RF-TVY UC33MCN	195	(0.28,0.25)	3.2	600	120	115	White
RF-TVH UC33MCN	175	(0.28,0.25)	3.2	600	120	115	White
RF-TVY UC33LBN	195	(0.28,0.25)	3.2	300	120	115	White
RF-TVH UC33LBN	175	(0.28,0.25)	3.2	300	120	115	White

Standard 3030-SMC3030(2.6 cup)



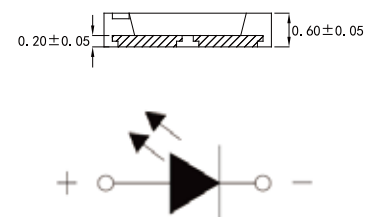
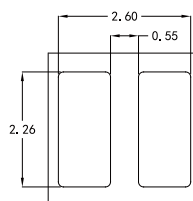
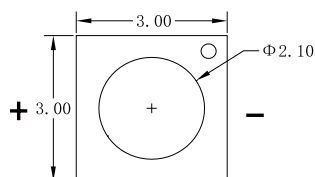
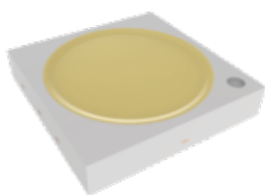
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
RF-TVY *SE33KCN	240	(0.28,0.25)	3.2	800	120	115	White
RF-TVY *SE33NBN	240	(0.28,0.25)	3.2	400	120	115	White

Nomal 3030-SMC3030(2.1 cup)



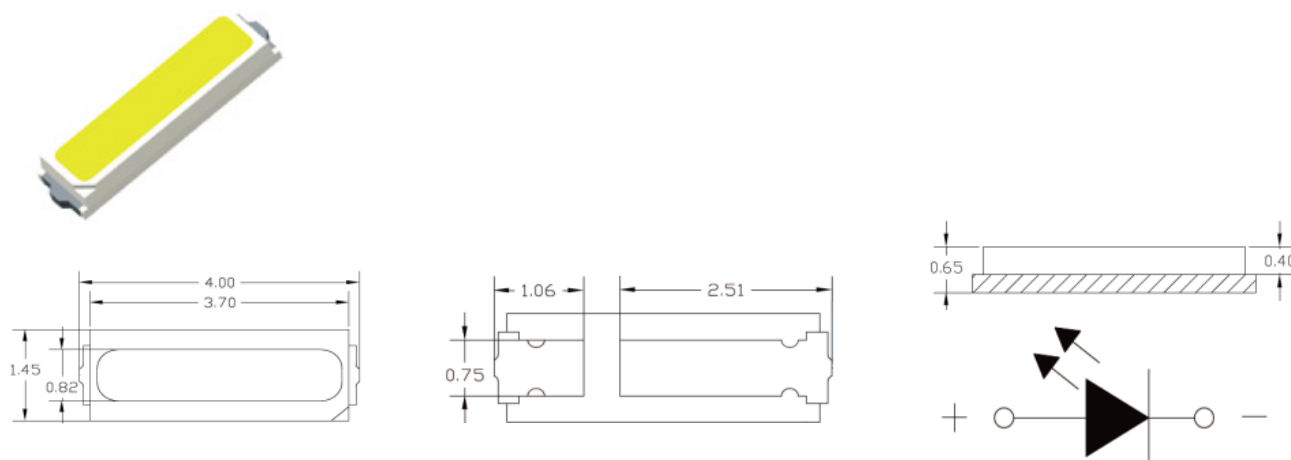
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color
	Typ	Typ	Typ	Typ	Typ	Max	
RF-TVY *SC33KCN	240	(0.28,0.25)	3.2	800	120	115	White
RF-TVY *SC33NBN	240	(0.28,0.25)	3.2	400	120	115	White

Flip 3030



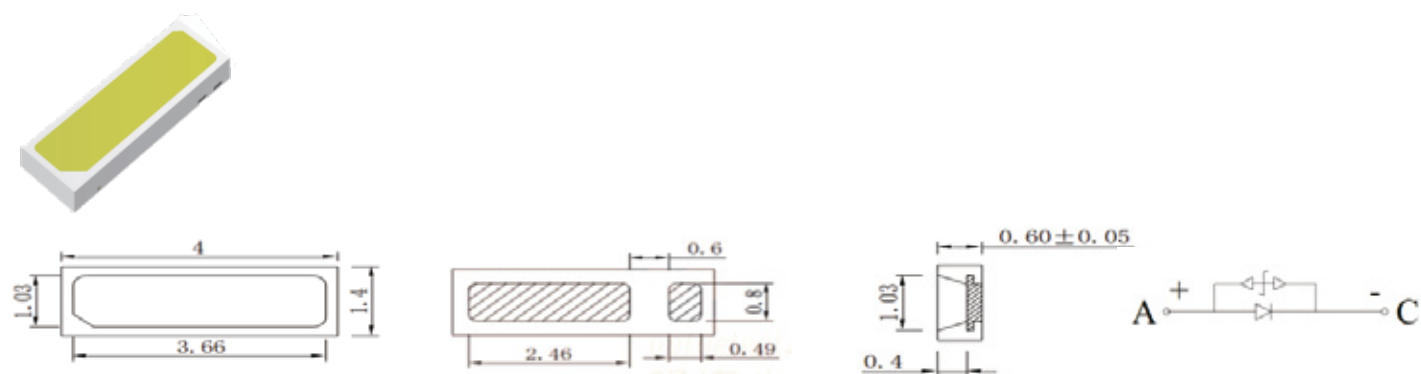
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	Color	NTSC
	Typ	Typ	Typ	Typ	Typ	Max		
RF-TVYUC33MIN	220	(0.2734,0.2482)	3.0	600	120	125	White	72%
RF-TVNYUC33MIN	26	400-500nm	3.0	600	120	125	BLUE	/
RF-TVHEUC33MIN	180	(0.2734,0.2482)	3.0	600	120	125	White	85%

Sideview 4014 Narrow light emitting surface



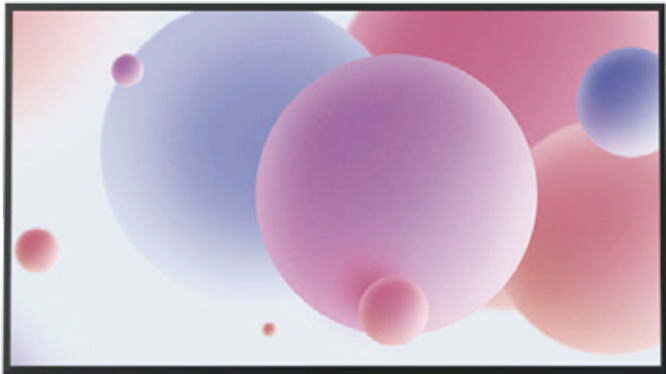
Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	NTSC
	Typ	Typ	Typ	Typ	Typ	Max	
R*PB10EAN	34	0.30,0.28	3	90	120	110	72%
H*PB10EAN	30	0.306,0.28	3	90	120	100	85%
H*PB10EAN	28	0.295,0.27	3	90	120	100	90%

Sideview 4014



Part No.	IV(LM)	X/Y(nm)	VF(V)	IF(mA)	2θ1/2 (°)	TJ(°C)	NTSC
	Typ	Typ	Typ	Typ	Typ	Max	
Y*PA14FAN	50	0.28,0.265	3	120	120	110	65%
R*PA14FAN	45	0.29,0.265	3	120	120	110	75%
B*PA14CAN	25	0.27,0.26	3	60	120	105	75%
H*PA14EAN	35	0.275,0.265	3	90	120	100	85%
Y*EA14FBN	50	0.29,0.285	6	120	120	110	65%
H*EA14FBN	50	0.27,0.25	6	120	120	100	85%

Direct LED Light bar Series



规格描述 Specifications	产品设计最大尺寸: 1.2m	Maximum size of product design: 1.2m
	不同 OD 空间设计: 12-40mm	Different OD space design: 12-40mm
产品特点 Features	发光颜色: 蓝光、白光	Luminous color: blue light, white light
	色域可调范围: 68%-97%(NTSC)	Color gamut adjustable range: 68%-97%(NTSC)
	规格尺寸支持定制	Specification and size support customization
	丰富的色系选型, 满足客户任意颜色要求	Satisfy customer requirements for high color gamut
	满足客户NTSC, sRGB, Adobe, DCI-P3不同标准下的高色域定制需求	customization under different NTSC, sRGB, Adobe,DCI-P3 standards
	可进行全球专利保证	Global patent gurantee available
产品应用 Application	适用于24寸-110寸背光应用 (TV、会议机、教育机、拼接屏等)	Suitable for 24 inch-110 inch backlight applications (TV, conferencing machine, teaching machine, stitched screen, etc.)

Mini Micro LED

1. High brightness, high color gamut, high contrast, ultra-thin, low power consumption, high partition

2. COB integrated package, high reliability and long life

3. Small OD can be realized, minimum 0 OD.

4. Easily assembly: large stroke, large imposition, easily for rear assembly

5. Low cost: unique secondary optical design, reduce the number of LED, aluminum substrate with sink type terminal

6. Any size customization available.

7. Suitable for small size, automotive mounted, VR / pad / Nb / MNT / TV and other applications
- 1.高亮度、高色域、高对比度、超薄、低功耗、高分区

2.COB一体封装,高可靠性,高寿命

3.可实现小OD,最低可做0 OD

4.便捷组装:大行程、大拼版,方便后段组装

5.低成本:独特的二次光学设计,减少灯数,铝基板+下沉式端子

6.任意尺寸定制化

7.适用于小尺寸、车载、VR/PAD/NB/MNT/TV等应用

MINI LED Small and medium size backlight products (1.19inches-34inches)



规格描述 Specifications	MINI LED间距小到P1mm 超薄灯板0.3-0.7mm 超高对比度，可做到10万：1 超高亮度，户外显示1500nits以上	Mini led spacing as small as P 1mm Ultra thin light plate 0.3-0.7mm Ultra high contrast, can achieve 100 thousand： 1 Ultra high brightness, outdoor display over 1500nit
产品特点 Features	超薄背光模组，NB可做到2mm 超高对比度 高亮度满足户外显示需求 产品根据客户要求定制化	Ultra thin backlight module, NB can achieve 2mm Ultra high contrast High brightness to meet outdoor display requirements Customization available
产品应用 Application	中小尺寸Mini 背光应用于穿戴，户外显示器、MNT等应用场景。 户外高亮显示	Small size and medium-size Mini backlight are used in wearable, outdoor display, MNT and other application scenarios. Outdoor high brightness display

MINI LED Large size backlight products (55 inches and above)



规格描述 Specifications	灯驱分离，灯驱一体，自由选择 超高亮度3000nits、对比度1千万：分区数量2880分区和高色域 极致OD，最低可应用于OD：0	LED and driver separated solution or LED and driver integrated solution based on your choice Super high brightness 3000nit, contrast 10000000: 1, number of partitions 2880 partitions and high color gamut Extreme OD, minimum 0 OD
产品特点 Features	大尺寸、少拼版，方便后段组装 低成本：二次光学设计减少灯数，铝基板+下沉式端子 产品根据客户要求定制化	Large size, less imposition, convenient for rear assembly Low cost: secondary optical design reduces the number of lamps, aluminum substrate + sink terminal Products are customized according to customer requirements
产品应用 Application	适用于TV、商显、教育机等	Suitable for TV, commercial display, educational machine, etc

Touch display

触显

Refond's touch module product line specializes in the development, production and sales of touch and DES colour e-paper modules.

Products of e-paper module business cover 1~6" black&white, black&white&red, black&white&yellow, black&white&orange electronic label, 6 ~42" black&white&color electronic paper for smart education, smart medical care, smart office, smart furniture, smart city, etc.

Refond electronic paper module has various product types. With a fully automatic assembly line, FPL&PS automatic SMD machine, COG&FOG automatic bonding machine, EC automatic dispensing machine, RTV automatic sealing machine, AOI optical detector and digital information platform & process capability control, Refond continually improve product quality, and provide customers integration of black and white & color e-paper module solutions and services.

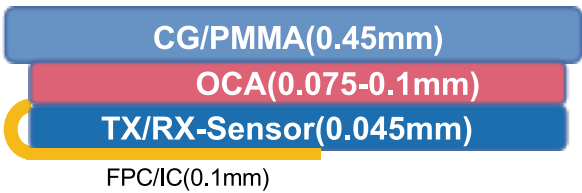
瑞丰触控模组产品线专业从事触控、DES彩色电子纸模组的研发、生产和销售。

产品覆盖超薄-TP (GF2) / 超薄-TP (GFF) 系列、电子标签、电子纸平板、电子纸TV、全贴合件、整机电子纸等业务。

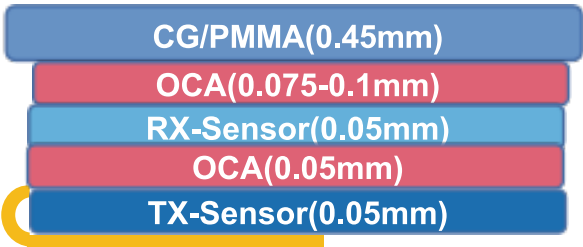
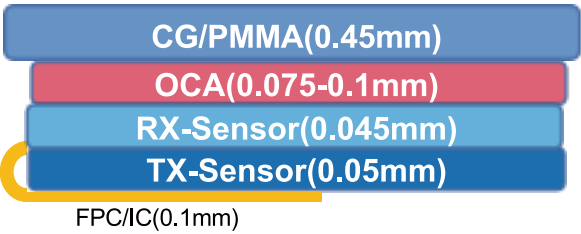
瑞丰触控模组具有丰富的产品种类及专业的Printing、Laser、软对硬&硬对硬贴合、双面Bonding技术与制程能力管控，不断迭代提升产品质量，为客户提供触控模组一体化的解决方案和服务。

Touch Series

TP-Ultra thin series (GF2 stylus)



产品应用 Application	平板、笔记本电脑、电子纸平板、TV等		laptop, electronic paper tablet, TV, etc	
产品特点 Features	大尺寸-超轻薄、平板外挂式触控产品		Large size - ultra-thin, flat-panel external touch control products	
	厚度:	0.57~0.6mm	slim:	0.57 to 0.6mm
	重量:	180g的平板外挂式触控产品	Weight:	180g
	等距超载边框:	4.9mm	Isometric overload bezel:	4.9mm
	屏占比:	90%的平板外挂式触控产品	screen-to-body ratio:	90%
	触控方案:	多点触控+触控笔	Touch solution:	multi-touch + stylus
	首款采用屏下盲孔摄像的高透光性方案		The first high light transmission solution with blind under-screen camera	
	透光率:	90%以上	light transmission rate:	over 90%
	Glass材质表面硬度:	7H/750g	Glass material:	surface hardness: 7H/750g
	Glass表面应力:	CS≥620Mpa, DOL≥6.8um, DOC≥70um 四点弯折≥600Mpa	Glass surface stress:	CS ≥ 620Mpa, DOL ≥ 6.8um, DOC ≥ 70um four-point bending ≥ 600Mpa
	工作温度:	-20~70°C	Working temperature:	-20 ~ 70°C



产品应用 Application	平板、笔记本电脑、电子纸平板、TV 等		laptop, electronic paper tablet, TV, etc	
产品特点 Features	超轻薄		Ultra-slim	
	厚度:	0.65~0.7mm (超轻薄)	Thickness:	0.65 to 0.7mm
	重量:	210g的笔记本外挂式触控	Weight:	210g for notebook external touch
	屏占比:	83.6%的笔记本外挂式触控	Screen-to-body ratio:	83.6% for notebooks with external touch
	边框:	6.89-13.3mm	Bezel:	6.89-13.3mm
	触控方案:	多点触控	Touch solution:	multi-touch
	透光率:	85%~88%	Product light transmission:	85% to 88%
	Glass材质:	GG6	Glass material:	GG6
	表面硬度:	7H/750g	surface hardness:	7H/750g
	Glass表面应力:	CS≥700Mpa DOL ≥35um DOC≥70um 四点弯折 ≥600Mpa	Glass surface stress:	CS ≥ 700Mpa, DOL ≥ 35um, DOC ≥ 70um four-point bending ≥ 600Mpa
	工作温度:	-20~70℃	Working temperature:	-20~70℃

Full Lamination Series

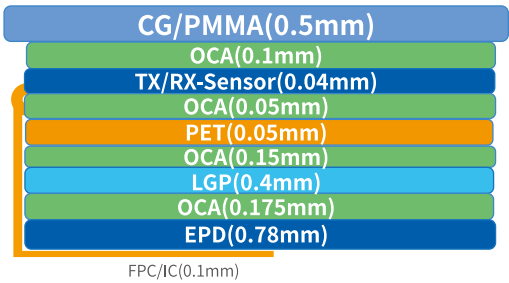
Refond’s touch module product line specializes in the R&D, production and sales of touch and DES colour e-paper modules . Our products cover ultra-thin-TP (GF2) / ultra-thin-TP (GFF) series, e-label, e-paper flat panel, e-paper TV, full lamination parts, and whole e-paper business . With a wide range of products and professional printing, laser, soft-to-hard & hard-to-hard lamination, double-sided bonding technology & process capability control, Refond touch modules are constantly iterating to improve product quality and provide customers with integrated solutions and services for touch modules .

瑞丰DES电子纸模组产品线-专业从事DES技术的黑白&彩色电子纸模组的研发、生产和销售。

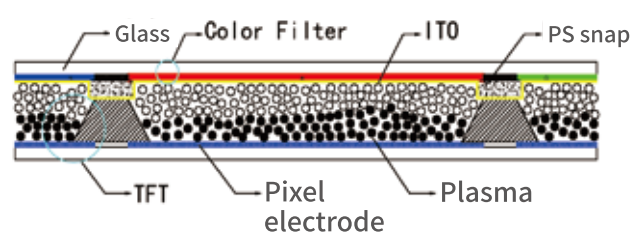
产品覆盖1 ～6“黑白、黑白红、黑白黄、黑白橙电子标签、6 ～42”黑白&彩色电子纸的智慧教育、智慧医疗、智慧办公、智慧家具、智慧城市等系列电子纸模组业务。

瑞丰电子纸模组具有丰富的产品种类及专业, 拥有全自动流水线, FPL&PS全自动贴合机、COG&FOG全自动Bonding机、EC全自动点胶机、RTV全自动封胶机、AOI光学检测仪以及数字化信息平台&制程能力管控, 不断迭代提升产品质量, 为客户提供黑白&彩色的电子纸模组一体化的解决方案和服务。

EPD-Full Lamination Series (GF2)



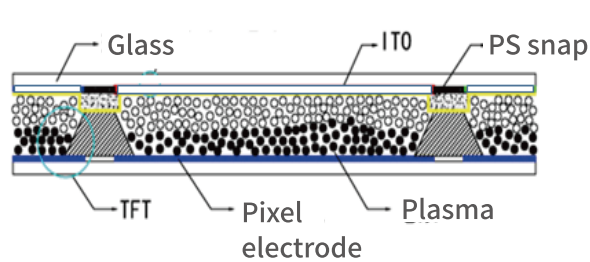
产品应用 Application	智慧办公、智慧城市、智慧校园、智慧家具等		Smart Office、Smart City、Smart Campus、Smart Furniture,etc	
产品特点 Features	厚度:	2.25mm（超轻薄）	Ultra-slim:	2.25mm thickness
	重量:	360g的电子纸外挂式触显产品	Weight:	360g
	屏占比:	86.3%	Screen-to-body ratio:	86.3%
	边框:	6.5-7.64mm的电子纸外挂式触显产品	bezel:	6.5-7.64mm
	低成本触控方案:	多点触控+触控笔（Metal Mash方案）	Low cost touch solution:	multi-touch + stylus (Metal Mash solution)
	功耗:	待机时间一个月、运行时间15-20天	Power consumption:	one month standby time, 15-20 days running time
	材质:	PMMA	Material:	PMMA
	表面硬度:	5~7H/750g	surface hardness:	5~7H/750g
	分辨率:	300PPI（黑白屏）、150PPI（彩色屏）	Resolution:	300PPI (black and white screen) 150PPI (colour screen)
	夜读功能:	冷暖调色（64级，支持DC调光）	Reading at night:	cool and warm colour mixing (64 levels DC dimming supported)
	护眼功能:	护眼（无蓝光）	Eye protection function:	Eye protection (no blue light)
	工作温度:	-20~70℃	Operating temperature:	-20~70℃



产品应用 The product application	智慧办公、智慧城市、智慧校园、智慧家具等		Smart Office、Smart City、Smart Campus、Smart Furniture etc	
产品特点 Product features	显示技术：	DES（彩色电子纸模组）	Display technology:	DES
	尺寸：	160(H)×218.9(V)×1.05(D)，尺寸可定制	Dimension:	160(H)×218.9(V)×1.05(D),support cutomization
	分辨率：	1680*2232，DPI：280	Resolution:	1680*2232，DPI：280
	IC：	双颗JD79631*2	IC:	double JD79631*2
	功耗：	1.5~2.5mw	Power consumption:	1.5~2.5mw
	驱动电压：	3V	drive voltage:	3V
	对比度：	>1: 40	Contrast:	>1: 40
	响应时间(黑白粒子)：	80 ~ 120ms	Response time (monochrome particles):	80 ~ 120ms
	工作温湿度：	-20~ +60℃、湿度0 ~80RH%	Operating temperature and humidity:	-20~ +60℃、humidity:0 ~80RH%



产品应用 The product application	智慧办公、智慧城市、智慧校园、智慧家具等		Smart Office、Smart City、Smart Campus、Smart Furniture etc	
产品特点 Product features	超轻薄性能		Ultra-slim performance	
	厚度:	2.6mm	Thickness:	2.25mm
	重量:	415g的电子纸外挂式触显产品	Weight:	415g
	屏占比:	86.3%	Screen-to-body ratio:	86.3%
	边框:	6.5-7.64mm的电子纸外挂式触显产品	bezel:	6.5-7.64mm
	触控方案:	多点触控+EMR结构触控笔	Touch solution:	Multi-touch + EMR structured stylus
	功耗:	待机时间一个月、运行时间15-20天	Power consumption:	one month standby time, 15-20 days running time
	材质:	PMMA	Material:	PMMA
	表面硬度:	5~7H/750g	surface hardness:	5~7H/750g
	分辨率:	300PPI（黑白屏）、150PPI（彩色屏）	Resolution:	300PPI (black and white screen) 150PPI (colour screen)
	夜读功能:	冷暖调色（64级，支持DC调光）	Reading at night:	cool and warm colour mixing (64 levels DC dimming supported)
	护眼功能:	护眼（无蓝光）	Eye protection function:	Eye protection (no blue light)
	工作温度:	-20~70℃	Operating temperature:	-20 to 70℃



产品应用 The product application	智慧零售、智慧办公、智慧城市、智慧校园、智慧家具等		Smart Office、Smart City、Smart Campus、Smart Furniture etc	
产品特点 Product features	显示技术：	DES（黑白电子纸模组）	Display technology:	DES
	尺寸：	120.6(H)×173.8(V) ×1.05(D)，尺寸可定制	Dimension:	120.6(H)×173.8(V) ×1.05(D) support cutomization
	分辨率：	1404*1872，DPI: 300	Resolution:	1404*1872，DPI: 300
	IC：	双颗EK79632*2	IC:	double EK79632*2
	功耗：	1.5~2.5mw	Power consumption:	1.5~2.5mw
	驱动电压：	3V	drive voltage:	3V
	对比度：	>1: 60	Contrast:	>1: 60
	响应时间(黑白粒子)：	80~120ms	Response time (monochrome particles):	80~120ms
	工作温湿度：	-20~+60°C、湿度:0~80RH%	Operating temperature and humidity:	-20~+60°C、humidity:0~80RH%

Since foundation, Refond RGB product line has followed the market trend and product iterations of the LED display market, always focusing on providing customers with high-quality LED devices, continuously devoting itself to focusing on products, innovation, customer experience, improving the comprehensive competitiveness of products, and continuously lighting up the C-position of the city!

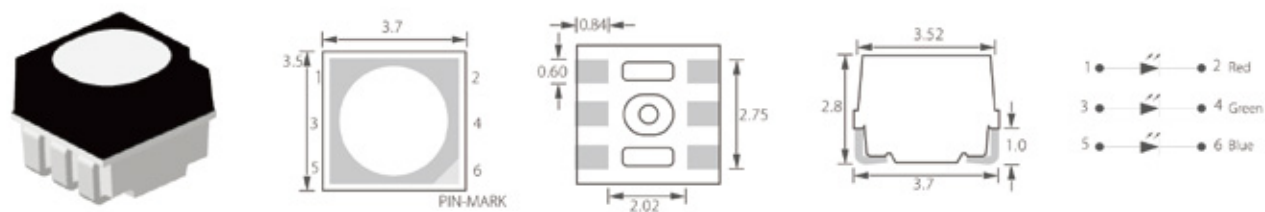
Refond RGB mainly provides customers with LED solutions for outdoor engineering displays, outdoor landscape lighting, traffic displays and indoor and outdoor small pitch displays.

瑞丰RGB产品线从成立之初，就紧随LED显示市场的变化和产品更迭，始终聚焦于为客户提供高品质的LED器件，持续致力于聚焦产品、聚焦创新、聚焦客户体验，提升产品综合竞争力，不断点亮城市C位！

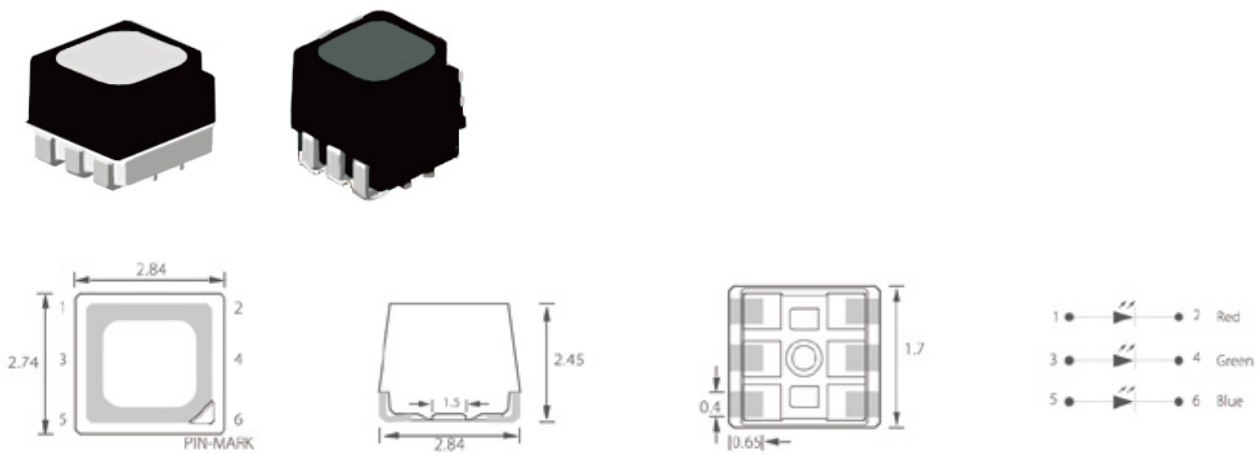
瑞丰RGB主要为客户提供户外工程显示、户外景观亮化照明、交通显示以及户内、户外小间距显示等LED解决方案。

Outdoor Product Series

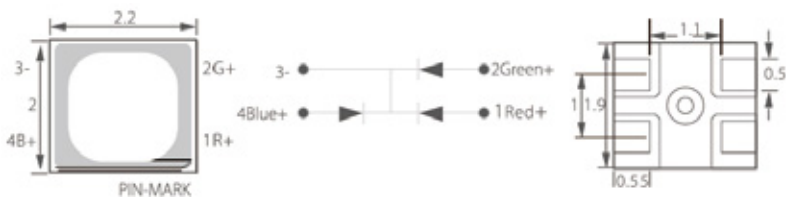
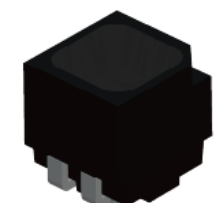
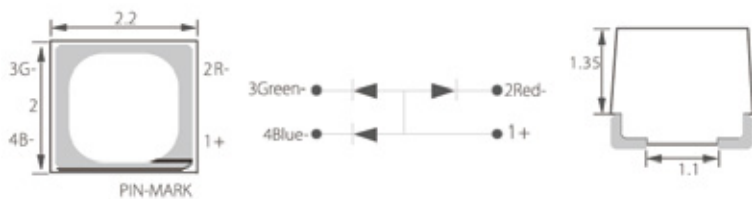
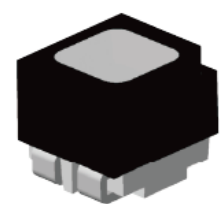
3535 Outdoor



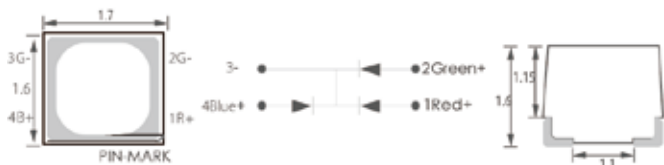
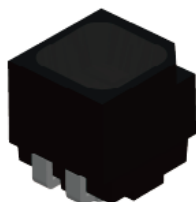
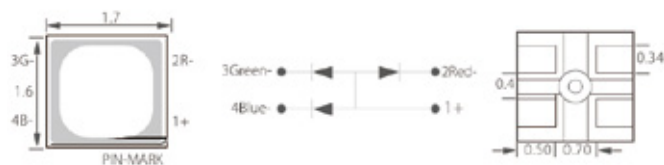
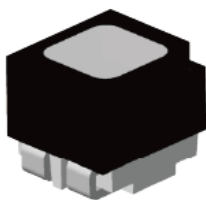
Part Number	L/F Type	Color	Test Condition(mA)	IV(mcd)	λD(nm)	VF(V)	50% Power Angle
RF-W1SA35IS-A42	Surface Black	R	20	1000	618-628	1.7-2.4	110
		G	20	2100	518-540	2.5-3.4	
		B	20	520	460-475	2.5-3.4	
RF-W1SA35IS-M42	Surface Black	R	20	1200	618-628	1.7-2.4	110
		G	20	2300	518-540	2.5-3.4	
		B	20	510	460-475	2.5-3.4	
RF-W1SA35IS-A43	Surface Black	R	20	820	618-628	1.7-2.4	110
		G	20	1900	518-540	2.5-3.4	
		B	20	430	460-475	2.5-3.4	
RF-W1SA35IS-A47	Surface Black	R	20	650	618-628	1.7-2.4	110
		G	20	1500	518-540	2.5-3.4	
		B	20	380	460-475	2.5-3.4	



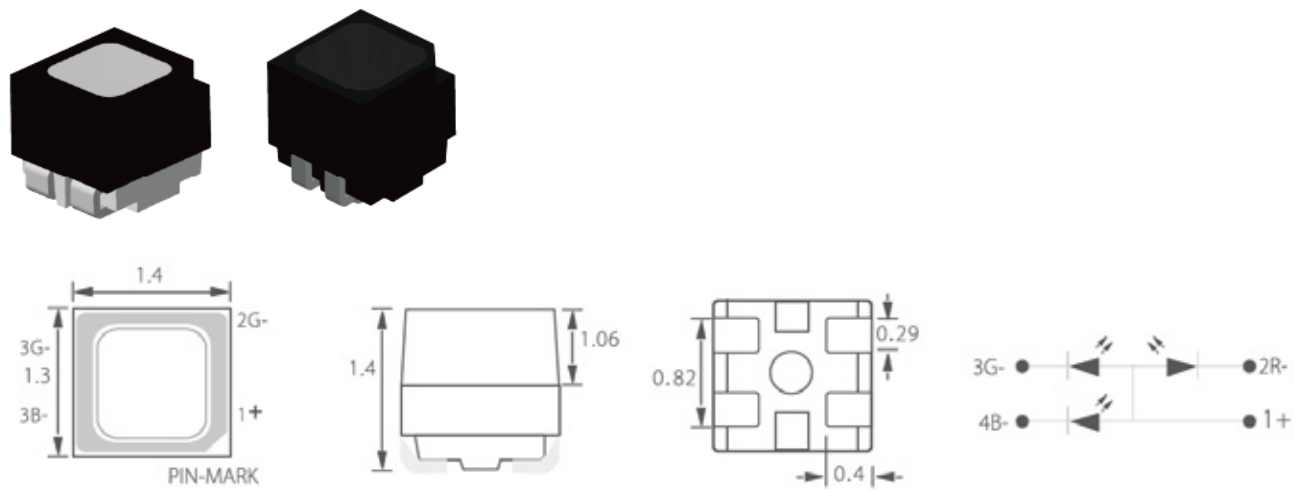
Part Number	L/F Type	Color	Test Condition(mA)	IV(mcd)	λD(nm)	VF(V)	50% Power Angle
RF-W1SA27IS-M42	Surface Black	R	20	1050	618-628	1.7-2.4	110
		G	20	2000	518-540	2.5-3.4	
		B	20	430	460-475	2.5-3.4	
RF-W1SA28IS-A47	Surface Black	R	20	650	618-628	1.7-2.4	110
		G	20	1500	518-540	2.5-3.4	
		B	20	380	460-475	2.5-3.4	
RF-F1SA28IS-A55	Surface Black	R	20	600	618-628	1.7-2.4	110
		G	20	1600	518-540	2.5-3.4	
		B	20	260	460-475	2.5-3.4	
RF-W1SA27HS-M42	All Black	R	20	550	618-628	1.7-2.4	110
		G	20	960	518-540	2.5-3.4	
		B	20	185	460-475	2.5-3.4	



Part Number	L/F Type	Color	Test Condition(mA)	IV(mcd)	λ D(nm)	VF(V)	50% Power Angle
RF-W1SA21IS-M41	Surface Black	R	15	640	618-628	1.7-2.4	110
		G	15	1415	518-540	2.5-3.4	
		B	10	215	460-475	2.5-3.4	
RF-W1SA21IS-A49	Surface Black	R	15	520	618-628	1.7-2.4	110
		G	15	1100	518-540	2.5-3.4	
		B	10	200	460-475	2.5-3.4	
RF-W1SA21HS-A45	All Black	R	15	420	618-628	1.7-2.4	110
		G	15	810	518-540	2.5-3.4	
		B	10	125	460-475	2.5-3.4	
RF-W2SA21HS-N44	All Black (Common-cathode)	R	15	390	618-628	1.7-2.4	110
		G	15	940	518-540	2.5-3.4	
		B	10	100	460-475	2.5-3.4	



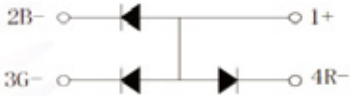
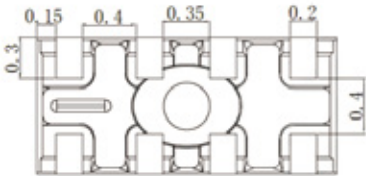
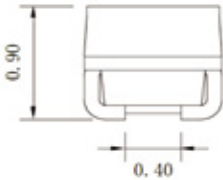
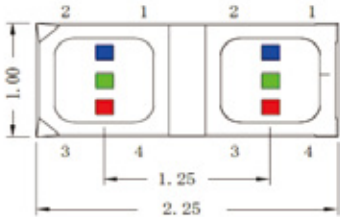
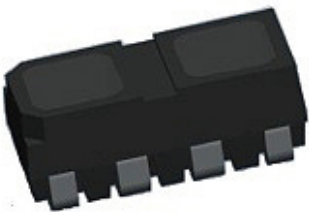
Part Number	L/F Type	Color	Test Condition(mA)	IV(mcd)	λ D(nm)	VF(V)	50% Power Angle
RF-W1SA15IS-A47	Surface Black	R	10	330	618-628	1.7-2.4	110
		G	10	880	518-540	2.5-3.4	
		B	5	102	460-475	2.5-3.4	
RF-C1SA15IS-A58	Surface Black	R	10	210	618-628	1.7-2.4	110
		G	10	640	518-540	2.5-3.4	
		B	5	80	460-475	2.5-3.4	
RF-C1SA15IS-M57	Surface Black	R	15	345	618-628	1.7-2.4	110
		G	8	460	518-540	2.5-3.4	
		B	5	75	460-475	2.5-3.4	
RF-W1SA15HS-A47	All Black	R	10	205	618-628	1.7-2.4	110
		G	10	440	518-540	2.5-3.4	
		B	5	52	460-475	2.5-3.4	
RF-C1SA15HS-A55	All Black	R	10	185	618-628	1.7-2.4	110
		G	10	470	518-540	2.5-3.4	
		B	5	35	460-475	2.5-3.4	
RF-W1SA15HS-N47	All Black (Common-cathode)	R	15	205	618-628	1.7-2.4	110
		G	15	440	518-540	2.5-3.4	
		B	10	52	460-475	2.5-3.4	



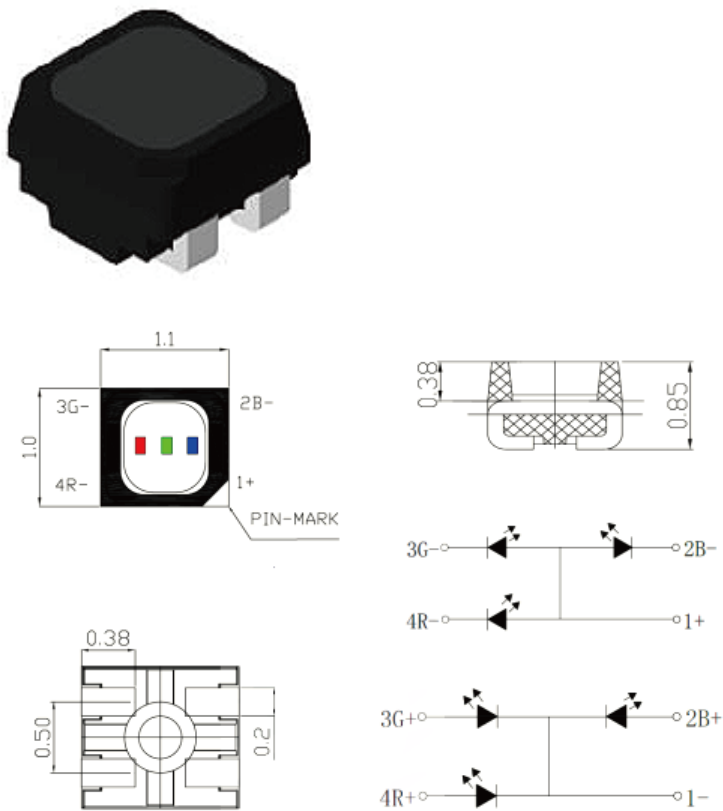
Part Number	L/F Type	Color	Test Condition(mA)	IV(mcd)	λD(nm)	VF(V)	50% Power Angle
RF-W2SA12IS-A47	Surface Black	R	10	290	618-628	1.7-2.4	110
		G	10	750	518-540	2.5-3.4	
		B	5	110	460-475	2.5-3.4	
RF-C2SA12IS-A58	Surface Black	R	10	140	618-628	1.7-2.4	110
		G	10	420	518-540	2.5-3.4	
		B	5	52	460-475	2.5-3.4	
RF-W2SA12HS-A47	All Black	R	10	195	618-628	1.7-2.4	110
		G	10	440	518-540	2.5-3.4	
		B	5	55	460-475	2.5-3.4	
RF-C2SA12HS-A56	All Black	R	10	195	618-628	1.7-2.4	110
		G	10	320	518-540	2.5-3.4	
		B	5	39	460-475	2.5-3.4	

Indoor Product Series

2 in 1 1020 Indoor



Part Number	L/F Type	Color	Test Condition(mA)	IV(mcd)	λD(nm)	VF(V)	50% Power Angle
RF-C4HR10HS-M57	All Black	R	5	21	618-628	1.7-2.4	110
		G	3	80	518-540	2.5-3.4	
		B	3	17	460-475	2.5-3.4	
RF-F4HR10HS-M57	All Black	R	5	21	618-628	1.7-2.4	110
		G	3	80	518-540	2.5-3.4	
		B	3	17	460-475	2.5-3.4	



Part Number	L/F Type	Color	Test Condition(mA)	IV(mcd)	λD(nm)	VF(V)	50% Power Angle
RF-W5HR10HS-A52	All Black	R	5	30	618-628	1.7-2.4	110
		G	3	100	518-540	2.5-3.4	
		B	3	16	460-475	2.5-3.4	
RF-C5HR10HS-A52	All Black	R	5	30	618-628	1.7-2.4	110
		G	3	95	518-540	2.5-3.4	
		B	3	16	460-475	2.5-3.4	
RF-C5HR10HS-N57	All Black	R	5	53	618-628	1.7-2.4	110
		G	3	86	518-540	2.5-3.4	
		B	3	14	460-475	2.5-3.4	

Mini Display

Mini 显示

家用电器 | Household Appliances



消费电子 | Consumer Electronics



车用显示 | Vehicle Display



Mini Micro screen

成熟产品路线 Mature product route

mini微屏家族 mini Micro screen family

承接设计创新 Undertake design innovation



Flight Series
High quality and high performance

飞航系列
高品质高性能



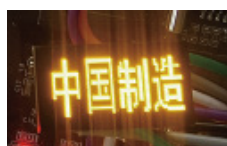
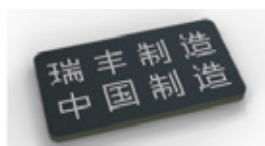
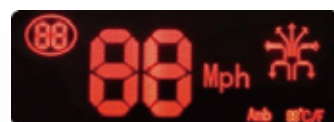
Characters Series
Increase FMCG premiums
Empowering FMCG products

字符系列
增加快消品溢价
为快消品赋能



Feather Yarn Series
Lightweight

羽纱系列
轻薄



micro display screen

1. Min Pitch 0.13mm, Observable crosstalk ;
2. Aviation quality
3. Night vision compatible
4. Under dark vision, Contrast Ratio>1000:1
5. 0.17~2500nit Brightness adjustable

准micro显示屏

- 1、Min Pitch 0.13mm, 无可察串扰；
- 2、航空品质
- 3、夜视兼容
- 4、暗视下, 对比度>1000:1
- 5、0.17~2500nit亮度可调

Character product series



Clearer than digital tube, Sturdier than LCD , smaller、 brighter、 thinner:

1. Complete display of Chinese characters, clear display of numbers, including national languages, support for setting the screen
2. High brightness, low heat, wide viewing angle, drop, abrasion and scratch resistant
3. Dazzling models R, G, B, W, colourful models RGB, RG, RB, GB, at your choice
4. Pitch 0.2~1.5mm (PPI:30-140)
5. Light-sensitive, pressure-sensitive, voice-activated, Bluetooth and other optional functions

比数码管更清晰, 比LCD更结实, 更小、更亮、更轻薄:

- 1、完整展示汉字, 清晰显示数字, 囊括各国语言, 支持设制画面
- 2、高亮度、低热量、广视角、耐摔、耐磨、耐刮擦
- 3、炫彩款R、G、B、W, 缤纷款RGB、RG、RB、GB, 任君选择
- 4、Pitch 0.2~1.5mm 放肆定制 (PPI:30-140)
- 5、光感、压敏、声控、蓝牙等功能选配



P0.68
Film0.48mm
Heterotype
A Class a appearance parts
Gray and white

Lightweight, that is eather yarn ;

- 1. extremely thin 0.25~0.5mm with self-luminous.
- 2. flexible, conformable fit.
- 3. dense chip distribution, delicate light sense.
- 4. aerospace quality assurance.
- 5. energy-saving, environmental protection.
- 6. support each shape customization, support editable control, support full light colour customization.;

轻薄, 就是羽纱;

- 1、极致超薄0.25~0.5mm自主发光
- 2、可柔, 随形贴合;
- 3、密集的芯片分布, 细腻光感;
- 4、航天品质保障;
- 5、节能、环保;
- 6、支持各形状定制、支持可编辑控制、支持全光色定制;

Micro Screen Family - Flight, Characters, Feather Yarn

	Flight series		Characters series		Feather Yarn series	
Colourful models W/R/G/B	Pitch:	0.2-1.5mm	Pitch:	standard >0.9mm support >0.2mm customization	Pitch:	standard >0.7mm support >0.2mm customization
	Refresh:	3840HZ	Refresh:	60-80HZ	Refresh:	60-80HZ
	Brightness:	linear adjustable Customization	Refresh:	fixed brightness, custom hardware step adjustable Customization	Refresh:	fixed brightness, custom hardware step adjustable Customization
	cycle	8-12 weeks	Refresh:	4-6 weeks	Refresh:	4-6 weeks
Binfen Model RGB/RG/RB/GB	Pitch:	0.39-1.5mm	Pitch:	GB standard >0.9 support >0.39mm customization	Pitch:	Standard >0.6mm support >0.2mm customization
	Refresh:	3840HZ	Refresh:	60-80HZ	Refresh:	60-80HZ
	Brightness:	linear adjustable Customization	Brightness:	fixed brightness, custom models hardware step adjustable Customization	Brightness:	fixed brightness, custom hardware step adjustable Customization
	cycle:	8-16 weeks	cycle:	8-12 weeks	cycle:	4-6 weeks

成熟设计 Mature design

mini大屏家族 mini Large Screen Family

稳定持续供应 Stable and continuous supply

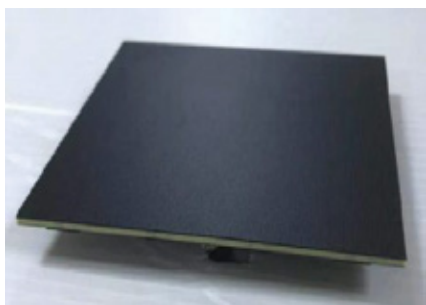


大屏系列 | Large screen series

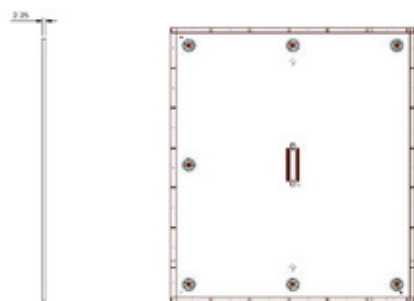


车用系列 | Automotive series

Display series-RF-NV125

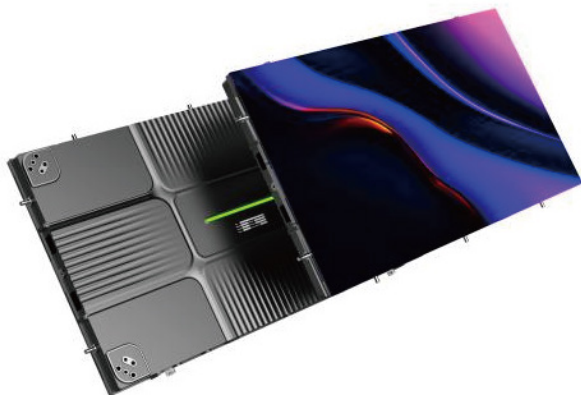


Front View



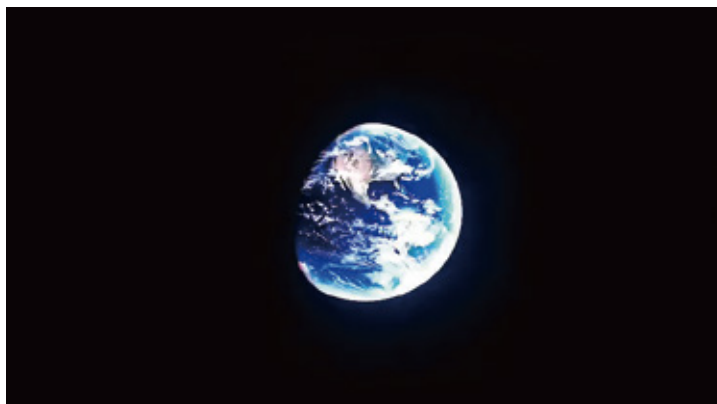
Bottom View

Items		Parameters
Display Module	Size	150 (W) *168.75mm (H)
	The physical resolution	135*120(W*H)
	PP	1.25mm
Display Unit	Size	600mm*337.5mm*32 mm
	The physical resolution	480* 270(W*H) (4*2 Modules)
	peak brightness	TYP.600 nits
	Contrast	10000:1
	Horizontal viewing angle	>160°
	Vertical viewing angle	>160°
	Gray level	>14bit
	Refresh rate	3840Hz
	Brightness Uniformity	≥97%
	Chromaticity Uniformity	Cx/Cy:±0.003
	CCT	D65(3200~9300K)
	Operating Temperature	-10~40 °C
	Storage Temperature	-20~60 °C
	Operating humidity	20~90% RH
	Storage humidity	20~90% RH
Build-up Optionals		4K, 8*8Units



	1	2	3	4	5	6
A	640* 360	1280x360	1920x360	2560x360	3200x360	3840x360
B	640* 720	1280x720	1920x720	2560x720	3200x720	3840x720
C	640* 1080	1280x1080	1920x1080	2560x1080	3200x1080	3840x1080
D	640* 1440	1280x1440	1920x1440	2560x1440	3200x1440	3840x1440
E	640* 1800	1280x1800	1920x1800	2560x1800	3200x1800	3840x1800
F	640* 2160	1280x2160	1920x2160	2560x2160	3200x2160	3840x2160

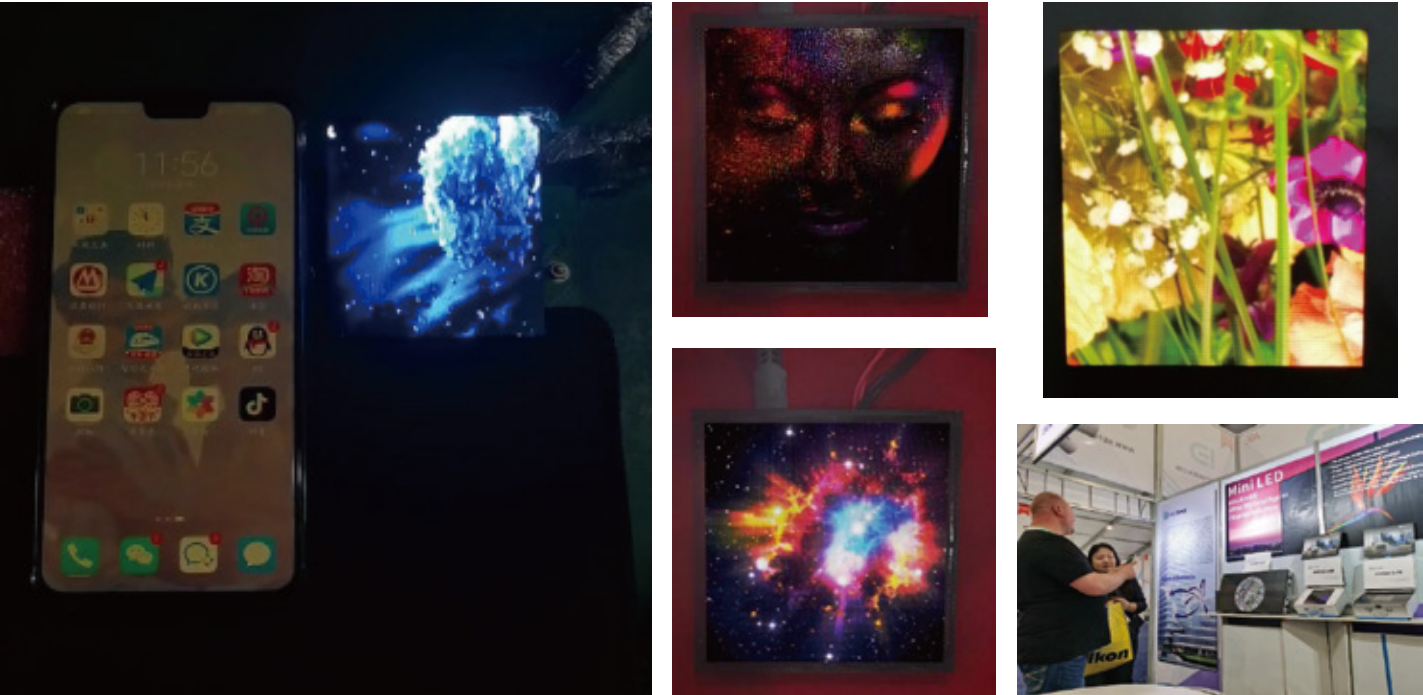
Items		Parameters
Display Module	Size	150 (W) *168.75mm (H)
	The physical resolution	160*180(W*H)
	Pich	0.9375mm
Display Unit	Size	600mm*337.5mm*32 mm
	The physical resolution	640* 360(W*H) (4*2 Modules)
	peak brightness	TYP.600 nits
	Contrast	10000:1
	Horizontal viewing angle	>160°
	Vertical viewing angle	>160°
	Gray level	>14bit
	Refresh rate	3840Hz
	Brightness Uniformity	≥97%
	Chromaticity Uniformity	Cx/Cy:+/-0.003
	CCT	D65(3200~9300K)
	Operating Temperature	-10~40 °C
	Storage Temperature	-20~60 °C
	Operating humidity	20~90% RH
	Storage humidity	20~90% RH
Build-up Optionals		4K, 6*6Units



Items		Parameters
Display Module	Size	81.6mm(W)*91.8mm(H)
	The physical resolution	120*135(W*H)
	PP	0.68mm
Display Unit	Size	652.8mm*367.2mm*75 mm
	The physical resolution	960*540(W*H)/(8*4 Modules)
	Color Gamut	R:0.693/0.305/G:0.220/0.727/B:0.122,0.080.
	peak brightness	≥1000 nits
	Contrast	6000:1
	Horizontal viewing angle	>170°
	Vertical viewing angle	>170°
	Gray level	14bit each
	Refresh rate	3840Hz
	Brightness Uniformity	≥97%
	Chromaticity Uniformity	Cx/Cy: +/-0.003
	CCT	3200~9300K
	Power Dissipation(max.)	600 W/m ²
	Power Dissipation(avg.)	280 W/m ²
	Operating Temperature	-10~50 °C
	Storage Temperature	-20~60 °C
	Operating humidity	10~80% RH
	Storage humidity	10~80% RH
Build-up Options		4K,118 inch, 4*4Units



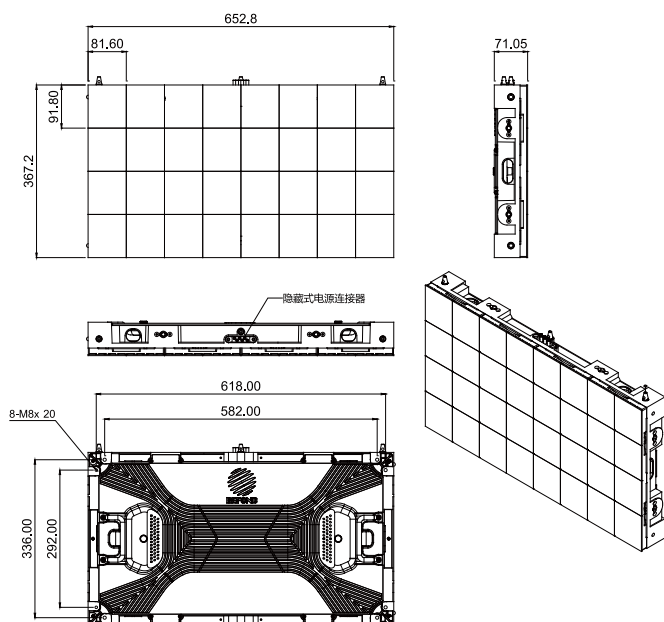
Items		Parameters
Physical Parameters	Size	78.4(W)*88.2mm(H)
	The physical resolution	160*180(W*H)
	PP	0.49mm
	Size	470.4*264.6*75 mm
	The physical resolution	960*540(W*H) (6*3 Modules)
Optical Specifications	peak brightness	Typ.600 nits
	Contrast	5000:1
	Horizontal viewing angle	>160°
	Vertical viewing angle	>160°
	Gray level	≥14bit
	Refresh rate	3840Hz
	Brightness Uniformity	≥97%
	Chromaticity Uniformity	Cx/Cy: +/-0.003
	CCT	D65(3200~9300K)
	Power Dissipation(max.)	750W/m ²
	Power Dissipation(avg.)	350W/m ²
Operation Specifications	Operating Temperature	-10~40 °C
	Storage Temperature	-20~60 °C
	Operating humidity	20~90% RH
	Storage humidity	20~90% RH
Build-up Optionals		4K, 85 inch, 4*4Units



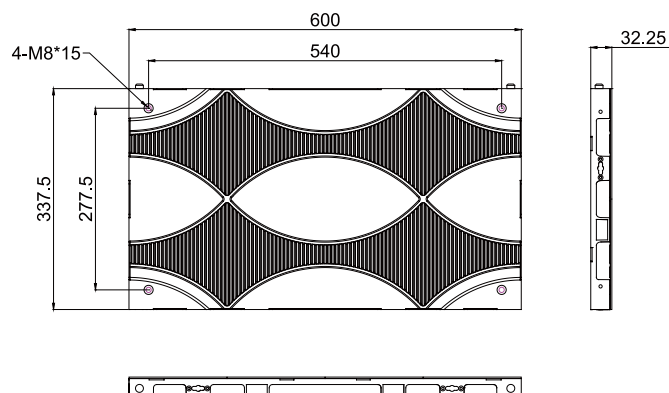
Items		Parameters
Physical Parameters	Size	62.4(W)*70.2mm(H)
	The physical resolution	160*180(W*H)
	PP	0.39mm
Optical Specifications	peak brightness	Typ..500 nits
	Horizontal viewing angle	>160°
	Vertical viewing angle	>160°
	Gray level	14bit
	Refresh rate	>3000Hz
	Brightness Uniformity	≥95%
	Chromaticity Uniformity	Cx/Cy:±0.003
Operation Specifications	CCT	D65(3200~9300K)
	Operating Temperature	-10~40 °C
	Storage Temperature	-20~60 °C
	Operating humidity	20~90% RH
	Storage humidity	20~90% RH

Large screen display series - Product parameter summary

RF-NE068- box structure



NV093/NV125 - box structure



Part number	RF-NE068	RF-NV093	RF-NV125
Physical point spacing	0.68	0.9375	1.25
Package type	COB integrated package		
Pixel composition	1R1G1B		
Module size (W*H)	81.6*91.8	150*168.75	150*168.75
Module resolution (W*H)	120*135	160*180	120*135
Module size (W*H)	652.8*367.2	600*337.5	
Box structure resolution (W*H)	960*540	640*360	480*270
Box material	Die casting aluminum	Die casting aluminum	Die casting aluminum
Box Area	0.24m ²	0.2025m ²	
White balance brightness	≤600cd/m ² (adjustable in 256 levels), the peak brightness can reach 1000cd/m ²		
Best sight distance	2~25m	3~25m	3.5~25m
Viewing angle	Horizontal/Vertical≥160°		
Input voltage (V)	AC110/220V ±10% 50-60Hz		
Output voltage (V)	DC2.8V/3.8V dual output power supply		
Average Power	≤ 400w/m ²	≤ 270w/m ²	≤ 250w/m ²
Maximum power	≤ 765w/m ²	≤ 400w/m ²	≤ 410w/m ²
Grayscale class	≥13bit		
Refresh frequency	3840Hz		
Contrast	≥ 10000: 1		
Tc(K)	D65 (3200-9300K adjustable)		
Color gamut	Above 115%NTSC		
Chromaticity uniformity	Within 0.003Cx, Cy		
Brightness correction	Support single-point brightness correction, data is stored on the unit module		
Signal double backup	Optional	Optional	Optional
Dual power backup	Optional	Optional	Optional
Color correction	Support for color correction		
Range of working temperature	-10°C~40°C		
Storage temperature and humidity range	-20°C~60°C/20%-90%		
Signal source	DVI, HDMI2.0, DP1.2		
MTBF	≥8000H		
Lifetime	100000H		
IP class	IP30		

Automotive LED series

Logo light



Pixel pitch:	P0.68mm/0.9mm	Single module size:	Φ150mm
Signal Interface:	LVDS	Single module resolution:	222*226

Tail light



Pixel pitch:	optional, more than Pitch 0.9mm
--------------	---------------------------------



Lighting LED

-
照明产品

Filament

灯丝

Hard filament series

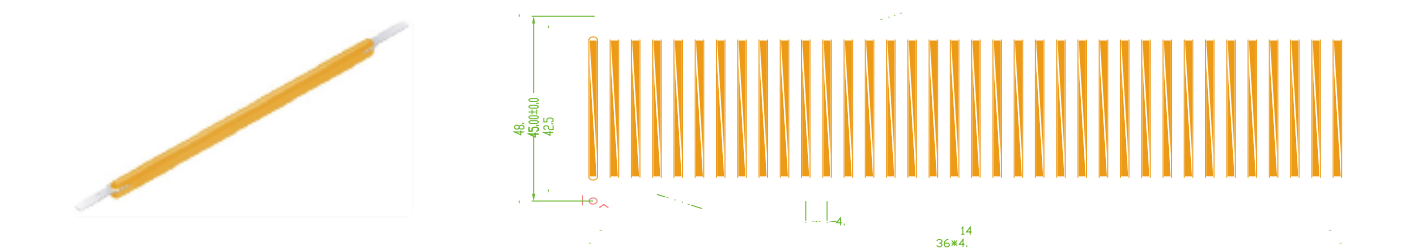
Mainly include 4015/5315/5330 and other specifications
Products can be customized according to customer needs

主要包含4015/5315/5330等规格
可依客户需求定制产品

4015

Integrated products, high light efficiency, high cost performance
Assembly shipment, less gap, suitable for automatic spot welding equipment

集成产品, 光效高, 性价比高
拼版出货, 缺口少, 适用自动点焊设备



Series	Part No.	L/F Type	Color	Test Condition(V)	IV(lm)	P (W)	Ra	Angle
4015	RF-FT4FW **67-T *-B-P	40*1.5*2.2mm	2700K-8000K	65-70	150-300	0.7-1.8	80	360
4015	RF-FT4FW **67-D *-B-P	40*1.5*2.2mm	2700K-8000K	65-70	100-250	0.7-1.8	90	360

Flexible Filament Series

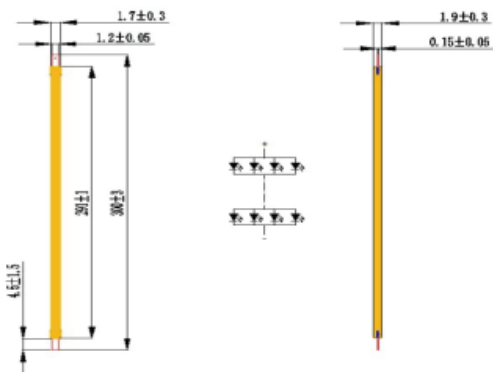
Mainly include single-color/dual-color/four-color/five-color specifications
Products can be customized according to customer needs

主要包含单色/双色/四色/五色等规格
可依客户需求定制产品

FPC300

Strong plasticity, suitable for changing shapes and decorative applications
The appearance is delicate and smooth, and the light color has no dark spots

可塑性强, 适用造型多变装饰应用
外观细致平滑, 光色无暗斑
耐高温, 符合LM80测试要求

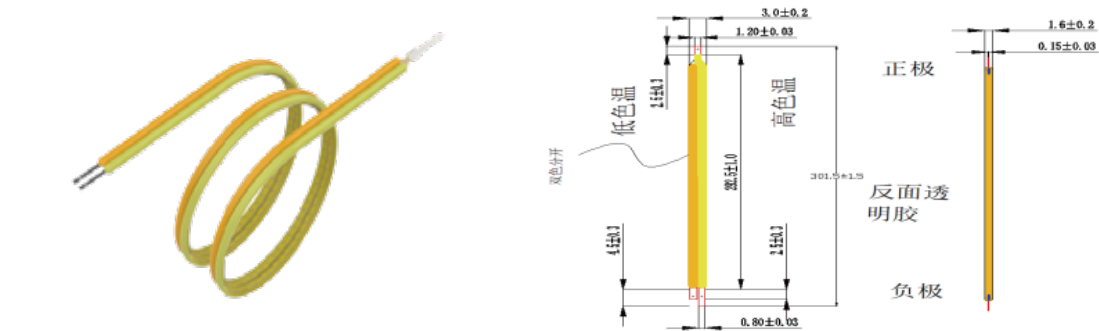


Series	Part No.	L/F Type	Color(K)	Test Condition(mA)	IV(lm)	Vf(V)	Ra	Angle
300mm	RF-FPR6W2C1G-T5	300 *1.5mm	2200	40	680-760	135	82	360
300mm	RF-FPR6W2E1G-T5	300 *1.5mm	2700	40	760-840	135	82	360
300mm	RF-FPR6W2C1K-T5	300 *1.5mm	2200	20	680-760	270	82	360
300mm	RF-FPR6W2E1K-T5	300 *1.5mm	2700	20	760-840	270	82	360

FPS300

Strong plasticity, suitable for intelligent applications with variable shapes
The appearance is delicate and smooth, and the light color has no dark spots High temperature resistance, in line with LM80 test

可塑性强, 适用造型多变智能应用
外观细致平滑, 光色无暗斑
耐高温, 符合LM80测试要求

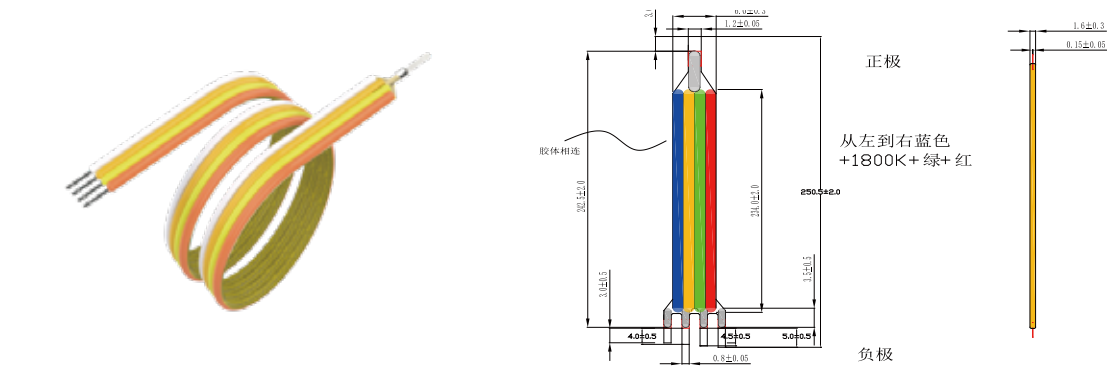


Series	Part No.	L/F Type	Color(K)	Test Condition(mA)	IV(lm)	Vf(V)	Ra	Angle
300mm	RF-FPS6W261G-T5	300*3.0mm	2200+6500	40	350-450	135	82	360
300mm	RF-FPS6W261K-T5	300*3.0mm	2200+6500	20	350-450	270	82	360

FPF248

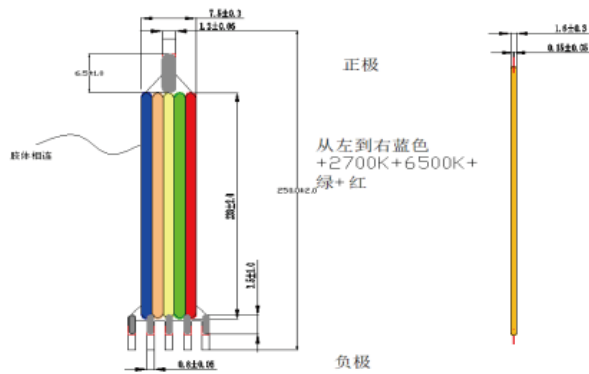
Strong plasticity, suitable for intelligent applications with variable shapes
The appearance is delicate and smooth, and the light color has no dark spots High temperature resistance, in line with LM80 test

可塑性强, 适用造型多变智能应用
外观细致平滑, 光色无暗斑
耐高温, 符合LM80测试要求



Series	Part No.	L/F Type	Color(K)	Test Condition(mA)	IV(lm)	Vf(V)	Ra	Angle
248mm	RF-FPF4W2RGB1G-T5	248*3.0mm	2200+RGB	40	320-420	135	82	360
248mm	RF-FPF4W2RGB1K-T5	248*3.0mm	2200+RGB	20	320-420	270	82	360

可塑性强,适用造型多变装饰应用
外观细致平滑,光色无暗斑
耐高温,符合LM80测试要求

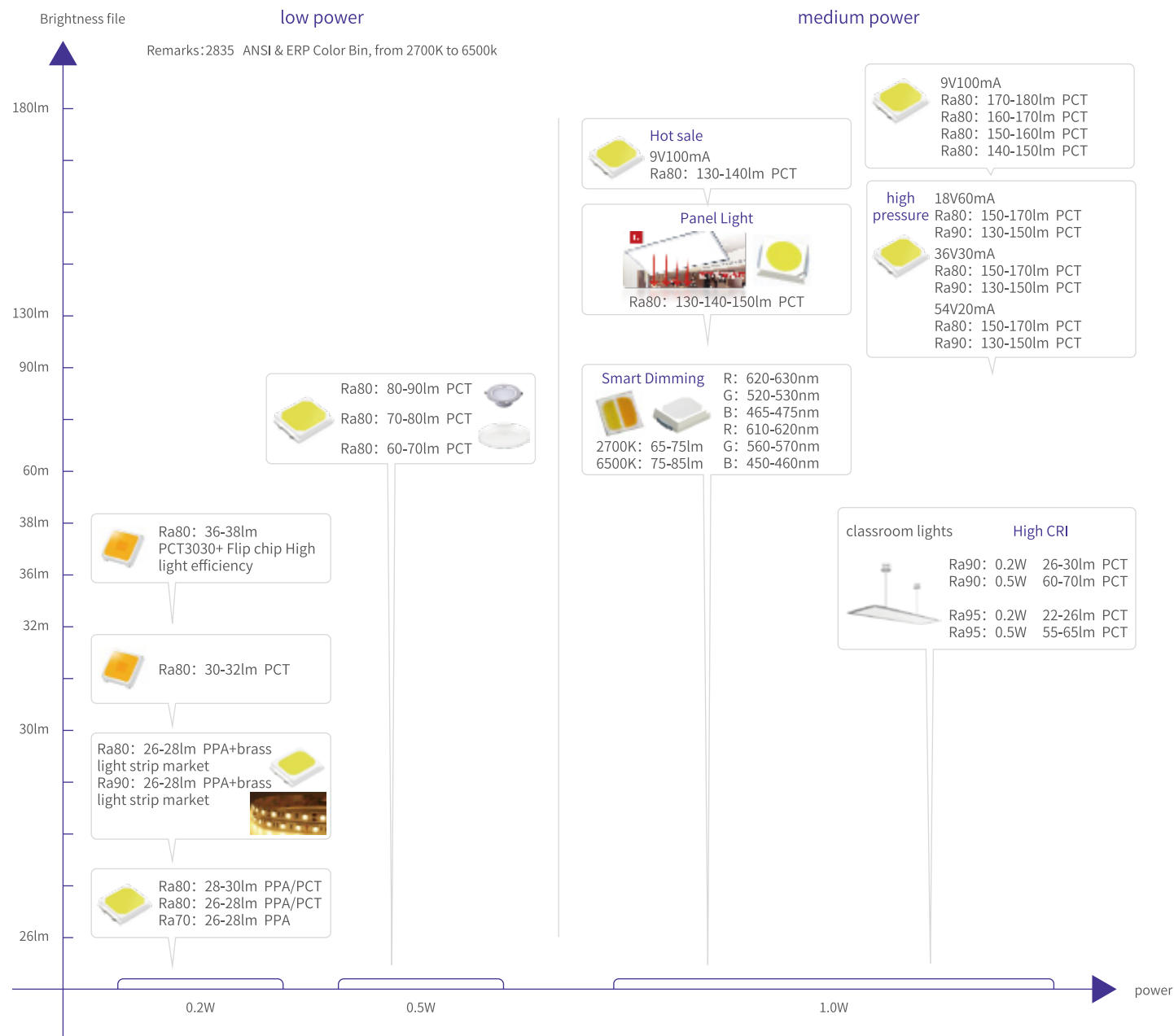


Series	Part No.	L/F Type	Color(K)	Test Condition(mA)	IV(lm)	Vf(V)	Ra	Angle
248mm	RF-FPF4W26RGB1G-T5	248 *3.0mm	2200+RGB+6500	40	320-420	135	82	360
248mm	RF-FPF4W26RGB1K-T5	248 *3.0mm	2200+RGB+6500	20	320-420	270	82	360

white light

白光

2835 product series



2835-Main product series

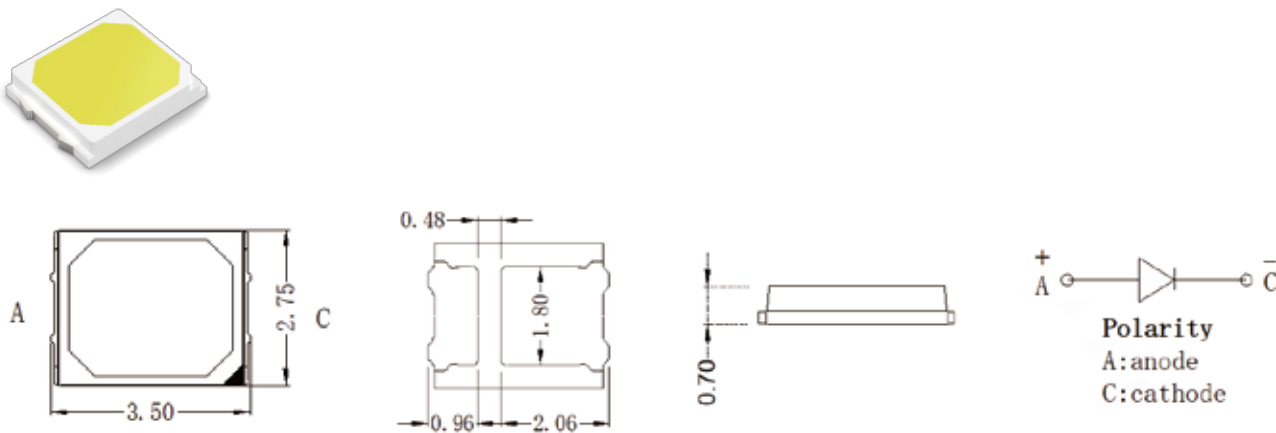
2835 high light efficiency series products
Covering full-power products within 1W, the luminous efficiency can reach 230lm/W, and the products cover the full-color temperature, different CRI, different luminous efficiency, and with wide variety choice

Vertical surface mount package
Package size 2.8*3.5*0.7mm
PPA/PCT material
Color tolerance ≤ 5SDCM/7SDCM
The light color consistency is stable, and the full color temperature ≤ 5SDCM
LM80 L70>54Khrs, L90>36Khrs

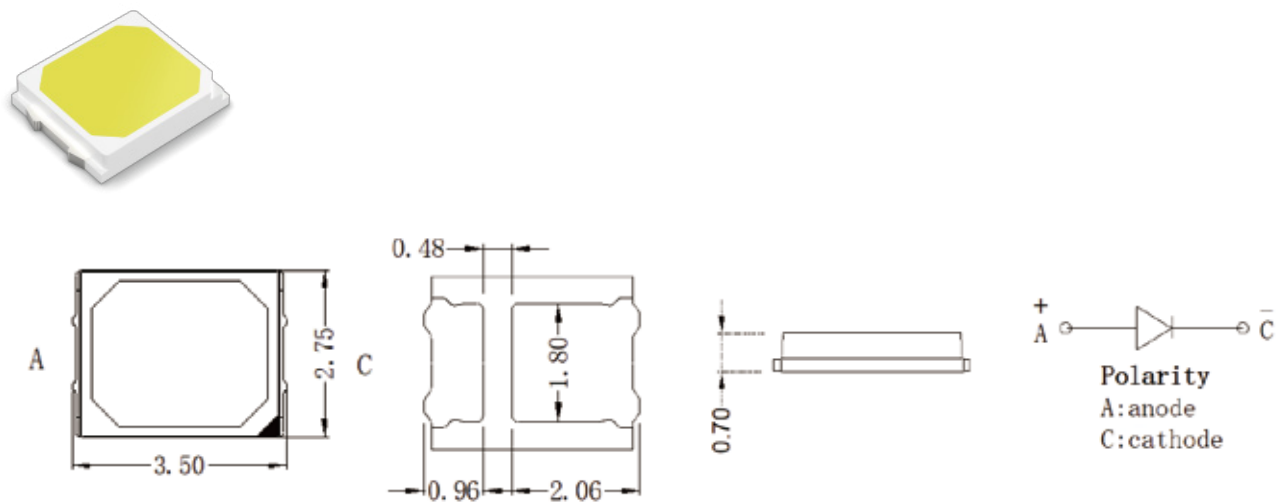
2835高光效系列产品
覆盖1W以内全功率产品, 光效可达230lm/W, 产品覆盖了全色温、不同显指、不同光效, 种类丰富

垂直型表贴封装
封装尺寸 2.8*3.5*0.7mm
PPA/PCT材质
色容差≤5SDCM/7SDCM
光色一致性好, 全色温≤5SDCM
LM80 L70>54Khrs, L90>36Khrs

2835- Main product series



LED Series		picture	Part Number	Color	CRI (min)	φ (lm)	Efficacy (lm/w)	VF (V)	IF (mA)	Po (W)	Viewing angle 2θ1/2(degree)	Tj (°C)	IF- Max (mA)
2835	0.2W		RF-P65MI32DS-AF-N-Y	6500K	70	28	151	3.1	60	0.2	120	115	70
			RF-P65HI32DS-AF-N-Y	6500K	80	28	156	3.0	60	0.2		115	70
			RF-H65HI32DS-EF-2N	6500K	80	35	208	2.8	60	0.2		125	180
			RF-65HI32DS-FH-2N	6500K	80	36.5	221	2.8	60	0.2		125	360
			RF-65HP32DS-FG-2N	6500K	80	37.5	229	2.7	60	0.2		125	360
2835	0.5W		RF-P6HI32DS-FF-J	6500K	80	68	142	3.2	150	0.5	120	125	180
			RF-P6HI32DS-FH-J	6500K	80	73	157	3.1	150	0.5		125	180
			RF-H65HI32DS-EF-2J	6500K	80	78	176	3.0	150	0.5		125	180
2835	1.0W		RF-W6HP32DS-AF-I3	6500K	80	136	149	9.1	100	1.0	120	125	120
			RF-65HP32DS-EF-I3	6500K	80	145	161	9.0	100	1.0		125	120
			RF-65HP32DS-FH-I3	6500K	80	155	174	8.9	100	1.0		125	120
			RF-K65HP32DS-FK-I3	6500K	80	178	205	8.7	100	1.0		125	120
2835	1.0W		RF-R6HP32DS-BF-I3-Y	6500K	80	135	148	9.1	100	1.0	120	125	120
			RF-R65HP32DS-EF-I3	6500K	80	143	159	9.0	100	1.0		125	120



LED Series		picture	Part Number	Color	CRI (min)	φ (lm)	Efficacy (lm/w)	VF (V)	IF (mA)	Po (W)	Viewing angle 2θ1/2(degree)	Tj (°C)	IF- Max (mA)
2835 high pressure	9V		RF-W6HV32DS-BF-N	6500K	80	75	137	9.1	60	0.6	120	125	70
	18V		RF-W6HV32DS-DF-N2	6500K	80	150	140	17.8	60	1.0		125	65
	18V		RF-W6HV32DS-FD-2N	6500K	80	175	166	17.6	60	1.0		125	70
	36V		RF-65HV32DS-FF-F2-01	6500K	80	155	142	36.4	30	1.0		125	33
	36V		RF-65HV32DS-FD-F2	6500K	80	170	157	36	30	1.0		125	36
	54V		RF-65HV32DS-FF-E3	6500K	80	165	155	53.3	20	1.0		125	22
	54V		RF-65HV32DS-FG-E3	6500K	80	175	166	52.8	20	1.0		125	25

2835-High gloss quality product series

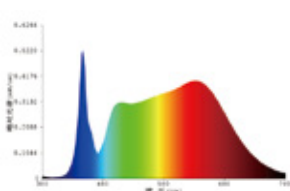
2835 high-gloss quality series products
Covering full-power products within 1W, product apparent value 90/95/full spectrum, etc., a wide variety

Vertical surface mount package
Package size 2.8*3.5*0.7mm
Perfect color with 90, 95, 98
Provide RG0 non-blue light hazard lamp application solution
The spectrum is continuously saturated and the color reproduction is high
Anti-vulcanization process, good air tightness
LM80 L70>54Khrs, L90>36Khrs

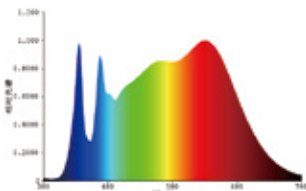
2835高光品质系列产品
覆盖1W以内全功率产品, 产品显值90/95/全光谱等, 种类丰富

垂直型表贴封装
封装尺寸 2.8*3.5*0.7mm
完美色彩, 显值90、95、98
提供RG0无蓝光危害灯具应用方案
光谱连续饱和, 色彩还原度高
防硫化工艺, 气密性佳
LM80 L70>54Khrs, L90>36Khrs

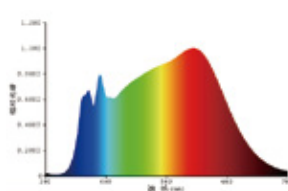
2835-High display high light quality product series



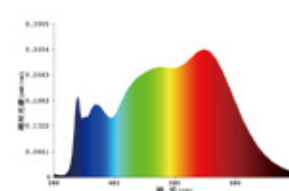
Single blue light full spectrum



Double blue light full spectrum



Triple blue light full spectrum



Full spectrum of violet light

LED Series		picture	Part Number	Color	CRI (typ)	Φ (lm)	Efficacy (lm/w)	VF (V)	IF (mA)	Po (W)	Viewing angle 2θ1/2(degree)	Tj (°C)	IF- Max (mA)
2835	90 Explicit value	3V0.2W	RF-W4TI32DS-EF-2N-01	4000K	92	27	161	2.8	60	0.2	120	125	180
		3V0.2W	RF-W4TP32DS-FH-2N	4000K	92	29	176	2.75	60	0.2		125	180
		3V0.5W	RF-40TI32DS-FH-J	4000K	92	60	129	3.1	150	0.5		125	180
		3V0.5W	RF-W4TP32DS-FH-2J	4000K	92	70	161	2.9	150	0.5		125	360
		6V1W	RF-W4TP32DS-FF-J2	4000K	92	140	151	6.2	150	1.0		125	160
		9V1W	RF-W4TP32DS-FF-I3	4000K	92	138	155	8.9	100	1.0		125	120
	95 Explicit value	3V0.2W	RF-40QI35DS-DF-N-Y	4000K	96	18	103	2.9	60	0.2	120	125	70
		3V0.5W	RF-40QP32DS-FH-J	4000K	96	58	125	3.1	150	0.5		125	180
		9V1W	RF-W40QP32DS-DH-I3	4000K	96	110	124	8.9	100	1.0		125	120
	Full spectrum	Single Blu-ray	RF-W*QI35DS-EF-N-Y	4000K	97	19	109	2.9	60	0.2	120	125	70
		Single Blu-ray	RF-P40QP32DS-FH-N	4000K	98	22	131	2.8	60	0.2		125	180
		Double blue light	RF-P40QT32DS-FD-2J	4000K	98	60	138	2.9	150	0.5		125	180
		Triple blue light	RF-W40QP32DS-FF-I3	4000K	98	110	125	8.8	100	1.0		125	120
		Full spectrum of violet light	RF-SF40QI35DS-FH-N-Y	4000K	98	20	119	2.8	60	0.2		125	180

Other white light product lines



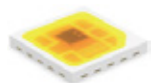
EMC Bracket Security
Alert Lights & Alert Lights market

Color	Spectrum,Wd	Flux (lm)	Vf (V)	IF (mA)
Red	640-670nm	15-18	2.0-2.6	300
Blue	450-460nm	10-13	3.0-3.8	300



PCT3030 Flip Bracket
High luminous efficiency street lights and plant lights market

IF(mA)	VF(V)	Φ(lm)	(lm/W)	Tc(K)	Ra
65	2.68	37.3	214.12	5023	81.4
300	3.01	156.34	173.14	5033	81.3



EMC Bracket Security Camera Market

Color	Spectrum,Wd	IR Φ(mw)	Vf (V)	IF (mA)
Red	730-760nm	500-700mw	2.4-2.8	1000
Color	CRI (min)	Flux (lm)	Vf (V)	IF (mA)
3000K	85	16-18	2.6-3.0	50

EMC3030 security fill light



PCT3030	PPA2110	PPA2216
1W, 152lm/W 1W, 165lm/W 1W, 182lm/W 1W, 190lm/W Ra: 70	IF: 30mA Lm: 7-12lm Tc: 1800-10000K VF: 2.7-3.3V Ra: 90	IF: 20mA Lm: 4-10lm Tc: 1800-8000K VF: 2.7-3.4V Ra: 90

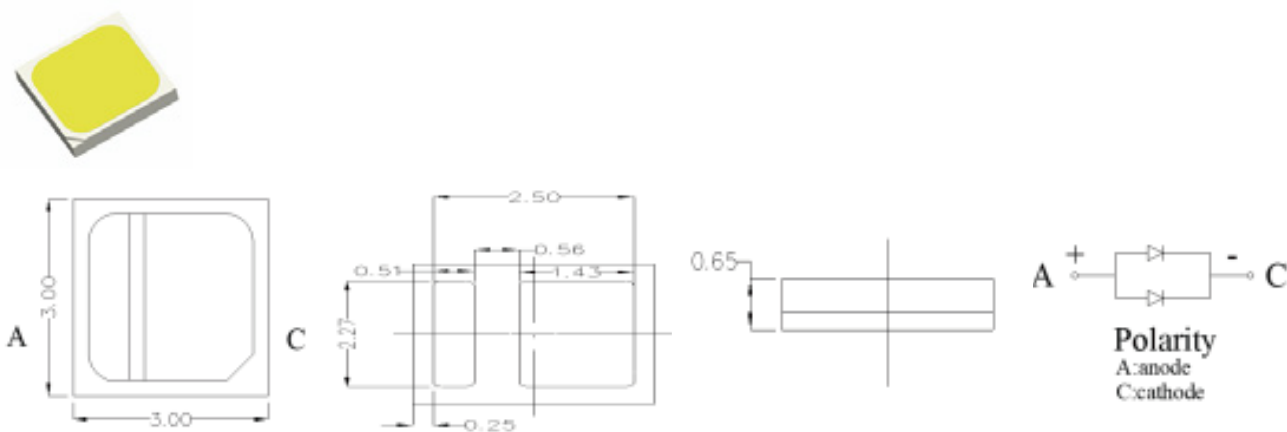
EMC3030-High Light Efficiency Product Series

Q3030
EMC3030 high luminous efficiency series products cover full power products within 1W, 0.2W time effect up to 230lm/W, products cover full color temperature, different luminous efficiency, with variety of products for choice

High integration and small size
Package size 3.0*3.0*0.65mm
EMC material, high air tightness, UV resistance
Good light color consistency, full color temperature ≤ 5SDCM
LM80 L70>54Khrs, L90>36Khrs

Q3030
EMC3030高光效系列产品覆盖1W以内全功率产品, 0.2W时光效可达230lm/W, 产品覆盖了全色温、不同光效, 种类丰富

高集成体积小
封装尺寸 3.0*3.0*0.65mm
EMC材质, 气密性高, 抗UV
光色一致性好, 全色温≤5SDCM
LM80 L70>54Khrs, L90>36Khrs



Part Number	Color	CRI (min)	φ(lm)	Efficacy (lm/w)	VF(V) (typ)	IF (mA)	Po (W)	Viewing angle 2θ1/2	Tj (°C)	IF- Max (mA)
RF-Q30SA50B-25-2T	5000K	80	34.45	196.75	2.69	65	0.2	120	125	360
	5000K	80	157.83	172.61	3.05	300	1		125	360
RF-Q30SA50B-01-2J2	5000K	80	33.7	212.17	5.29	30	0.2		125	240
	5000K	80	160.4	187.61	5.66	150	1		125	240
RF-Q30SA50B-25-2X-S	5000K	80	36.74	210.05	2.69	65	0.2		125	360
	5000K	80	155.41	172.42	3.01	300	1		125	360

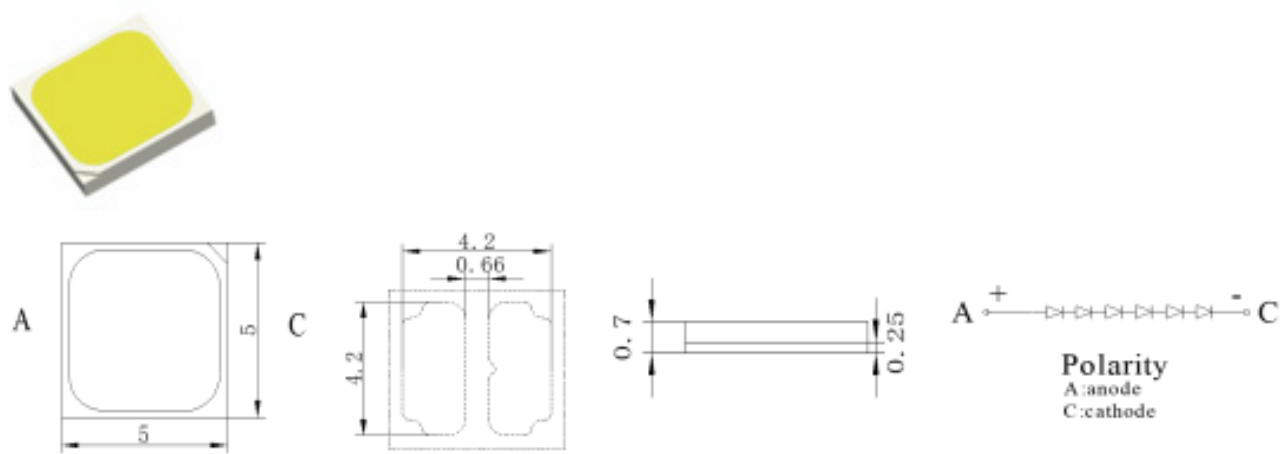
EMC5050 - High luminous product series

Q5050
EMC5050 high luminous efficiency series products cover full power products within 5W, 1W time efficiency up to 226lm/W, products cover full color temperature, different luminous efficiency, with variety of products for choice

High integration and small size
Package size 5.0*5.0*0.7mm
EMC material, high air tightness, UV resistance
Good light color consistency, full color temperature ≤ 5SDCM
LM80 L70>54Khrs, L90>36Khrs
High temperature resistance, low thermal resistance <5°C/W

Q5050
EMC5050高光效系列产品覆盖5W以内全功率产品, 1W时光效可达226lm/W, 产品覆盖了全色温、不同光效, 种类丰富

高集成体积小
封装尺寸 5.0*5.0*0.7mm
EMC材质, 气密性高, 抗UV
光色一致性好, 全色温≤5SDCM
LM80 L70>54Khrs, L90>36Khrs
耐高温, 低热阻 <5°C/W



Part Number	Color	CRI (min)	φ(lm)	Efficacy (lm/w)	VF(V) (typ)	IF (mA)	Po (W)	Viewing angle 2θ1/2	Tj (°C)	IF- Max (mA)
RF-Q50SA50A-25-4X2	5000K	70	865.62	174.52	6.2	800	5	120	125	960
RF-Q50SA50B-25-4X2	5000K	80	805.03	162.04	6.21	800	5		125	960
RF-Q50SA50A-25-H8	5000K	70	863.70	172.40	25.05	200	5		125	240
RF-Q50SA50B-25-H8	5000K	80	803.24	160.01	25.1	200	5		125	240
RF-Q50SA50A-25-4X2 -S	5000K	70	882.93	178.30	6.19	800	5		125	960
RF-Q50SA50B-25-4X2-S	5000K	80	821.13	165.82	6.19	800	5		125	960
RF-Q50SA50A-25-H8-S	5000K	70	879.95	176.34	24.95	200	5		125	240
RF-Q50SA50B-25-H8-S	5000K	80	818.36	163.87	24.97	200	5		125	240

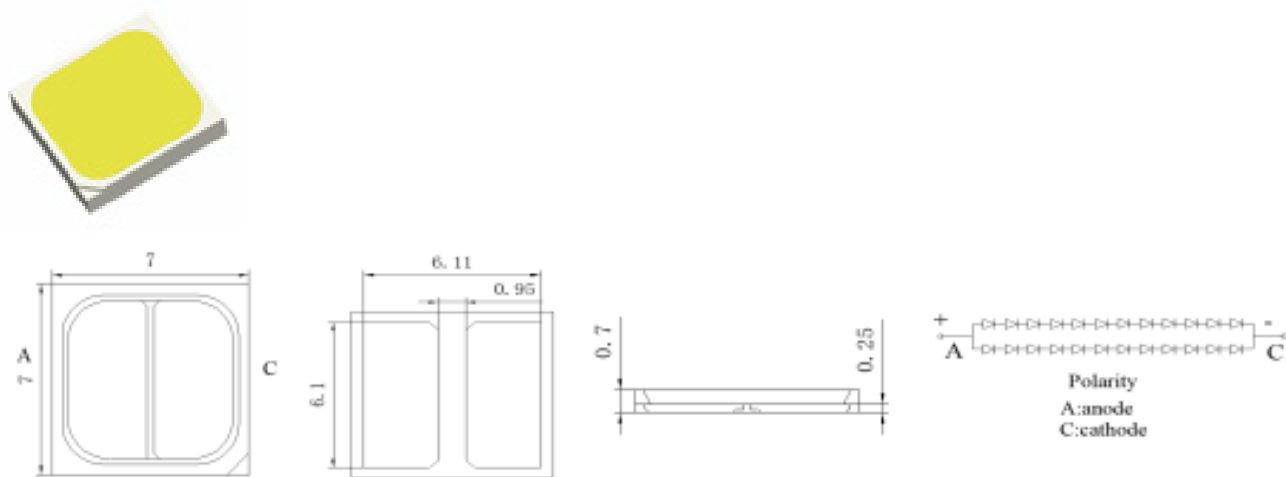
EMC7070 - High Power Product Series

Q7070
EMC7070 high-power series products cover full-power products within 10W, luminous efficiency up to 205lm/W at 4W, products cover full color temperature, different luminous efficiency

High integration, high luminous efficiency, high reliability
Package size 7.0*7.0*0.8mm
EMC material high temperature resistance package, good air tightness, UV resistance
Different power versions, luminous flux output of single LED can achieve 330-1800lm
Good light and color consistency, can be customized ≤ 3SDCM
Low thermal resistance <3°C/W
High and low voltage can be customized to meet the needs of the customer

Q7070
EMC7070大功率系列产品覆盖10W以内全功率产品, 4W时光效可达205lm/W, 产品覆盖了全色温、不同光效, 种类丰富

高集成, 高光效, 高可靠性
封装尺寸 7.0*7.0*0.8mm
EMC材质高耐热封装, 气密性好, 抗UV
不同功率版本, 单颗实现330-1800lm输出
光色一致性好, 可定制≤3SDCM
低热阻 <3°C/W
高低电压可按定制需求, 满足客户端使用



Part Number	Color	CRI (min)	φ(lm)	Efficacy (lm/w)	VF(V) (typ)	IF (mA)	Po (W)	Viewing angle 2θ1/2	Tj (°C)	IF- Max (mA)
RF-Q70SA50A-24-2T12	5000K	70	1817	167.95	36.04	300	11	120	125	350
RF-Q70SA50B-24-2T12	5000K	80	1726	159.78	36.01	300	11		125	350
RF-Q70SA50D-24-2T12	5000K	90	1588	146.8	36.06	300	11		125	350
RF-Q70SA50A-25-2T12	5000K	70	1853	171.94	35.93	300	11		125	350
RF-Q70SA50B-25-2T12	5000K	80	1761	163.15	35.97	300	11		125	350
RF-Q70SA50D-25-2T12	5000K	90	1620	149.94	36.01	300	11		125	350

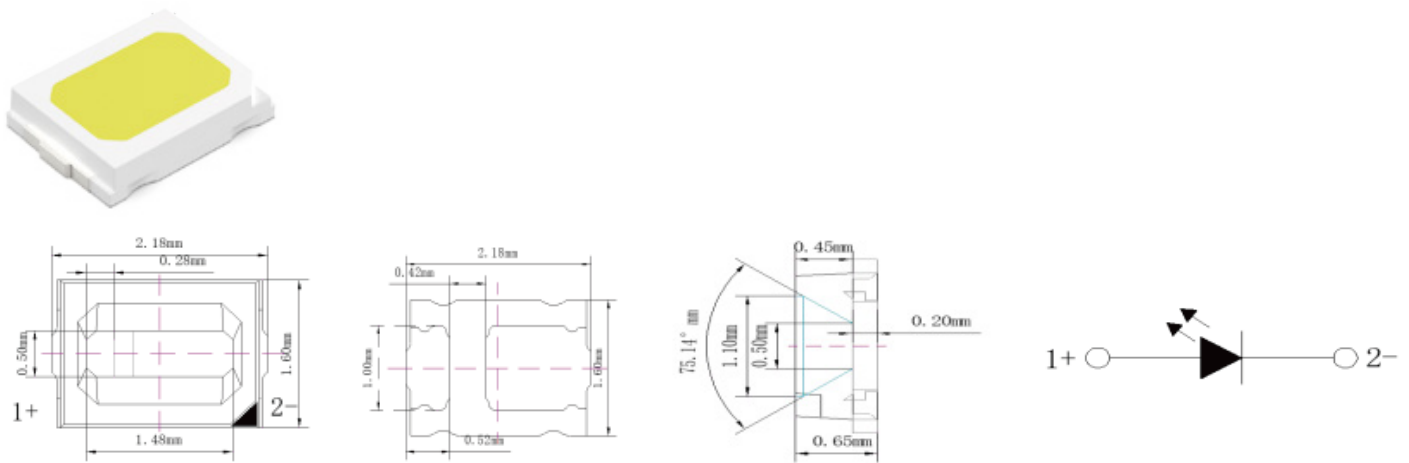
2216-LED strip product series

2216
The industry's first, large-scale mass production and excellent batch light color consistency, full color zone, full explicit finger, full spectrum SCDM≤3, can provide SCDM = 1 product, compact and flexible, suitable for different widths, different densities, different combinations of light strip light strip needs

Suitable for different widths, different densities, different combinations of strip strips
Package size 2.2*1.6*0.65mm
PPA material package
Panchromatic zone, full dominant finger, full spectrum SCDM ≤3, which provides SCDM=1 products
LM80 L70>54Khrs

2216
业内首创，大规模量产且批次光色一致性极佳，全色区、全显指、全光谱 SCDM≤3, 可提供SCDM=1的产品小巧灵活，适合于不同宽度、不同密度、不同组合方式的灯条灯带需求

适合于不同宽度、不同密度、不同组合方式的灯条灯带
封装尺寸 2.2*1.6*0.65mm
PPA材质封装
全色区、全显指、全光谱
SCDM≤3, 可提供SCDM=1的产品
LM80 L70>54Khrs



Part Number	Color	CRI (min)	φ(lm)	VF(V)	IF (mA)	Po (W)	Viewing angle 2θ1/2	Tj (°C)	IF- Max (mA)
RF-M **TK16DS-EC-Y	2700-6500K	90	5-10	2.7-3.2	20	0.06	120	91	40
RF- **TK16DS-EE-Y	2700-6500K	90	4-10	2.7-3.3	20	0.06	120	91	40
RF-M **TK16DS-EE-Y	2200-7500K	90	4-10	2.7-3.3	20	0.06	120	91	40
RF- **TK16DS-CF-Y	2400-6000K	90	6-10	2.6-2.9	20	0.06	120	91	40
RF- **TI16DS-EE-Y	1800-100000K	90	4-10	2.7-3.3	20	0.06	120	91	40
RF-K **TI16DS-EE-Y	2700-6500K	90	4-10	2.7-3.3	20	0.06	120	91	40
RF-M **TI16DS-EE-Y	2700-6000K	90	4-10	2.7-3.3	20	0.06	120	91	40
RF- **QI16DS-EE-Y	2700-6000K	95	4-9	2.7-3.3	20	0.06	120	91	40

备注: 以上产品数据由远方机台测试 (远方光电, 型号: HAAS2000)
Remarks: The above product data is tested by the remote machine (Far Away Optoelectronics, model: HAAS2000)

2110-LED strip product series

2110
The minimum size of soft led strip in the industry to meet the needs of high density; High mechanical strength, resistant to bending and non-breaking; Can be supplied single Bin, good color consistency; Domestic &PCT patent protection

Soft strip strips have the smallest size to meet the needs of high density
Package size 2.1*1.0*1.1mm
PPA material package, high mechanical strength, resistant to bending and non-breaking
Panchromatic zone, full dominant finger, full spectrum
SCDM ≤ 3 single Bin supply, good color consistency
LM80 L70>54Khrs

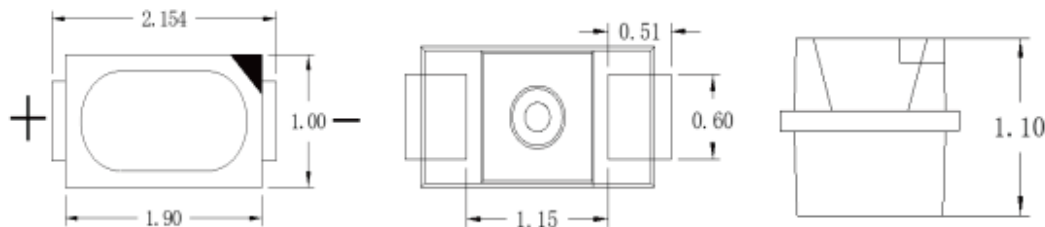


Fig.1-4 Polarity 极性

Part Number	Color	CRI (min)	φ(lm)	VF(V)	IF (mA)	Po (W)	Viewing angle 2θ1/2	Tj (°C)	IF- Max (mA)
RF- **HK10DS-EC-F-Y	2500-6500K	80	8-14	2.7-3.3	30	0.1	120	97	30
RF- **TK10DS-EC-F-Y	1700-6500K	90	4-12	2.7-3.3	30	0.1	120		30
RF-E **TK10DS-EC-F-Y	2700-6500K	90	7-12	2.7-3.3	30	0.1	120		30
RF- **QK10DS-EC-F-Y	1800-6500K	95	4-10	2.7-3.3	30	0.1	120		30
RF-WCRK10DS- **~Y* (蓝白)	(0.24,0.215)	/	3-9	2.7-3.4	20	0.06	120		30

备注: 以上产品数据由远方机台测试 (远方光电, 型号: HAAS2000)
Remarks: The above product data is tested by the remote machine (Far Away Optoelectronics, model: HAAS2000)

Colored light

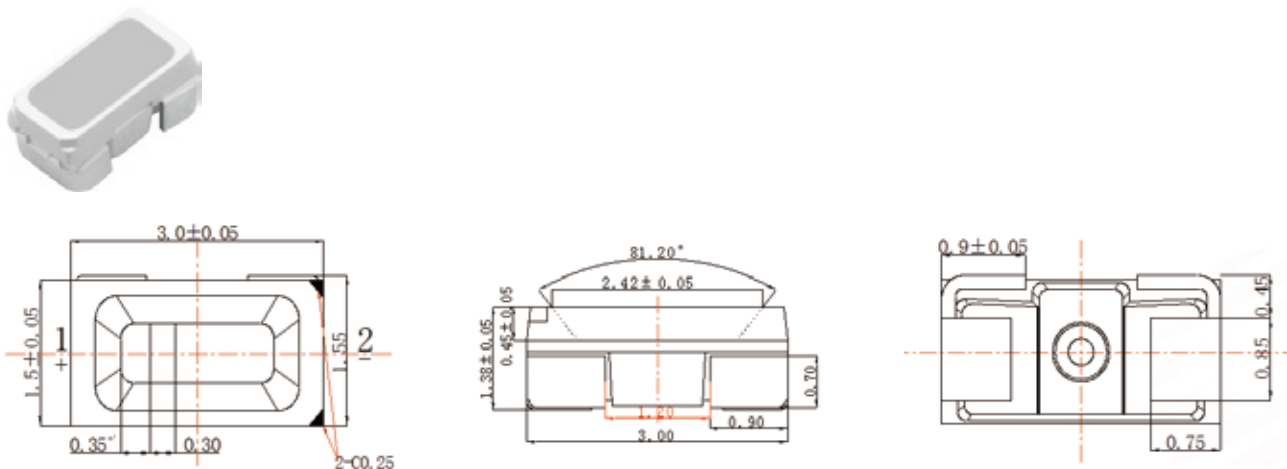
彩光

Single Colored light series

The main products contain size range: from 2110 to 5050	产品主要包含尺寸范围:从2110到5050
Power: from 0.04W to 1W	功率:从0.04W到1W
Color wavelength: from 260-850nm	颜色波长:从260-850nm
Product color, varity styles	产品颜色、型号丰富

3014 side view SMT

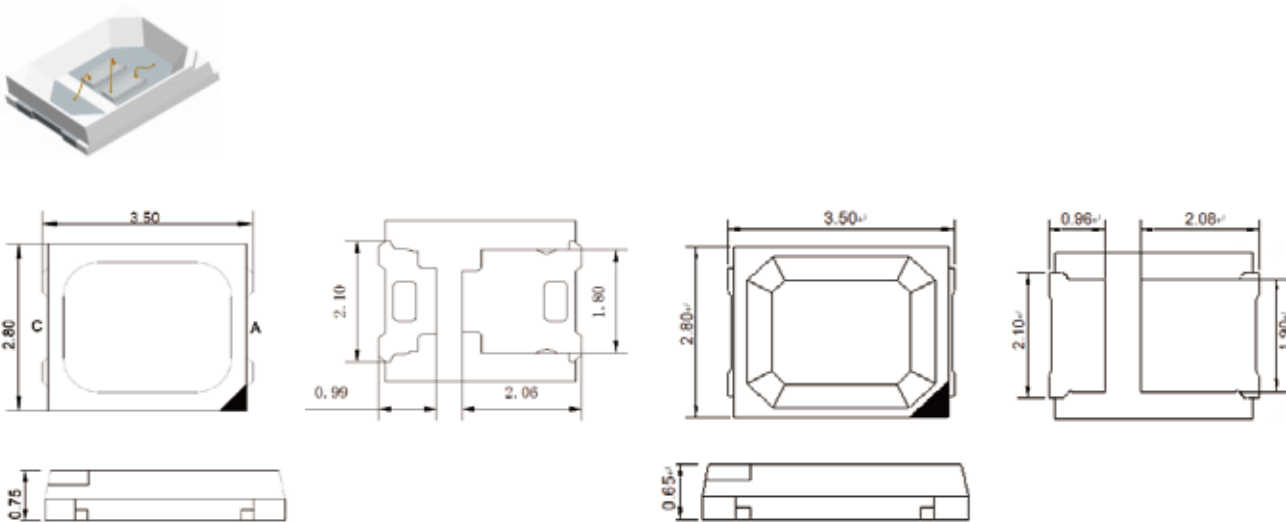
Small size, strong breaking resistance	小尺寸, 抗折断能力强
The product can be top view and side view SMT to meet the different design needs of customers in the direction of light	产品可正面及侧面贴片, 满足客户不同的出光方向设计需求
The color is diverse, and the light color is uniform and soft	颜色多样, 光色均匀柔和



Part No.	Luminous intensity	Dominant wavelength	Forward Voltage	Test Condition	Size
	IV(mcd)	Wd(nm)	Vf(V)	If(mA)	L*W*H(mm)
RF-BNRC13TS-CE	230-650	465-475	2.8-3.4	20	3.0*1.55*1.38
RF-GNRC13TS-CF	1200-2800	515-530	2.8-3.5	20	3.0*1.55*1.38
RF-OURC13TS-CE	230-530	615-630	1.8-2.4	20	3.0*1.55*1.38
RF-YURC13TS-AE	180-530	585-595	1.8-2.4	20	3.0*1.55*1.38
RF-OURC13TS-CE-F	1000-1800	615-630	1.9-2.6	30	3.0*1.55*1.38
RF-YURC13TS-AE-F	1000-1800	585-595	1.8-2.6	30	3.0*1.55*1.38

High integration and small size
High reliability
The color is diverse, and the light color is uniform and soft

高集成体积小
高可靠性
颜色多样, 光色均匀柔和



2835 Part No.	Luminous intensity	Dominant wavelength	Forward Voltage	Test Condition	Size
	Flux(lm)	Wd(nm)	Vf(V)	If(mA)	L*W*H(mm)
RF-OURI35TS-EK-2T	30-50	620-630	1.9-2.5	300	2.8*3.5*0.65
RF-GNRI35TS-DK-2T	55-95	520-530	2.6-3.4	300	2.8*3.5*0.65
RF-BNRI35TS-DK-2T	12-22	450-460	2.8-3.4	300	2.8*3.5*0.65
RF-BNRI35TS-EK-2T	26-36	465-475	2.8-3.4	300	2.8*3.5*0.65
RF-OURI35TS-EK-J	18-28	620-630	1.8-2.4	150	2.8*3.5*0.75
RF-GNRI35TS-DK-J	33-55	520-530	2.8-3.5	150	2.8*3.5*0.75
RF-BNRI35TS-DK-J	8-18	465-475	2.8-3.5	150	2.8*3.5*0.75
RF-YURI35TS-EK-J	16-26	585-595	1.6-2.6	150	2.8*3.5*0.75
RF-OURI35TS-CH-N	8-13	615-630	1.8-2.5	60	2.8*3.5*0.75
RF-GNRI35TS-CK-N	16-26	515-530	2.9-3.8	60	2.8*3.5*0.75
RF-BNRI35TS-CK-N	3-7	465-475	2.9-3.6	60	2.8*3.5*0.75
RF-YURI35TS-AF-N	5-10	585-595	1.8-2.6	60	2.8*3.5*0.75

Tri-color light series

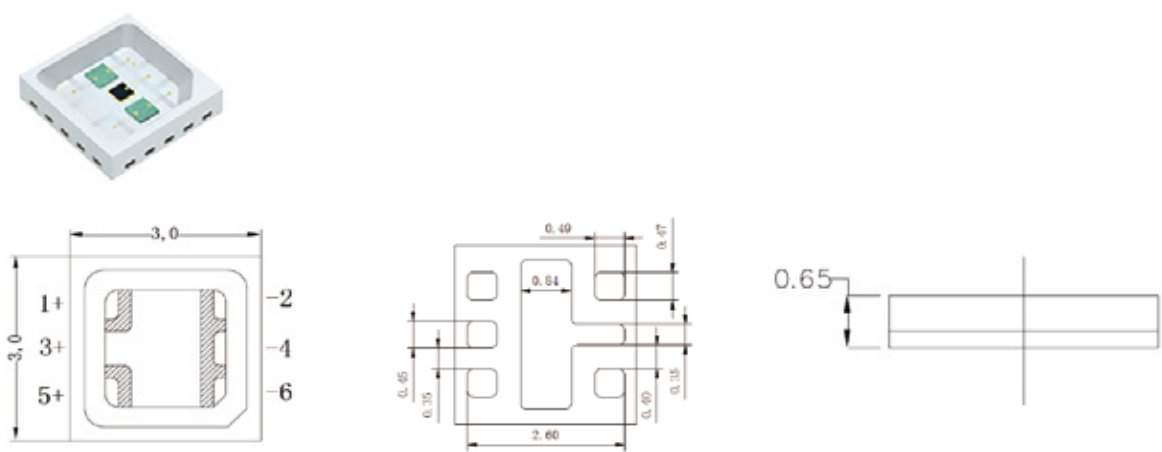
Mainly contains 3030RGB, 3528RGB, 3535RGB, 5050RGB products
Power: from 0.2W to 3W
Product color, model rich

主要包含3030RGB, 3528RGB,3535RGB, 5050RGB产品
功率: 从0.2W到3W
产品颜色、型号丰富

3030

High integration and small size
High temperature resistance, high power, high reliability
The color is diverse, and the light color is uniform and soft

高集成体积小
高耐温, 高功率, 高可靠性
颜色多样, 光色均匀柔和



3030 Color Part No.	Luminousfluxφ(lm)			Dominant wavelength Wd(nm)			Forward Voltage Vf(V)			Test Condition If (mA)			Size
	R	G	B	R	G	B	R	G	B	R	G	B	L*W*H(mm)
RF-Q30SARGB-02-N	8-12	12-24	3-6	615-630	510-530	465-475	2.2-2.8	3.0-3.8	3.0-3.8	60	60	60	3.0*3.0*0.65
RF-Q30SARGB-05-J	17-23	36-46	7-13	620-630	520-530	465-475	2.0-2.4	2.8-3.6	2.8-3.6	150	150	150	3.0*3.0*0.65

- Compact structure, high integration

Good reliability

Rich Color

Uniform color

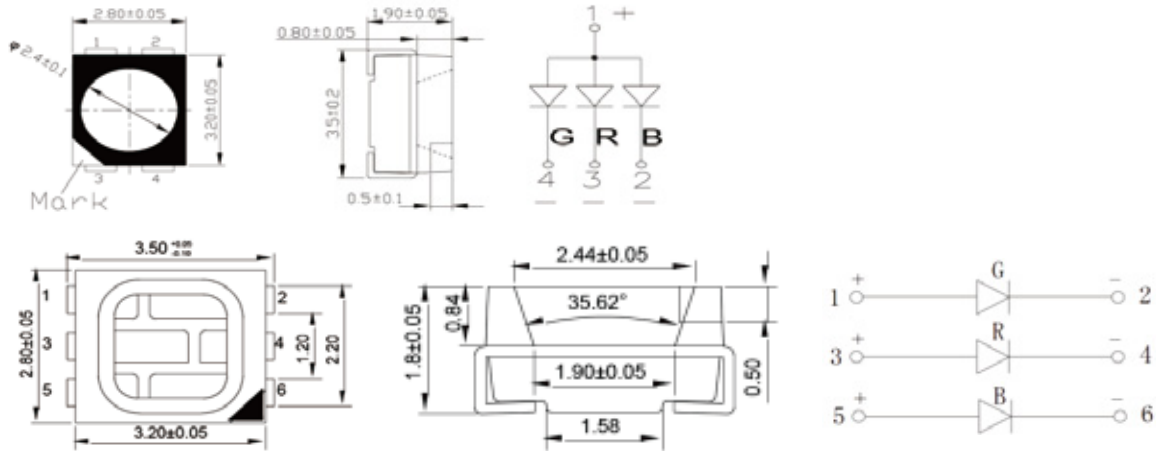
Customizable Specification
- 结构紧凑,集成度高

产品可靠性高

色彩丰富

颜色均匀

可定制规格



3528 Color Part No.	Luminous intensity Iv(mcd)			Dominant wavelength Wd(nm)			Forward Voltage Vf(V)			Test Condition		If (mA)	Size
	R	G	B	R	G	B	R	G	B	R	G	B	L*W*H(mm)
RF-W2SA30BS-A15	200-430	1200-2300	180-530	615-630	515-530	465-475	1.8-2.4	2.8-3.6	2.8-3.6	20	20	20	3.5*2.8*1.9
RF-W2SA30BS-A17	600-1200	1000-2300	180-530	618-628	517.5-530	465-475	1.8-2.5	2.7-3.6	2.7-3.6	20	20	20	3.5*2.8*1.9
RF-W7SP30TS-A44	530-1200	1200-2300	180-650	615-625	515-530	465-475	1.8-2.4	2.7-3.6	2.7-3.6	20	20	20	3.5*2.8*1.85
RF-W3SA30TS-A20	230-430	950-1600	260-470	618-623	516-521	465-470	1.8-2.4	2.9-3.5	2.9-3.5	20	20	20	3.5*2.8*1.85
RF-W7SP30BS-A44	530-1000	1200-2300	280-650	615-625	515-530	465-475	1.8-2.4	2.7-3.4	2.7-3.4	20	20	20	3.5*2.8*1.85

- High power,High brightness

Good reliability

Rich Color

Uniform color

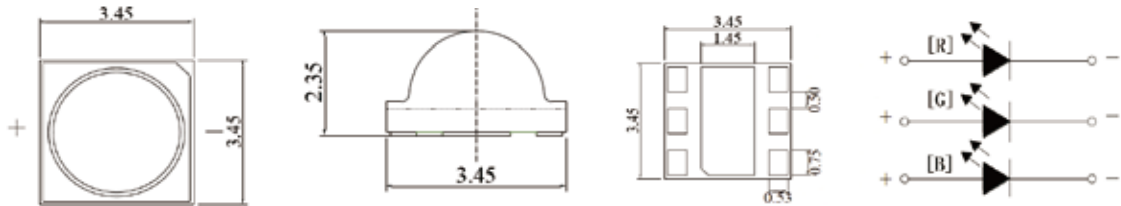
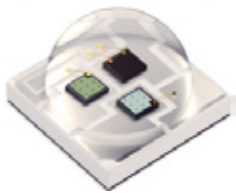
Customizable Specification
- 高功率,高亮度

产品可靠性高

色彩丰富

颜色均匀

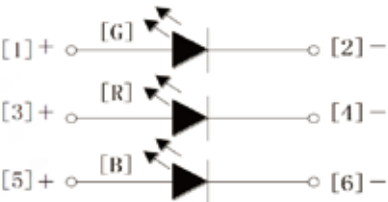
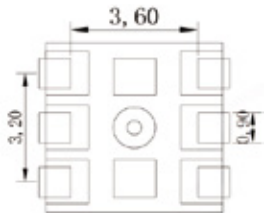
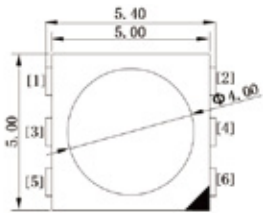
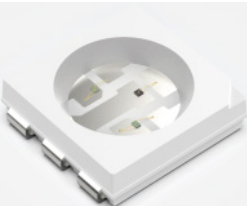
可定制规格



3535 Color Part No.	Luminous flux φ(lm)			Dominant wavelength Wd(nm) or Color temperature(K)			Forward Voltage Vf(V)			Test Condition		If (mA)	Size & The Angle
	R	G	B	R	G	B	R	G	B	R	G	B	L*W(mm)&(°)
RF-RC35RGB-L6-K0-A120	30-60	70-100	14-26	615-630	520-530	450-475	1.8-2.6	2.8-3.6	2.8-3.6	350	350	350	3.5*3.5&120°

Good reliability
Rich Color
Uniform color
Customizable Specification

产品可靠性高
色彩丰富
颜色均匀
可定制规格



5050 Color Part No.	Luminous flux ϕ (lm) or intensity Iv(mcd)			Dominant wavelength Wd(nm) or Color temperature(K)			Forward Voltage Vf(V)			Test Condition		If (mA)	Size & The Angle L*W*H(mm)
	R	G	B	R	G	B	R	G	B	R	G	B	
RF-W2SA50TS-A39R	530-1200	1200-2300	180-530	619-625	515-524	463-475	1.8-2.4	2.8-3.6	2.8-3.6	20	20	20	5.4*5.0*1.6
RF-W2SA50TS-A39RS	530-1200	1200-2300	180-530	619-625	515-530	465-475	1.8-2.4	2.8-3.6	2.8-3.6	20	20	20	5.4*5.0*1.6
RF-W2SA50TS-A51	650-1200	1200-2300	350-650	619-625	515-530	465-475	1.8-2.6	2.8-3.6	2.8-3.6	20	20	20	5.4*5.0*1.48
RF-W2SP50TS-A36-U	3.6-5.5lm	10.5-19.6	3.0-4.4	618-625	520-530	465-475	1.8-2.6	2.8-3.4	2.8-3.4	40	40	40	5.4*5.0*1.6

Four-color light series

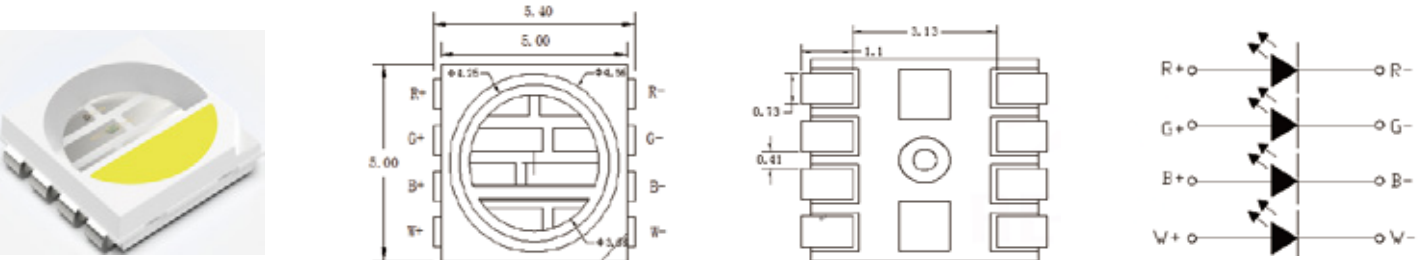
Mainly contains 5050RGBW products
Power: from 0.2W to 2W
Product color, model rich

主要包含5050RGBW产品
功率: 从0.2W到2W
产品颜色、型号丰富

5050

Good reliability
Rich Color
Uniform color
Customizable Specification

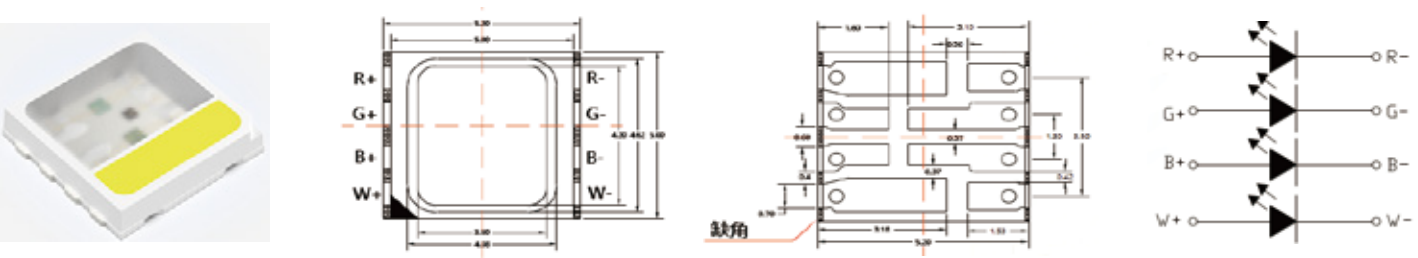
产品可靠性高
色彩丰富
颜色均匀
可定制规格



5050 Color Part No.	Luminous flux ϕ (lm) or intensity Iv(mcd)				Dominant wavelength Wd(nm) or Color temperature(K)				Forward Voltage Vf(V)				Test Condition		If (mA)		Size & The Angle
	R	G	B	W1	R	G	B	W1	R	G	B	W1	R	G	B	W1	
RF-W2SA50TS-R**W(显指80)	700-1200	1900-2700	350-650	5-10	618-625	515-530	465-475	2300-6500	1.8-2.4	2.8-3.6	2.8-3.6	2.7-3.6	20	20	20	20	5.4*5.0*1.6
RF-DW2SA50TS-H**W-E-Y	600-1000	1300-1800	230-650	5-9.5	618-623	515-525	465-475	2700-6500	1.8-2.4	2.8-3.6	2.8-3.6	2.7-3.6	20	20	20	20	5.4*5.0*1.6

Good reliability
High air tightness
Rich Color
Uniform color
Customizable Specification

产品可靠性高
气密性高
色彩丰富
颜色均匀
可定制规格



5050 Color Part No.	Luminous flux ϕ (lm)				Dominant wavelength Wd(nm) or Color temperature(K)				Forward Voltage Vf(V)				Test Condition		If (mA)		Size & The Angle
	R	G	B	W1	R	G	B	W1	R	G	B	W1	R	G	B	W1	
RF-W2SP50CS-***W-J/S	13-26	35-62	10-24	40-75	615-630	520-530	465-475	1800-6500	1.8-2.4	2.6-3.6	2.6-3.6	2.6-3.6	150/200	150/200	150/200	150/200	5.2*5.0*1.1

Five-color light series

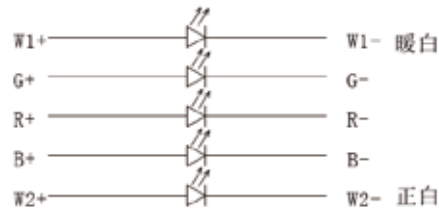
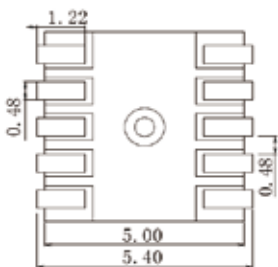
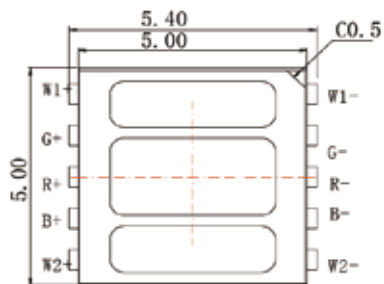
Mainly contains 5050RGBWW products
Product color, model rich

主要包含5050RGBWW产品
产品颜色、型号丰富

5050

Good reliability
Rich Color
Uniform color
Customizable Specification

产品可靠性高
色彩丰富
颜色均匀
可定制规格



5050 Color Part No.	Luminous flux Φ (lm) or intensity Iv(mcd)					Dominant wavelength Wd(nm) or Color temperature(K)					Forward Voltage Vf(V)					Test Condition					If (mA)		Size & The Angle L*W*H(mm)
	R	G	B	W1	W2	R	G	B	W1	W2	R	G	B	W1	W2	R	G	B	W1	W2			
RF-W2SA50TS- A**W(显指80)	300- 1200	1200- 2300	280- 650	4-10	5-10	618- 625	515- 530	465- 475	1800- 3500	5000- 8000	1.8-2.6	2.8-3.6	2.8-3.6	2.7-3.6	2.7-3.6	20	20	20	20	20	20	20	5.4*5.0*1.6

Integrated IC color light series

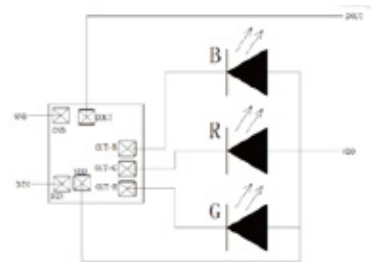
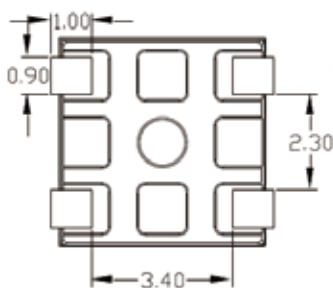
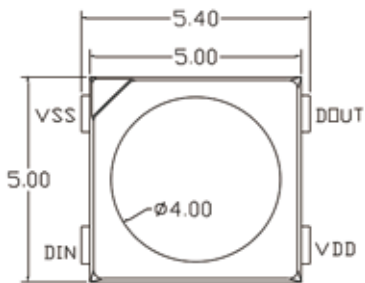
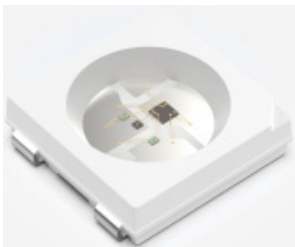
Mainly contains 5050RGB+ IC products
Product color, rich

主要包含5050RGB+IC产品
产品颜色、丰富

5050

Good reliability
Rich Color
Uniform color
Customizable Specification

产品可靠性高
色彩丰富
颜色均匀
可定制规格




5050 Color Part No.	Luminous flux ϕ (lm) or intensity I_v (mcd)			Dominant wavelength λ_d (nm) or Color temperature(K)			Forward Voltage V_f (V)			Test Condition			Size & The Angle L*W*H(mm)
	R	G	B	R	G	B	R	G	B	R	G	B	
RF-W7SA50TS-A51-IC	280-650	900-1500	150-450	619-624	520-530	465-475	/	/	/	5V	5V	5V	5.4*5.0*1.58

Refond's mod strength

Module light color thermal characteristics

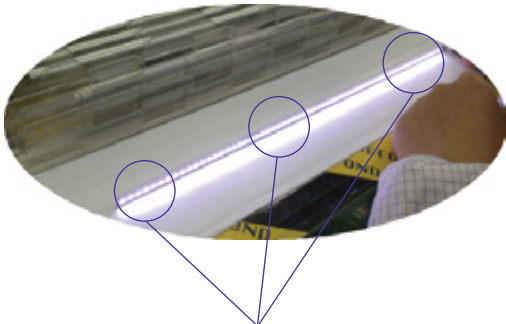
可每1Ra变化 (产品方向)
Can change every 1Ra (product direction)

Ra:80 → Ra:95



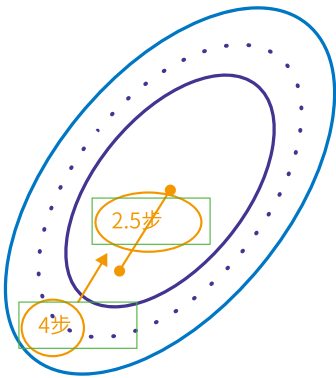
6500K → 3000K

可每100K变化色温 (产品方向)
Color temperature can be changed every 100K (product direction)



The parameters of the lamp bead are mixed and pasted, the brightness/color consistency of the entire module is high, and the voltage difference between the end and the end is 0.3v.

灯珠各参数混贴
模组整条亮度/颜色一致性高
首尾电压相差0.3v。

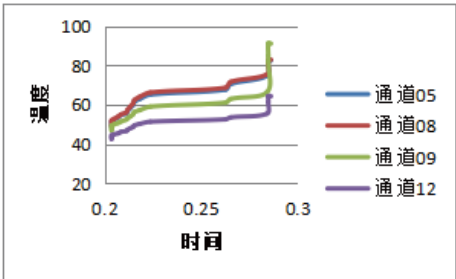


2022年
全色区混贴, 模组单色温做到100%3步以内, 混色温接近100%4步

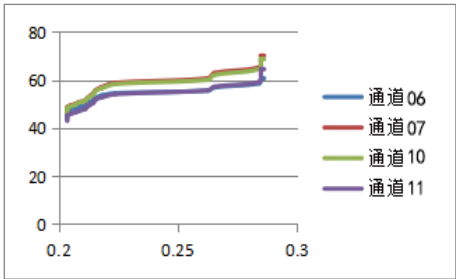
In 2022,
The full-color area is mixed, the monochrome temperature of the module is within 100% 3 steps, and the mixing color temperature is close to 100% 4 steps

2023年
全色区混贴, 模组单色温做到100%2.5步以内, 混色温接近100%3步

In 2023,
Mixed paste in the full color area, the monochrome temperature of the module is within 100% within 2.5 steps, and the mixed color temperature is close to 100% 3 steps



S公司
S company



瑞丰
Refond



模组温升对比
Module temperature rise comparison

RGBCW soft light strip

1. Color includes RGB and white full color temperature, a variety of colors can be adjusted, suitable for a variety of application scenarios;

2. Linear light, uniform and continuous, no light spots;

3. Linear light source Viewing Angle is large, Up to 140°, the light-emitting surface angle can reach 180°;

4. The light strip can be cut at 62.5mm (along the cutting line), which is easy to install and use according to the needs, and can be freely combined;

5. The chip is directly soldered to the board, with good heat dissipation and long life.
- 1.颜色包含RGB和白光全色温, 多种颜色可调, 适合各种应用场景;

2.线性发光、均匀连续、不见光点;

3.线性光源出光角度大, 可达140°, 发光面角度可达180°;

4.灯带62.5mm处可 (沿裁剪线) 裁剪, 根据需求方便安装使用, 可自由搭配组合;

5.芯片直接焊接到板上, 散热好, 寿命长。



Product size	12*3000mm	12*5000mm
power	24W	36W
VF	Constant voltage DC24V	
Chip QTY	560PCS/M	
Operating temperature	-40°C~+45°C	

产品尺寸	12*3000mm	12*5000mm
功率	24W	36W
电压	恒压DC24V	
芯片数量	560PCS/M	
工作温度	-40°C~+45°C	

Product application areas:
home dark groove trim decoration, irregular design body decoration, e-sports games, cinemas, KTV, game halls, home theaters, large entertainment venues, etc.

产品应用领域:
家居暗槽镶边装饰, 不规则设计体的装饰、电竞游戏、电影院、KTV、游戏厅、家庭影院、大型娱乐场所等。

0817 Neon Symphony Light Strip

This light strip uses the WS2811 three-channel LED drive control dedicated circuit. The chip contains an intelligent digital interface data latch signal shaping and amplifying drive circuit, as well as a high-precision internal oscillator and a 20V high-voltage programmable constant current output driver.

此灯带使用了WS2811三通道LED驱动控制专用电路，芯片内部包含智能数字接口数据锁存信号整形放大驱动电路，还包含有高精度的内部振荡器和20V高压可编程定电流输出驱动器。



product size	08*17*2015MM	08*17*3015MM	08*17*5015MM
power	16W/M	15.6W/M	13.6W/M
VF	Constant voltage DC24V		
LED QTY	84PCS/M		
LED Part number	5050RGB		
IC Part number	WS2811		
IC modality	Lamp bead inner seal		
Operating temperature	-40℃~+80℃		

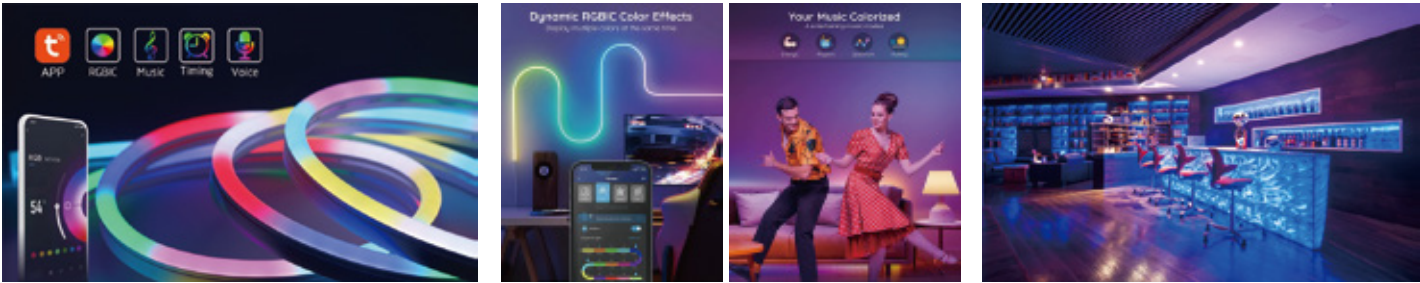
产品尺寸	08*17*2015MM	08*17*3015MM	08*17*5015MM
功率	16W/M	15.6W/M	13.6W/M
电压	恒压DC24V		
灯珠数量	84PCS/M		
灯珠型号	5050RGB		
IC型号	WS2811		
IC形式	灯珠内封		
工作温度	-40℃~+80℃		

Product application areas:

Home dark groove trim decoration, Irregular design body decoration, e-sports games, cinemas, KTV, game halls, home theaters, large entertainment venues, etc. Enjoy more colors and features like timer, video, DIY and music modes to help you create the ambience you need.

产品应用领域：

家居暗槽镶边装饰，不规则设计体的装饰、电竞游戏、电影院、KTV、游戏厅、家庭影院、大型娱乐场所等。
享受更多颜色和功能，如计时器、视频、DIY 和音乐模式，帮助您创造所需的氛围。



Smart Voice Control: Manage neon lights with simple voice commands via Alexa, Google Assistant apps.

智能语音控制:通过 Alexa、Google Assistant 应用简单语音指令管理霓虹灯。

Music Mode: The built-in high-sensitivity microphone syncs with the music, producing spectacular light shows and dynamic decorations. Multiple music modes: Energy, Rhythm, Spectrum, Roll and Christmas, Dynamic, Calm and more.

音乐模式：内置高灵敏度麦克风与音乐同步，产生壮观的灯光表演和动态装饰。多种音乐模式：能量、节奏、光谱、滚动和圣诞节、动态、冷静等。

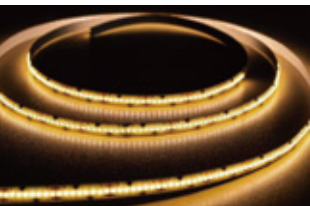
64 Scene Modes: Choose from a variety of colors to create a stunning scene atmosphere for family and friends gatherings or parties.

64种场景模式：多种颜色可供选择，可以为亲友聚会或开派对营造令人惊叹的场景氛围。

LED灯带产品-在开发

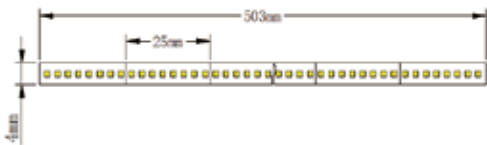
MINI1010 Flexible Strip-small size with big viewing angle

Small Led size,highest density led strip,320 LEDs/m
The width of PCB is very narrow;4mm,our target is to do 2mm
Linear light emission,small light spacing,no dark area
The smallest size LED
High reliability and strong bending resistance performance



MINI1010灵活条-小尺寸，大视角

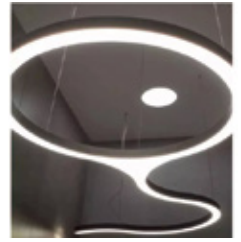
Led尺寸小，密度最高，320个Led /m
PCB的宽度很窄，4mm，我们的目标是做2mm
线性发光，光间距小，无暗区
最小尺寸LED



Part No.	Color Rendering Index	Power	Luminous intensity	Correlated Color Temperature		Voltage	FPC width	IP Rate	Installation
	Ra(min)	Po(W/m)	Flux(lm/m, min)	CCT (K)	Optional	Vf(V) Optional	(mm)	Optional	3M tape/Mounting Clips/Aluminum Profiles
RF-G**HA1013-243202041-A0	80	13	1690	2700-6500		24	4	20	

Comparison between Mini1010 and other LED

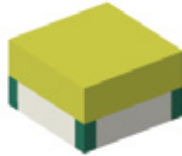
	2835	5050	MINI white light	CSP
Size	2.8*3.5	5.0*5.0	1.0*1.0	≤1.5*1.5
Light-emitting surface	Single-sided light emitting	Single-sided light emitting	Light emitting from five sides	Light emitting from five sides
Viewing angle	110°-120°	110°-120°	~175°	130°~150°
Power	≤1W	≤0.3W	≤1W	≤3W
Thermal resistance	≈12	≈80	≈5	≈5
Light efficiency	++++	++	+++	+
Production efficiency	+++	++	+++++	++++
Air tightness	MSL3	MSL3	MSL1	MSL1
Ease of SMT	++++	++++	+++	+
cost	++++	++	+++	+



CSP



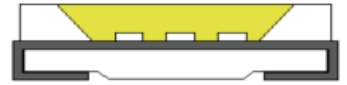
MINI white light



MINI white light



2835



5050

Large viewing angle, light emitting from five sides, the strip emits light all over the body, no dark area
Flip chip package with substrate for high light efficiency & cost performance
Silicone molding, high reliability
Low thermal resistance, withstands large currents
The chip has a substrate protection, with high strength and bending resistance
Small size, wide range of application space

大视角, 五面发光, 发光条全身发光, 无暗区
带有基板的倒装芯片封装, 具有高光效和高性价比
硅胶模具, 可靠性高
热阻低, 能承受大电流
该芯片具有基板保护, 具有高强度和抗弯曲性
体积小, 应用空间广

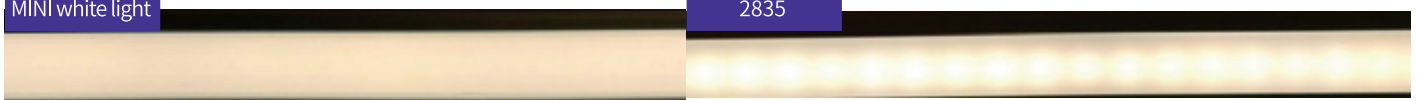
MINI white light

3014

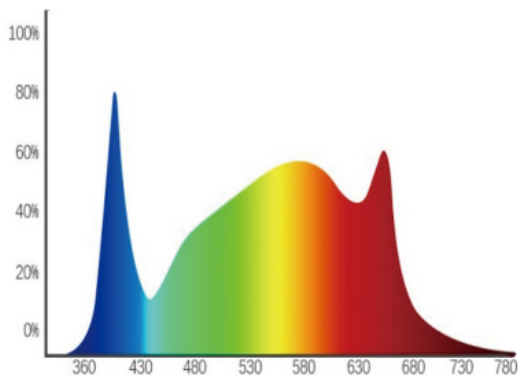


MINI white light

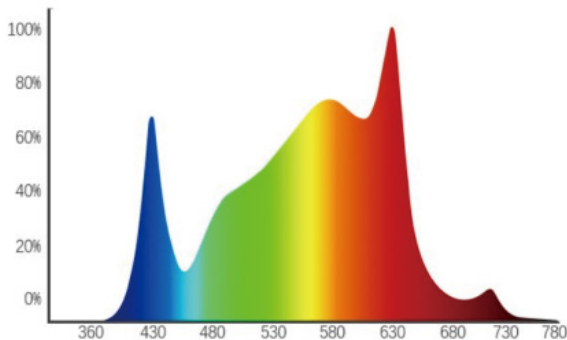
2835



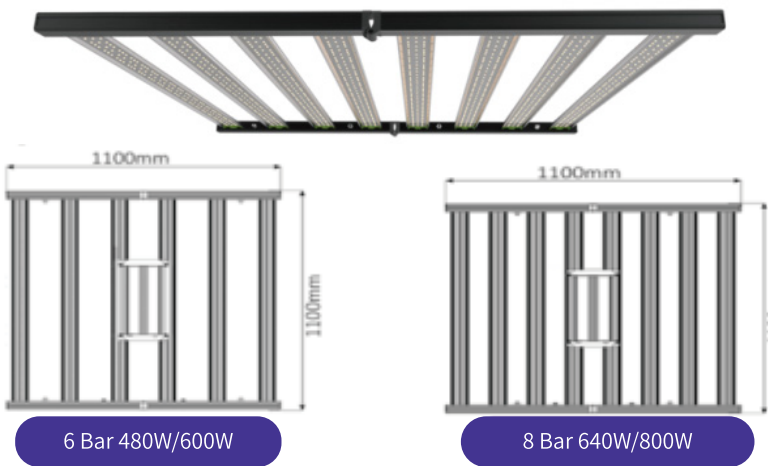
生长期光谱
Veg Spectrum



花期光谱
Full Cycle--Flower Spectrum



Lamp Size



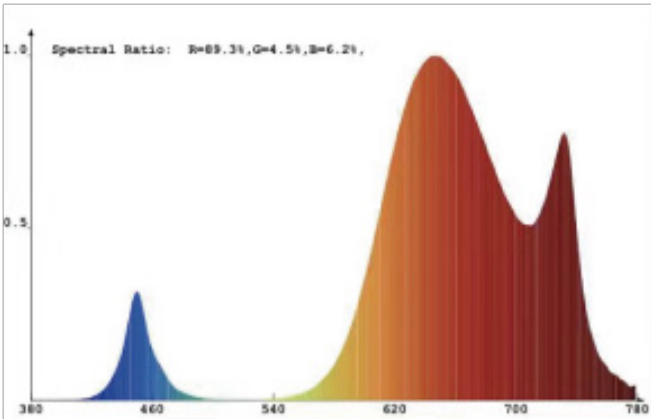
Part No.	RF-FT11B448B6-A0	RF-FT11B460B6-A0	RF-FT11B464B8-A0	RF-FT11B480B8-A0
Power	480W/6 bars	600W/6 bars	640W/6 bars	800W/6 bars
product program	3000K+6500K+660nm +730nm			
Efficacy	2.7umol/J			
PPF	1296 umol/s	1620 umol/s	1728 umol/s	2160 umol/s
input parameter	AC100-227V/347-547V(50/60hz)			
PF value	≥0.9			
Viewing Angle	120°			
Dimming scheme	0-10V/1-10V			
quality guarantee	≥50000 Hours			

Main application fields of plant lights:
cannabis plant factory, high-value medicinal plant cultivation,
Dendrobium officinale cultivation, plant testing, etc.

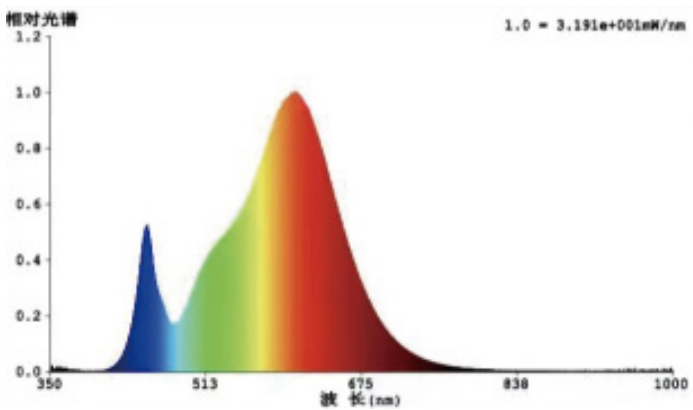
植物灯主要应用领域：
大麻植物工厂，高价值医药植物种植，铁皮石斛种植，植物试验等。

Plant light. - Dragon Fruit plant light

越南火龙果光谱
Vietnamese dragon fruit spectrum



中国火龙果光谱
Chinese dragon fruit spectrum



产品尺寸



UFO light 12-15W
product size: $\phi 135 \times 90\text{mm}$

飞碟灯12-15W
产品尺寸: $\phi 135 \times 90\text{mm}$



LED Bulb Lamp 12/15/18W
product size : $\phi 110 \times 10\text{mm}$

球泡12/15/18W
产品尺寸: $\phi 110 \times 10\text{mm}$

- Part number: RF-QAZ2H075-Z1
- 1.VF: 100-277V 50/60Hz
 - 2.Light source matching scheme: full spectrum 4000K+660NM red light matching
 - 3. Irradiation distance : 50-80CM
 - 4. Irradiation time: 7-10H/night
 - 5. Filling period: 2-4 months

- 产品品名: RF-QAZ2H075-Z1
- 1.工作电压: 100-277V 50/60Hz
 - 2.光源配比方案: 全光谱4000K+660NM红光搭配
 - 3.照射距离: 50-80CM
 - 4.照射时间: 7-10H/晚
 - 5.补光周期: 2-4月

Product application features:
The product is widely used in dragon fruit, and the use of light at night can meet its growth needs for light, which can shorten its growth cycle, help better pollination, and also promote its off-season flowering. Improve fruit quality and yield. If the light time is short, it will affect its normal growth and reduce the quality and taste of the fruit. Therefore, at night, it is necessary to use light to fill the seedling period, increase the color and increase the growth of the fruit and the harvest period.

产品应用特点:
产品广泛用于火龙果, 晚上使用灯照可以满足它生长对于光照的需求, 从而能够缩短它的生长周期, 帮助更好的授粉, 还能促使它在反季节开花, 在开花结果期间, 还能提高果实的品质及产量。如果说光照时间短的话, 就会影响它的正常长势, 还会降低果实的品质和口感, 因此在晚上就要用灯照补光育苗期, 增色增加果实的生长, 收获期等。



Refrigerator Lights - Smart Refrigerator Lights



Module parameter table

Part No.	Module Size(mm)	Module Power(W)	SDCM	Efficiency(lm/W)	CRI	Viewing Angle	Color Temperature
RF-MTGAB2T11-A1	426.4*12*1.6	3-6	<5	100-120	>80	120°	Dual color temperature (brightness can be adjusted in a single segment)

Characteristic:

1. High light efficiency and good color consistency.
2. Each module is equipped with a WS2811 IC for single-stage and single-color temperature, and realizes single-stage dimming and color temperature through different dimming schemes on the controller.
3. The length of the module can be customized according to different application specifications of customers.

特点:

1. 光效高、颜色一至性好。
2. 模组单段单色温都各配一颗WS2811的IC, 在通过控制器上不同调光方案实现单段调光、调色温。
3. 模组长度可根据客户不同应用规格进行定制。



长条灯主要应用场所: 各种酒柜、冰箱、冰柜等。

Main application places of strip lights: all kinds of wine cabinets, refrigerators, freezers, etc.



LED洗墙灯
LED Wall Washer



LED线条灯
LED line lights



LED点光源
LED point Light

Direct type ceiling lamp module parameter table		
power		4W/6W/8W
(lm/W)		90-115lm/w
CRI		≥80
Viewing Angle		120-160°
SDCM		≤5

Product Characteristics:

- 1. Color and color temperature: This type of product is divided into seven colors, full color, and monochrome, and the color temperature is controlled at around 2800-7100k.
- 2. Lighting angle: The light-emitting arc usually has three categories: narrow, medium, and wide, which are about 15, 60, and 120 degrees respectively. Currently, the farthest irradiation of high-power products is about 5-10 meters.
- 3. Control method: There are two types of control methods. Internal control refers to directly setting the light-on program inside the lamp, which cannot be adjusted from the outside, and the light cannot be changed. External control refers to an externally linked controller, which determines the irradiation through regulation. Effect. Perfectly outlines the contours of various building walls, taking into account both the lighting effect and the shape of the building itself

产品特点:

- 1.颜色 and 色温:这类产品分七彩, 全彩还有单色, 色温把控在2800-7100k左右。
- 2.发光角度: 发光弧度通常有窄、中、宽三类, 分别是在15、60、120度左右, 目前大功率的产品最远照射是在5-10米左右。
- 3.控制方式: 控制方式分两类, 内控是指直接将灯亮程序设置到灯具的里面, 不能从外部调节, 而且灯光不可变动, 外控则是指外链接的控制器, 通过调控来确定照射的效果。完美勾勒出各种建筑物墙体的轮廓, 既要考虑照明效果, 又要兼顾建筑物本身的造型

主要应用场所: 建筑, 景观, 公园, 桥梁, 别墅等
Main application places: buildings, landscapes, parks, bridges, villas, etc.

LED outdoor lighting products

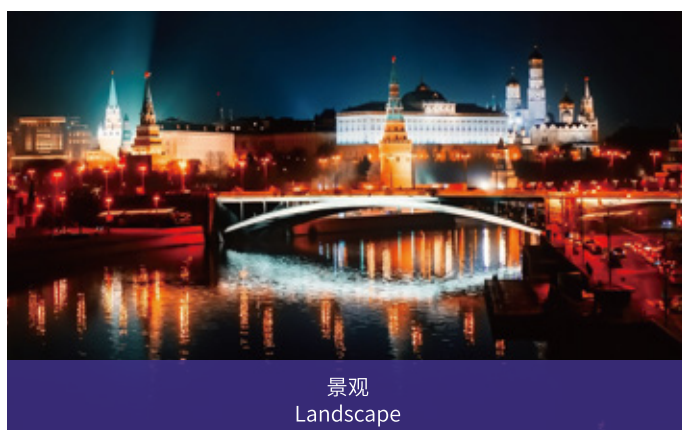
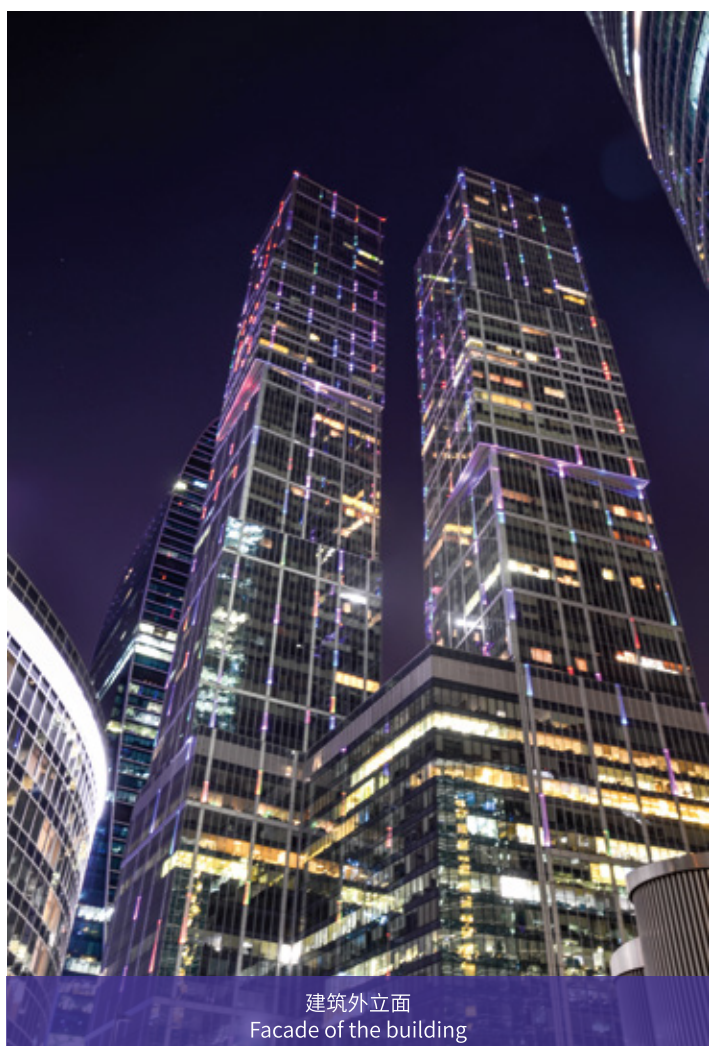
Product parameters			
Product type	LED Wall Washer	LED guardrail tube	LED point Light
VF	DC24V	DC24V	DC24V
Power	36/48/60/72W	10-12W	0.3/0.7/1.44W
control method	Monochromatic always on/DMX512	Monochromatic always on/DMX512	Monochrome always on/Internal control colorful/Breakpoint resume/DMX512
Viewing Angle	15/24/38°	120°	120-180°
LED	3030/5050	2835/3030/5050	3030/3535/5050
Ingress Protection Rating	IP65	IP65	IP65/IP68
Colour	RGB/R/G/B/Y/W/CW	RGB/R/G/B/Y/W/CW	RGB/R/G/B/Y/W/CW

Main application places:

Panoramic floodlighting of interior and exterior walls such as lighting projects, commercial places, stages, ancient buildings, cultural squares, elevated overpasses, building exterior walls, building landmarks, etc. Landscape buildings, outdoor plazas, landscape objects, walls, and displays are painted. The main function is to light the wall so that the light can appear in various colors on the wall

主要应用场所:

亮化工程、商业场所、舞台、古建筑群、文化广场、高架立交桥、建筑外墙、建筑地标等内外墙面的全景式泛光照明。景观建筑物楼体, 户外广场, 景观物及墙面、陈列品刷色。主要功能是给墙面打光, 让光在墙面上浮现各种颜色



UV Series

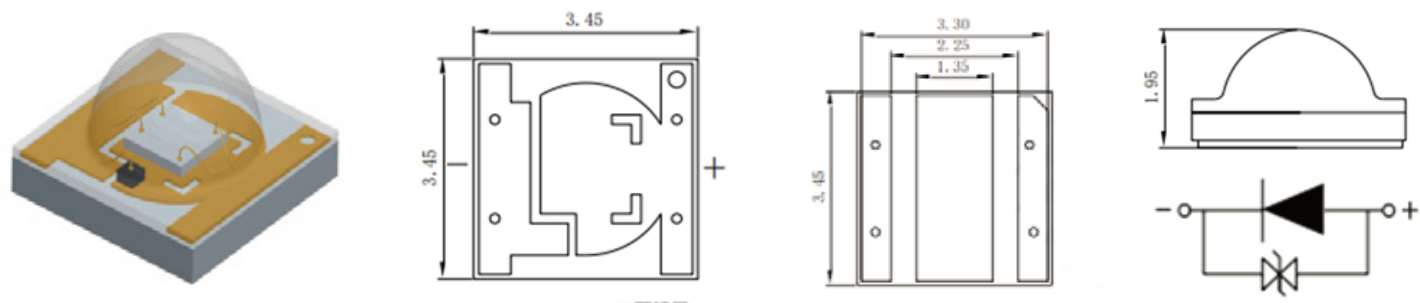
Mainly include 2835, 3535, 3737, 3838, 6565, 7070UVA, UVB, UVC productsThe product has high luminous efficiency and good air tightness

主要包含2835、3535、3737、3838、6565、7070UVA, UVB, UVC产品产品光效高, 气密性好

UVA3535

Good reliability
High air tightness
High photosynthetic efficiency
Customizable Specification

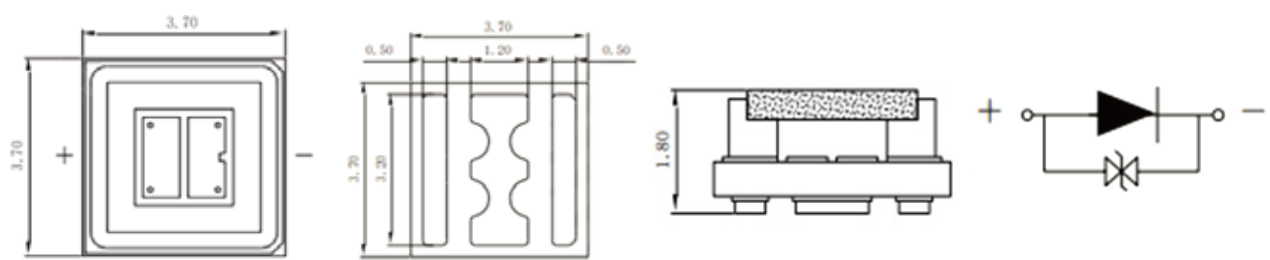
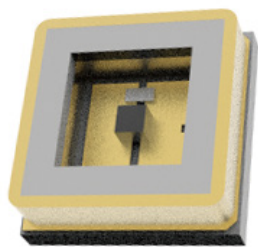
产品可靠性高
气密性高
高光效
可定制规格



Part No.	Po(W)	λP (nm)	Vf(V)	If(mA)	Φe(mW)	2θ1/2(°)
RF-N35AEG36C-R11	1.5-1.9	365-370	3.0-3.8	500	675-940	120
RF-N35AEG38C-R11	2.1-2.6	380-390	3.0-3.8	700	1110-1545	120
RF-N35AEG39C-R11	2.1-2.6	390-400	3.0-3.8	700	1110-1545	120
RF-N35AEG40C-R11	2.1-2.6	400-410	3.0-3.8	700	1110-1545	120
RF-N35AEG41C-R11	2.1-2.6	410-425	3.0-3.8	700	940-1545	120
RF-N35AEG36B-R11	1.6-1.9	365-370	3.2-3.8	500	675-940	60
RF-N35AEG38B-R11	2.2-2.6	380-390	3.2-3.8	700	1110-1545	60
RF-N35AEG39B-R11	2.2-2.6	390-400	3.2-3.8	700	1110-1545	60
RF-N35AEG40B-R11	2.2-2.6	400-410	3.2-3.8	700	1110-1545	60
RF-N35AEG39B-R11	2.2-2.6	395-400	3.2-3.8	700	1110-1545	60
RF-N35AEG41B-R11	2.2-2.6	410-420	3.2-3.8	700	1110-1545	60
RF-N35AED36C-R11	1.5-1.9	365-370	3.0-3.8	500	575-940	120
RF-N35AED36B-R11	1.5-1.9	365-370	3.0-3.8	500	575-940	60

Good reliability
High air tightness
High photosynthetic efficiency
Customizable Specification

产品可靠性高
气密性高
高光效
可定制规格



Part No.	Po(W)	λP (nm)	Vf(V)	If(mA)	Φe(mW)	2θ1/2(°)
RF-C37AEA270-R11	0.09-0.17	270-280	4.5-8.5	20	1-6	120
RF-C37AEA276-R11	0.27-0.46	270-280	4.6-7.8	30	1-6	60
RF-C37AEC276-R11	0.27-0.45	270-280	4.6-7.6	100	6-15	60
RF-C37ANA270-R11	0.54-0.9	270-280	4.5-7.5	20	1-6	120
RF-C37ANA276-R11	0.27-0.45	270-280	4.5-7.5	20	1-6	60
RF-C37APD270-R11	0.54-0.9	270-280	4.5-7.5	150	10-25	120
RF-C37APC270-R11	0.54-0.9	270-280	4.5-7.5	100	3-15	120
RF-C37AUC270-R11	0.55-0.84	270-280	4.6-7.0	150	10-25	120
RF-C37AUC276-R11	0.27-0.42	270-280	4.6-7.0	150	10-25	60

Plant light series

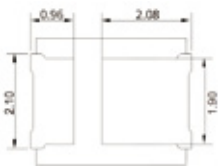
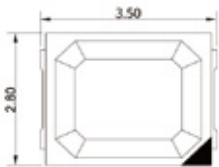
Products mainly include 2835, 3030 and 3535 (440nm, 660nm, 730nm) productsThe product has high luminous efficiency and good air tightness

产品主要包含2835、3030和3535 (440nm、660nm、730nm) 产品
产品光效高, 气密性好

2835

Good reliability
High air tightness
Customizable Specification

产品可靠性高
气密性高
可定制规格

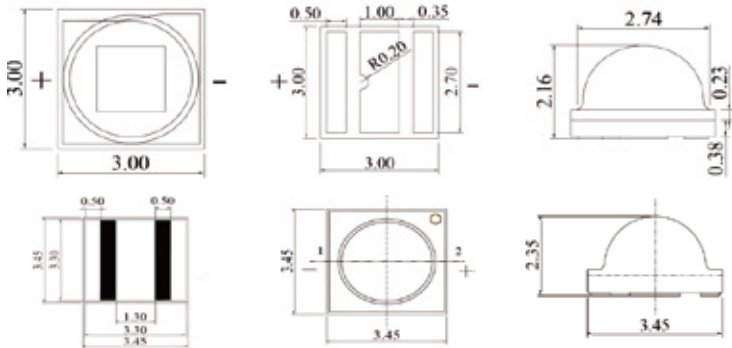
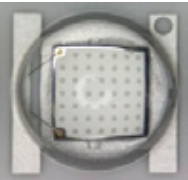


Description	Color	Part Number	Test current	VF (Typ) @IF	Wavelength/CCT	PPF (typ) @IF μmol/s	PPE (typ) @IF μmol/J	Angle
Horti2835 0.2/0.5W	Royal Blue	RF-AL-A28352H0RB-00	150mA	3.0	440-460nm	1.12	2.35	120°
	Deep Red	RF-AL-A28352H0DR-01	150mA	2.0	655-670nm	0.87	2.85	120°
	Far Red	RF-AL-T28352H0FR-00	150mA	1.9	725-740nm	0.70	2.50	120°

3030/3535

Good reliability
High air tightness
High photosynthetic efficiency
Customizable Specification
Q90≥36000H

产品可靠性高
气密性高
高光效
可定制规格
Q90≥36000H



Description	Color	Part Number	Test current	VF (Typ) @IF	Wavelength/CCT	PPF (typ) @IF μmol/s	PPE (typ) @IF μmol/J	Angle
Horti3535	Royal Blue	RF-AL-C3535L2K1RB-00	350mA	2.6-3.2	450-460nm	2.6-2.8	2.6-2.9	120°
	Far Red	RF-AL-C3535L2K1FR-00	350mA	1.8-2.4	725-740nm	2.4-2.7	3.3-3.8	120°
	Deep Red	RF-AL-C3535L2K1DR-00	350mA	2.0	655-670nm	2.450	3.500	120°
	Deep Red	RF-AL-C3535L2K1DR-01	350mA	1.95	655-670nm	2.946	4.32	120°
Horti3030	Deep Red	RF-AL-C3030L2K1DR-00	350mA	2.0	655-670nm	2.610	3.700	120°

公司总部 | Headquarter

Refond optoelectronics Co.,Ltd.

Address: Refond optoelectronics Co.,Ltd., Ronghui Road, Guangming District, Shenzhen City, Guangdong Province, China

Tel: 0755-29675000/0755-29060066

Fax: 0755-6683-9322

Email address: sales@refond.com

瑞丰光电大厦

地址: 中国广东省深圳市光明区融汇路瑞丰光电大厦

电话: 0755-29675000/0755-29060066

传真: 0755-6683-9322

邮箱: sales@refond.com

子公司 | Subsidiary

Shenzhen Refond Optoelectronics UV Technology Co., LTD

Address: Shenzhen Baoan District Xixiang Street Hezhou Hengfeng Industrial City B15 plant 5, 6 floors

Telephone: (86) 0755-66839118

深圳市瑞丰光电紫光技术有限公司

地址: 深圳市光明新区根玉路田寮社区第十工业区1栋6楼

电话: (86) 0755-66839118

Changzhou Lirui Optoelectronics Co., LTD

Address: Room 306, Floor 3, Incubation Building 2, 158 Renmin East Road, Wujin Hi-Tech Industrial Development Zone, Changzhou City, Jiangsu Province

Telephone: (86) 0519-86358886

常州利瑞光电有限公司

地址: 江苏省常州市武进高新技术产业开发区人民东路158号2号孵化楼3楼306单元房

电话: (86) 0519-86358886

Shenzhen Lingtao Optoelectronics Technology Co., LTD

Address: Building B15, Hengfeng Industrial City, Hezhou Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong

Telephone: (86) 0755-27865464

深圳市玲涛光电科技有限公司

地址: 广东省深圳市宝安区西乡街道鹤洲社区恒丰工业城B15栋

电话: (86) 0755-27865464

Ningbo Ruikang Optoelectronics Co., LTD

Address: 669 Jinyuan Road, Yinzhou District, Ningbo City, Zhejiang Province, China

Telephone: (86) 0574-88492555

宁波市瑞康光电有限公司

地址: 浙江省宁波市鄞州区金源路669号

电话: (86) 0574-88492555

Zhejiang Refond optoelectronics Co.,Ltd.

Address: 505 Haopai Road, Suxi Town, Yiwu City, Zhejiang Province, China

Telephone: (86) 0579-89972688

浙江瑞丰光电有限公司

地址: 浙江省义乌市苏溪镇好派路505号

电话: (86) 0579-89972688

China Taiwan Office

Address: China Taiwan Office, Room 5, 3rd Floor, No. 89, Jiankang Road, Zhonghe District, New Taipei City, Taiwan

Telephone: (86) 0755-27865464

中国台湾办事处

地址: 台湾新北市中和区建康路89号3楼5室

电话: +886905576512

欧洲 | Europe

Poland

ELHURT SP. Z O.O.

Add: GALAKTYCZNA 35A, 80-299 Gdańsk, Poland

Web: <https://www.elhurt.com.pl/>

Tel: +48 58 554 0800

Email: elhurt@elhurt.com.pl

Italy

Refond Italy srl

Add: Via Reiss Romoli 265/1, Torino, Italy.

Post Code: 10148

Tel: +39 335 67 51 818/ +39 011 22 03 250

Fax: +39 011 22 03 244

Email: alberto.tonon@refond-italy.it

France

Equipements Scientifiques SA Composants & Modules department

Add: 127 rue de Buzenval - 92380 Garches - France

Tel: +33 1 47 95 99 60

Email: philippe.guez@es-france.com

Web: www.es-france.com

Germany

alfatec GmbH & Co. KG

Add: Meckenloher Straße 11
Germany – 91126 Rednitzhembach
Phone: +49 9122 9796-0
Email: info@alfatec.de

Benelux

Thal Technologies

Add: Grindzuigerstraat 9 - Almere –
Nederland
Tel: +31 36 202 60 60
Email: info@thal-technologies.com

Russia

Distributor in Russia - Led-Components LLC

Add: 77,78, Paradnaya str., 3/1A, 191014 St.
Petersburg Russian Federation - Led-Components LLC.
Tel: +7-812-309-84-83
Email: order@led-components.com
Web: www.led-components.com

Russia

Distributor in Russia - Platan LLC

Add: Begovaya str. 6A , 125284 Moscow
Russian Federation - Platan LLC
Tel: +7 495 252 07 77
Email: larionov@platan-energo.ru
Web: www.platan.ru

亚洲 | Asia

Iran

Refond Iran

Add: No.870 - Exon Building - Paknejad
Blvd - Yazd - Iran
Tel: (+98)35 - 35238033
Fax: (+98)35 - 35238077
Email: info@refondiran.com

Korea

Refond Opto Korea (Except Automotive business)

Add: #501, ISBiz Tower, 147, Seongsui-ro,
Seongdong-gu, Seoul, Korea
Tel: 02-469-8881
Fax: 02-469-8886
Email: led@refondkorea.com

Korea

Refond Korea Co., Ltd (Special for Automotive business)

Add: 10, Gyeongin-ro 53ga-gil, Guro-gu,
Seoul, Republic of Korea (1303, Daemyung
Valeon)
President: Mr LEE
Tel: 82-10-5223-7805

Japan

Refond Japan

Add: 東京都千代田区九段南3 - 2 - 2 , 九段宝
生ビル6F
Tel: 03-6628-5434
Fax: 03-6628-5435
Email: refond@refond.co.jp

Israel

E.D.E. Electronics Ltd.

Add: Beit Shoham, 1 Hamachshev
street, New Industrial Zone, NETANYA
42504, ISRAEL
Tel: 972-9-8634000
Email: anat@ede.co.il

国内媒体 | Domestic media



扫码关注公众号
Follow our public account



扫码关注视频号
Follow our video account



扫码关注bilibili
Follow our bilibili account

国外媒体 | Foreign media



Facebook
Refond Optoelectronics



LinkedIn
Refond Optoelectronics



YouTube
Refond Optoelectronics

瑞豐光電

www.refond.com