

## Company Profile

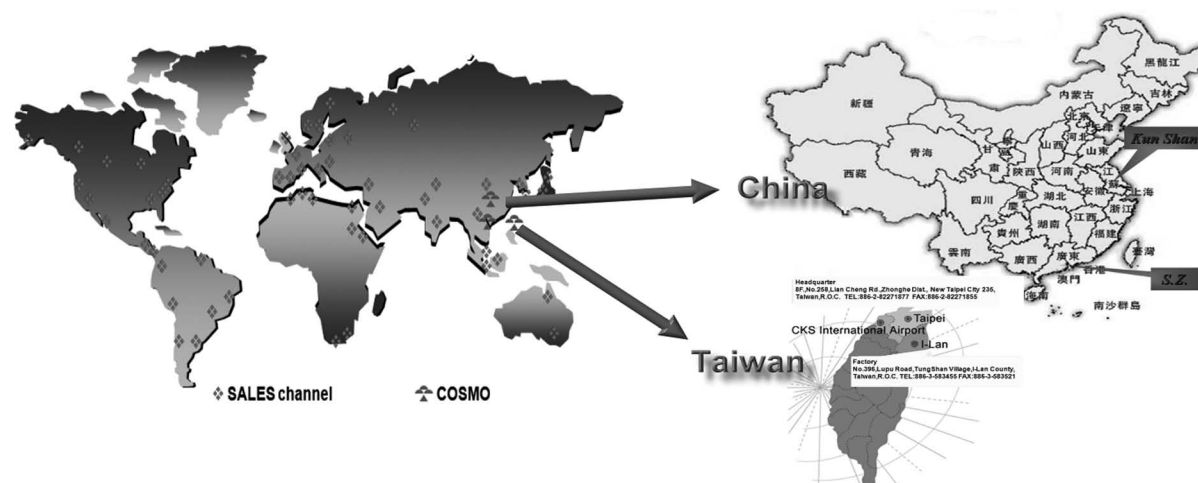


Since the establishment in 1981, Cosmo Electronics Corporation has become world's leading manufacturers in the field of Photo Couplers and Relay. We are listed on Taiwan Stock Exchange Corporation (TSEC) in 2000.

For past 30 years, through its relentless devotion to research and development, keep providing professional techniques and comprehensive service to customer. Cosmo is recognized as global leading company in OPTO electronics industry and reliable to all customers worldwide.

We have customers throughout the world, our product line divided into four major areas :

- Photo Coupler
- Solid State Relay-MOSFET output
- Reed Relay
- Solid State Relay



## Mission & Vision

### Corporate Vision

- Quick response to customers needs. Creation profit and sustainable operation.
- Enhance the value of shareholders and employees. Stand for enriching a sustainable society.

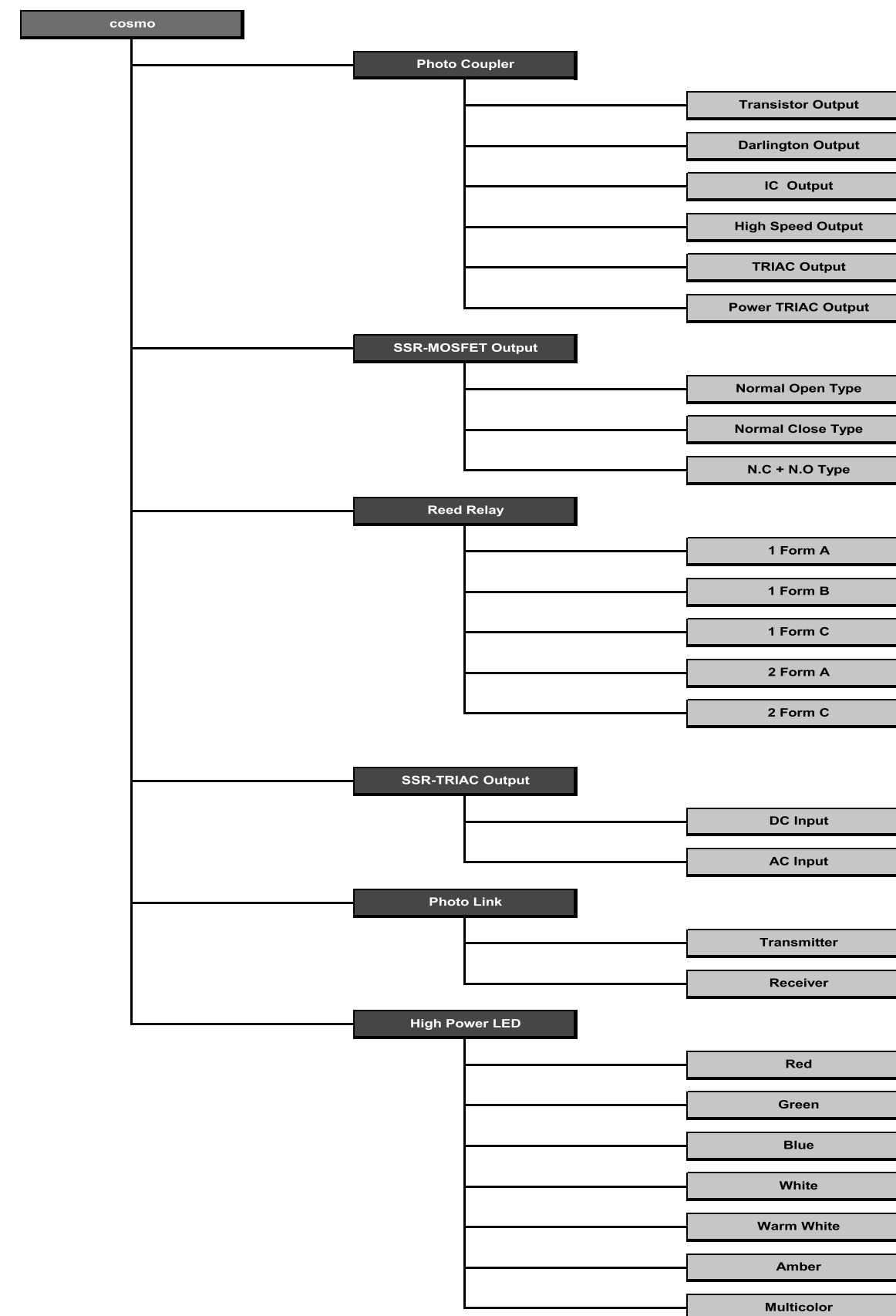
### Our Mission

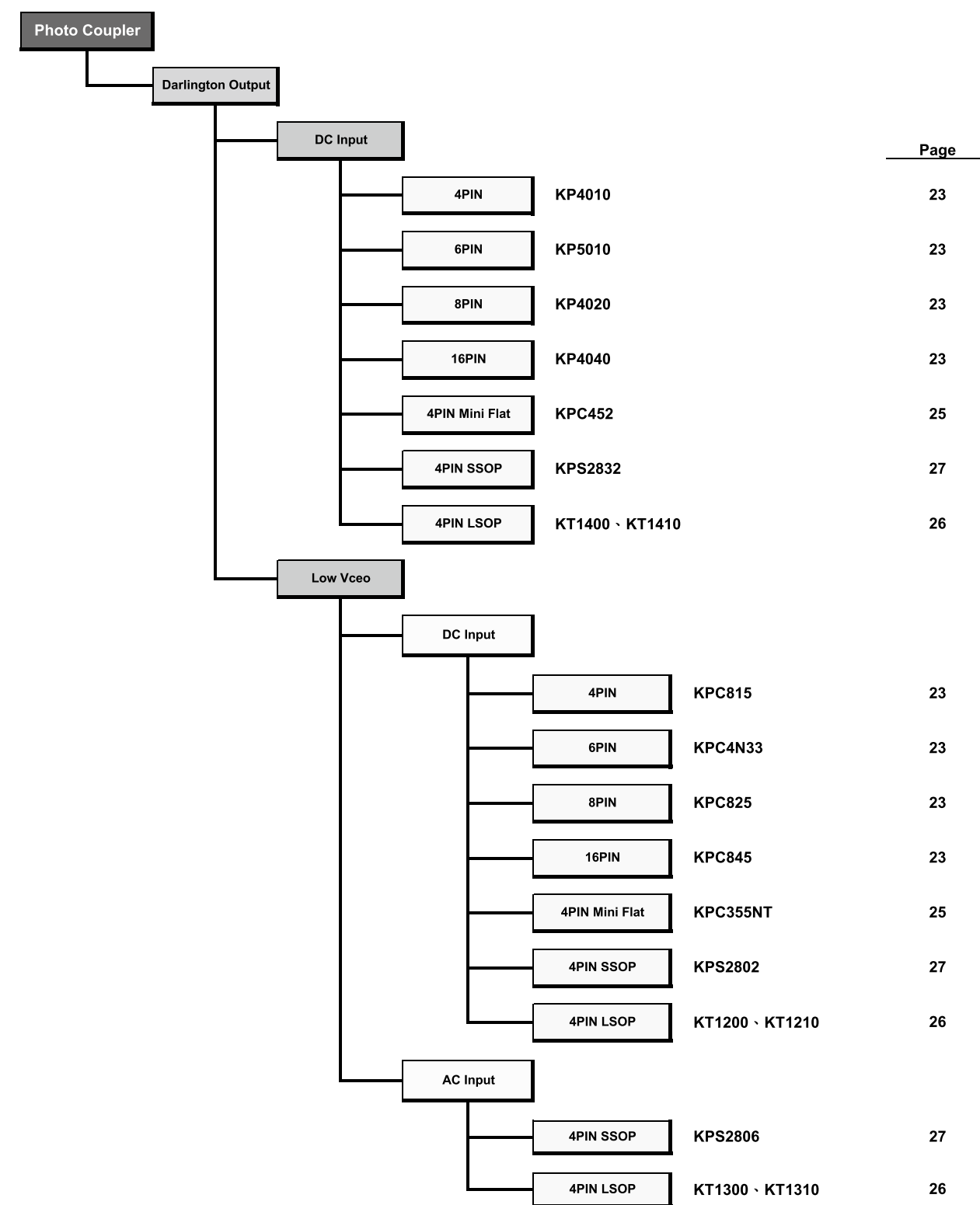
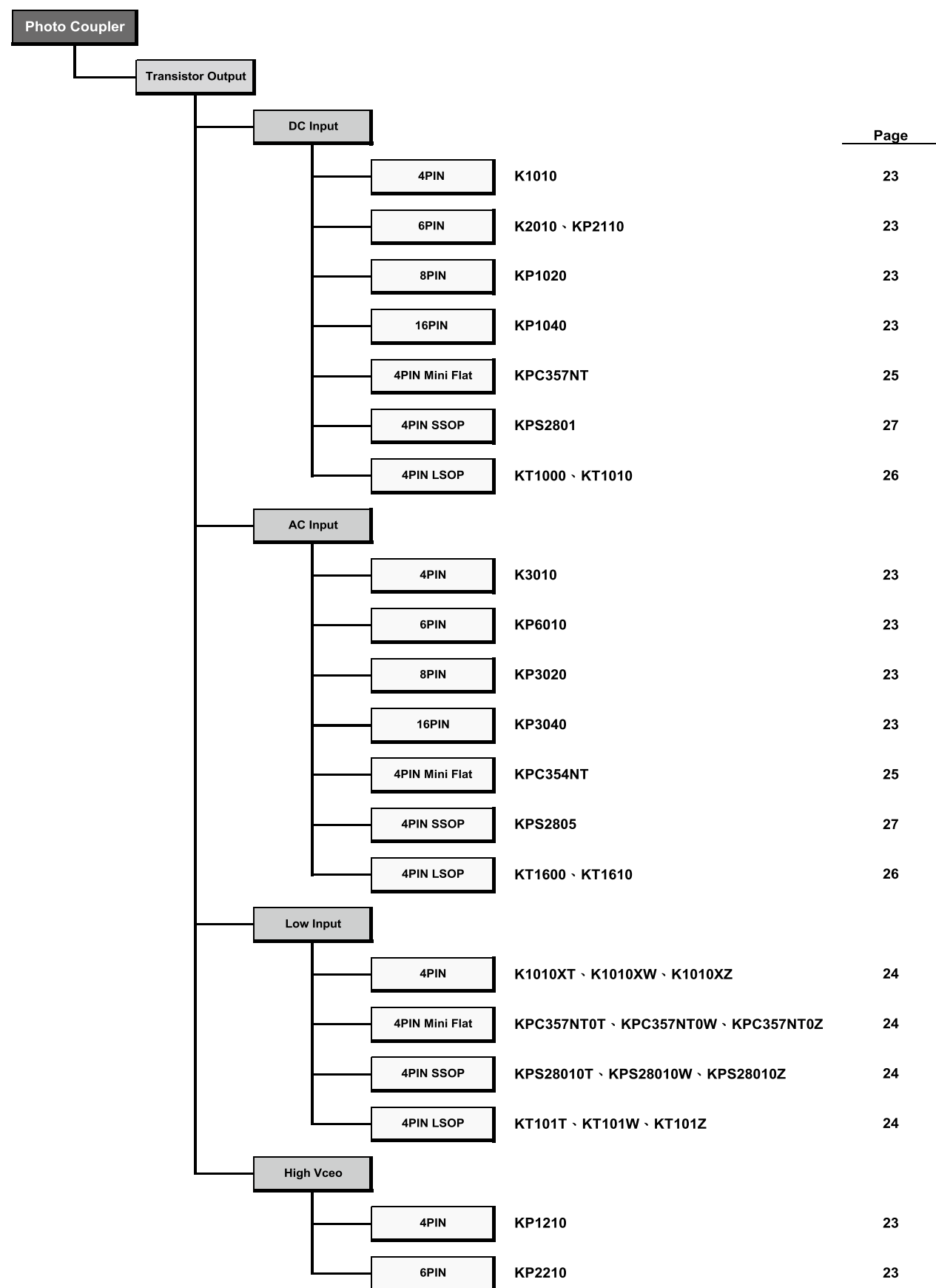
- Teamwork • Integrity
- Caring and Sharing • Innovation

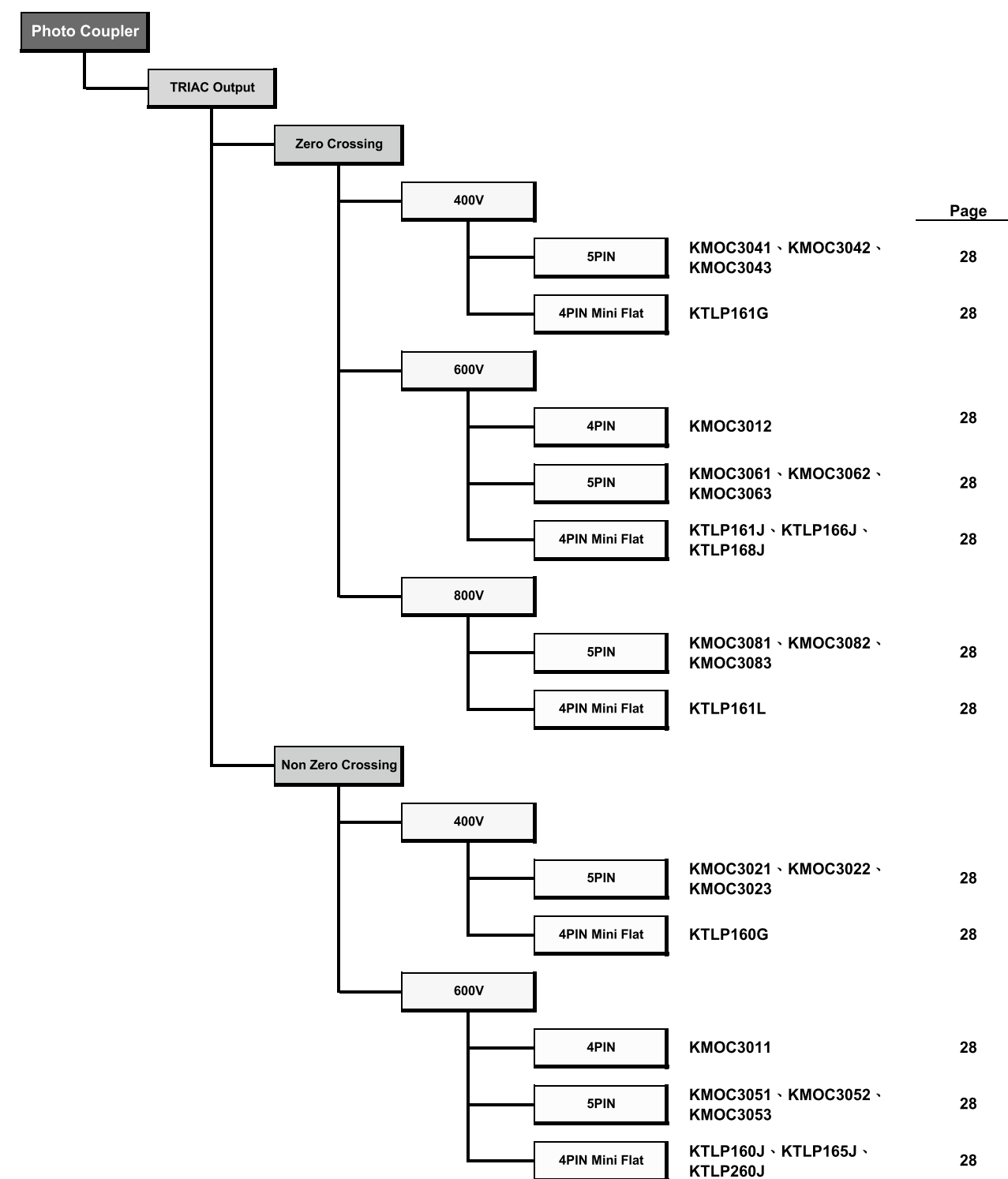
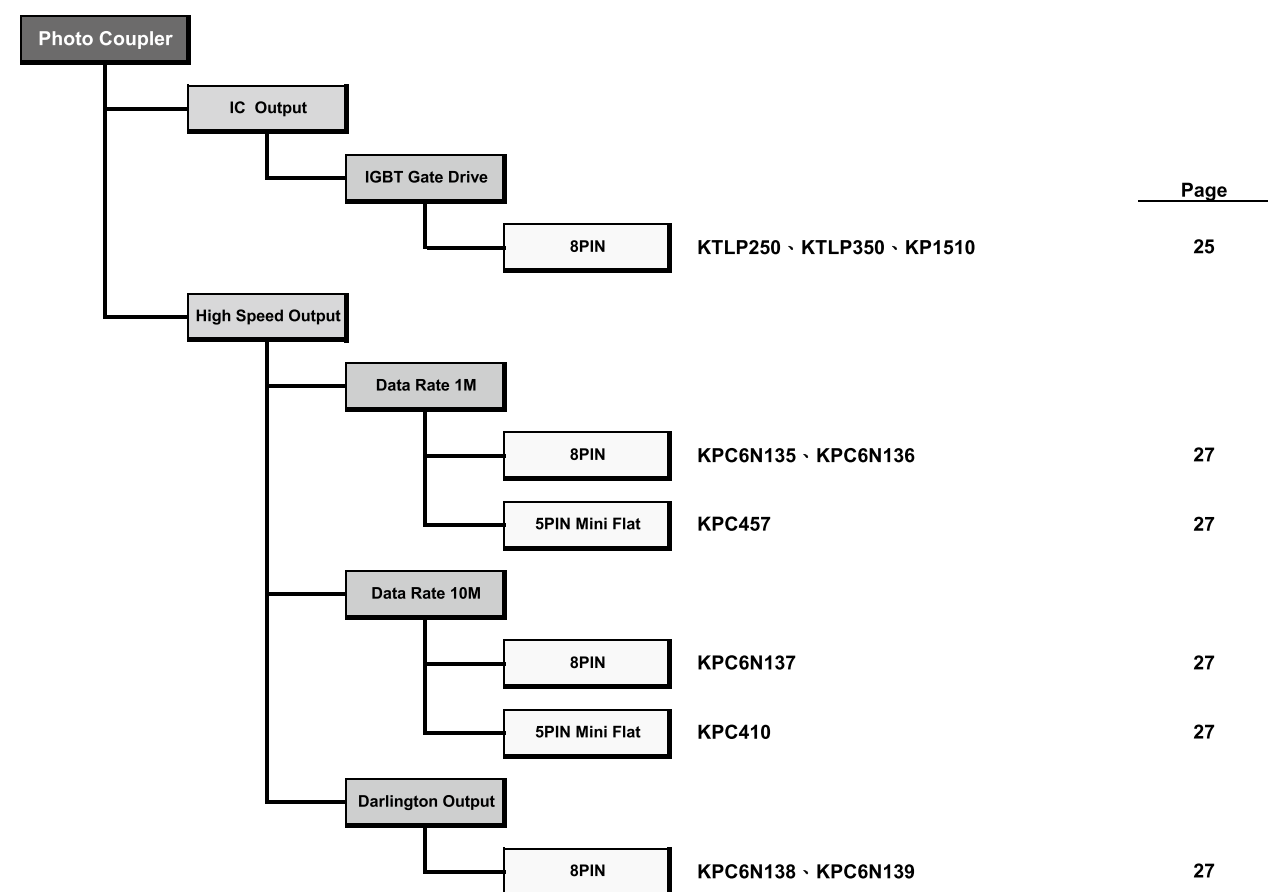
## Our Advantage

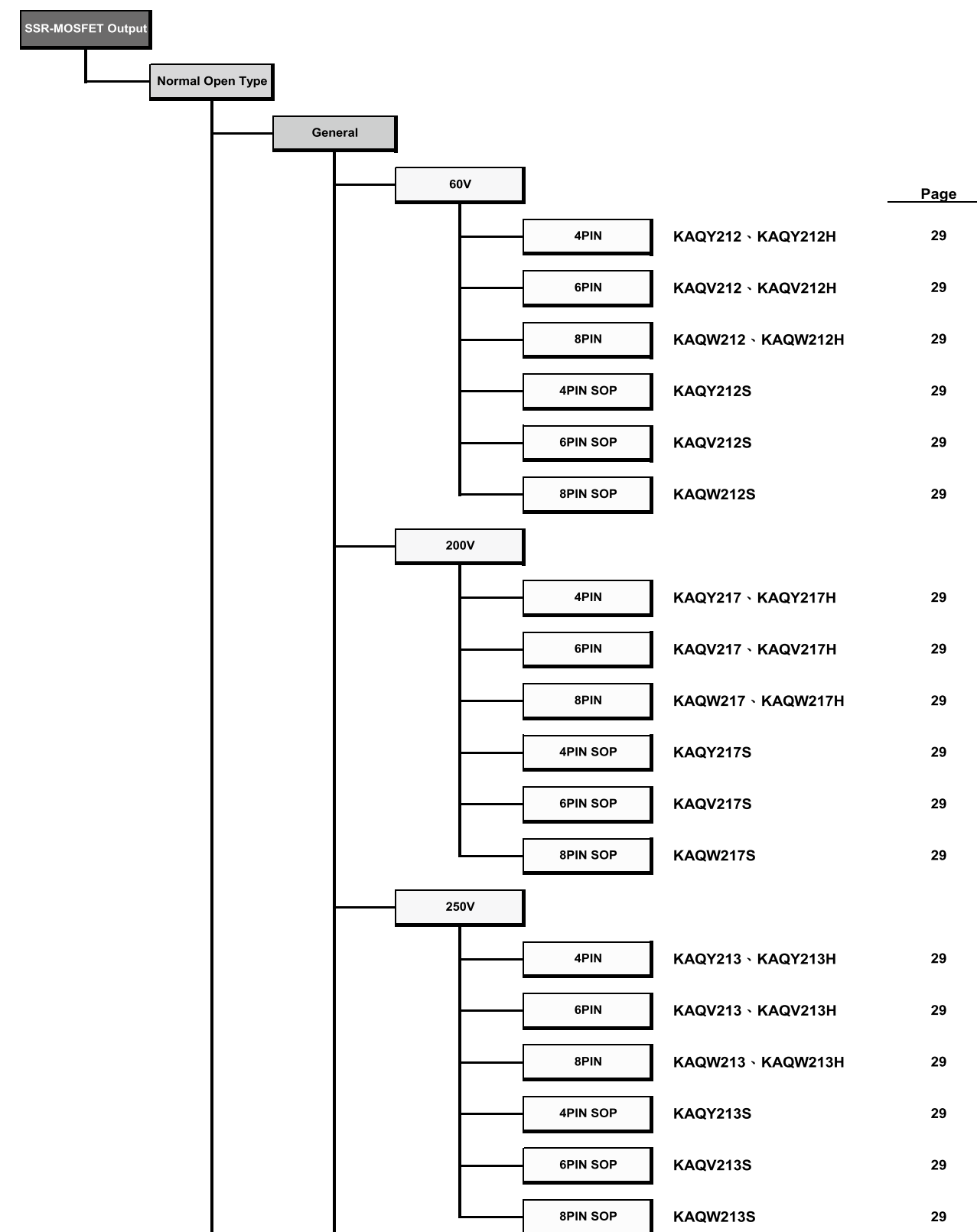
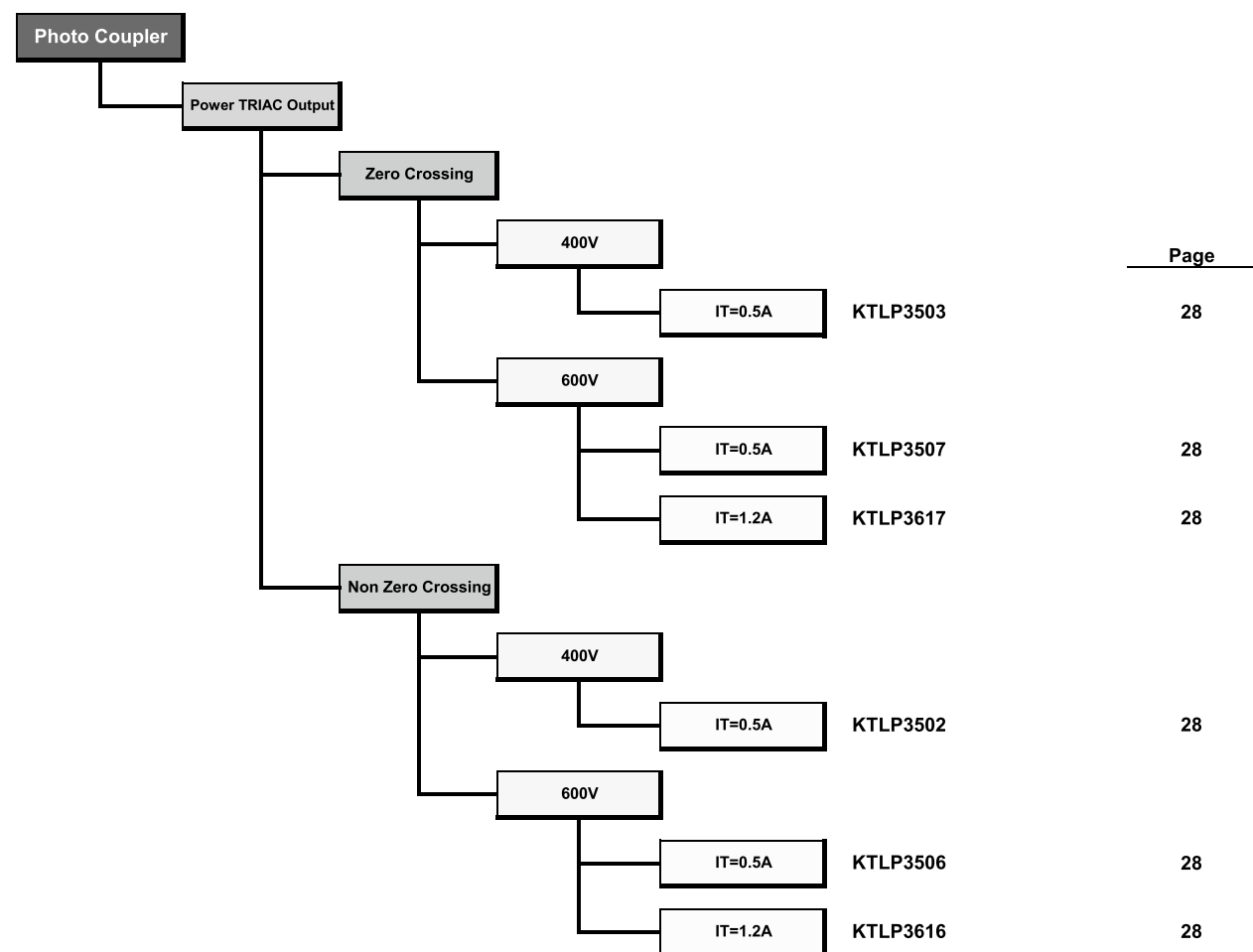
### Our Advantage

- Know-how of the core-technology, best lead time and service.
- Comprehensive product lines to meet the customer demand for Photo Coupler and Relay.

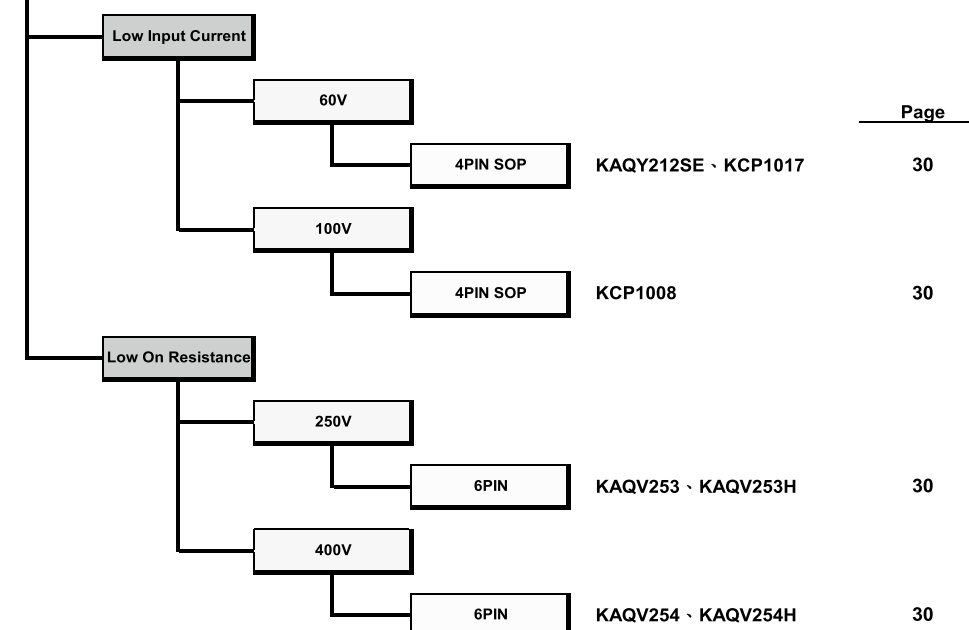
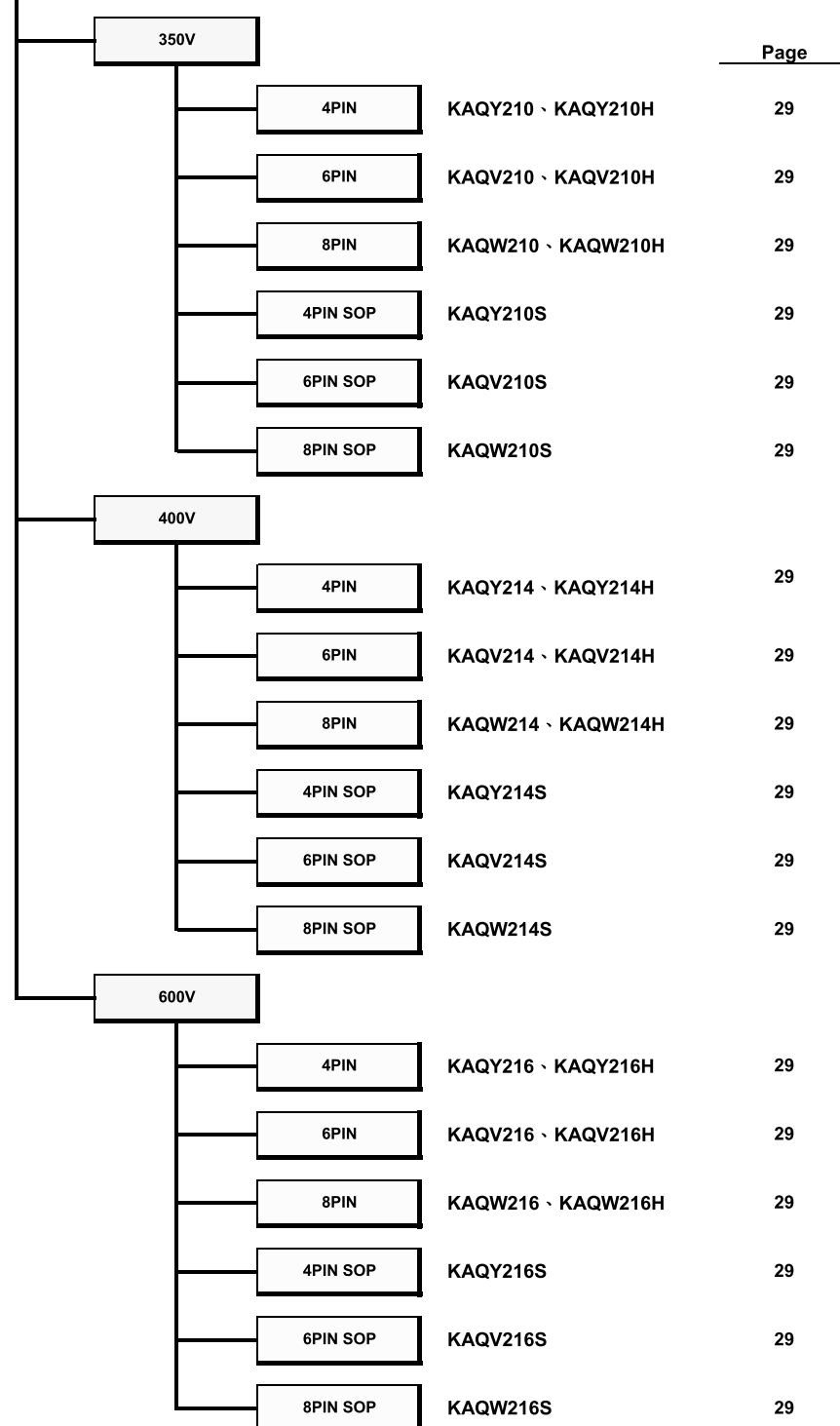


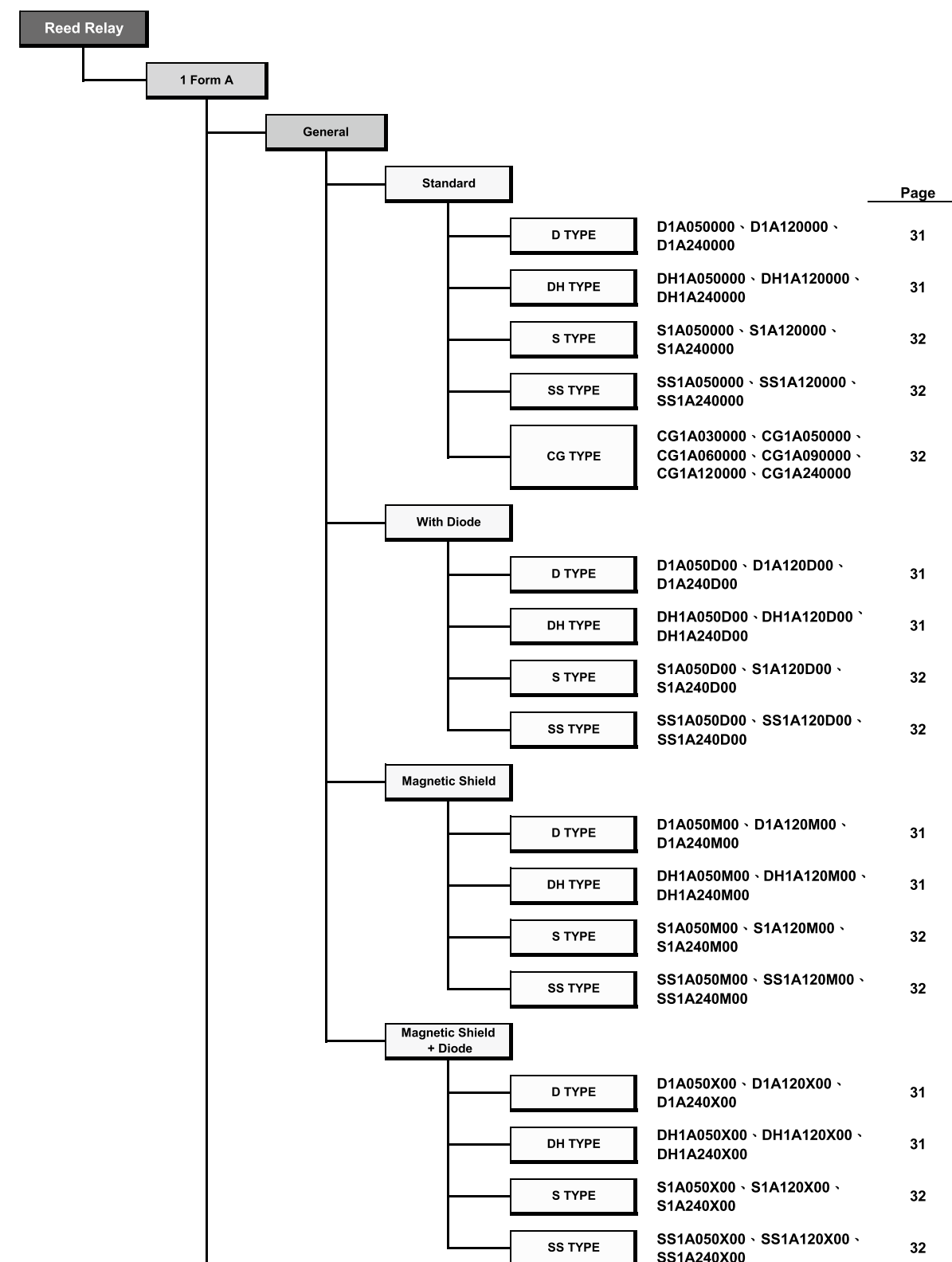
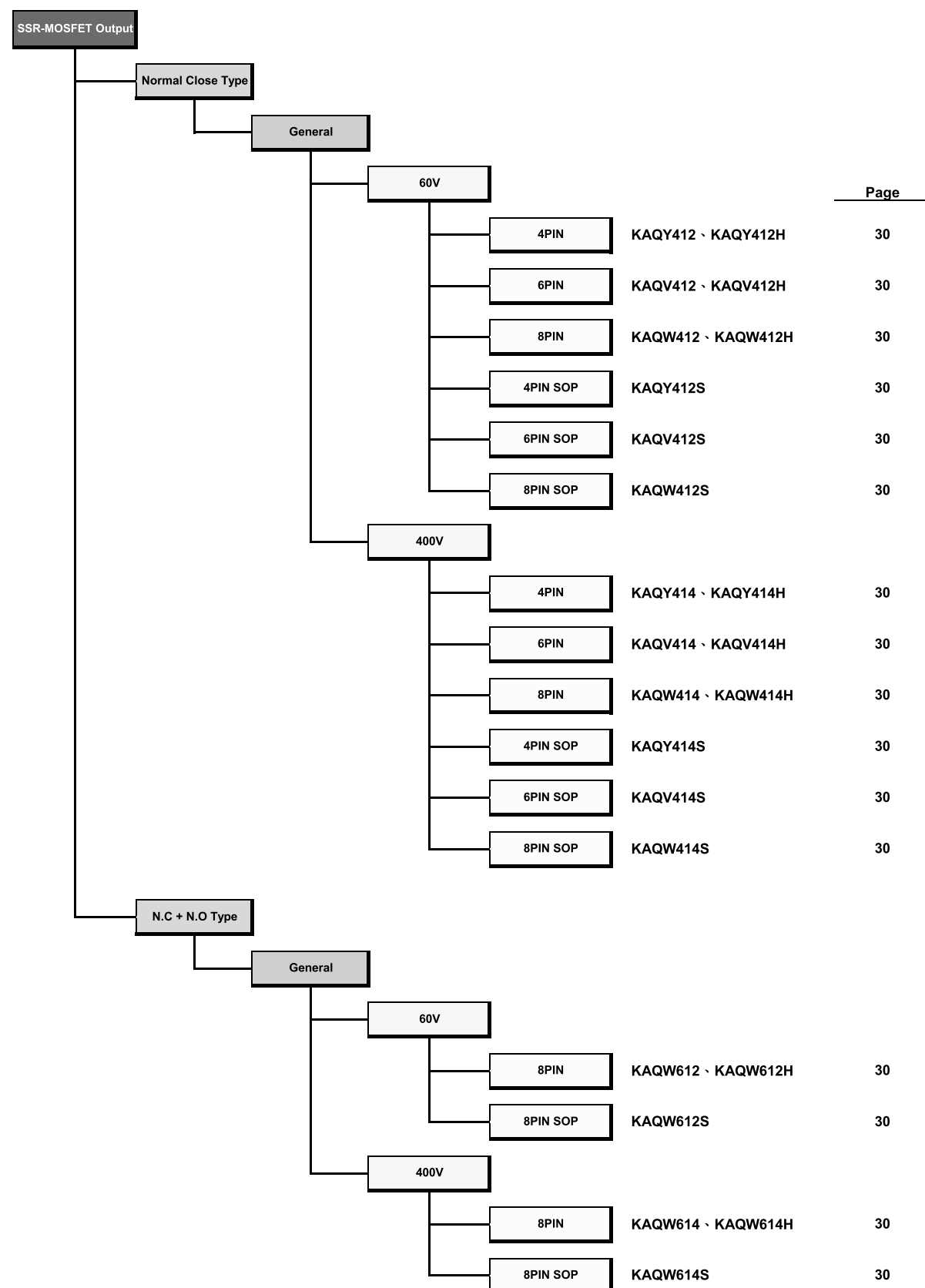


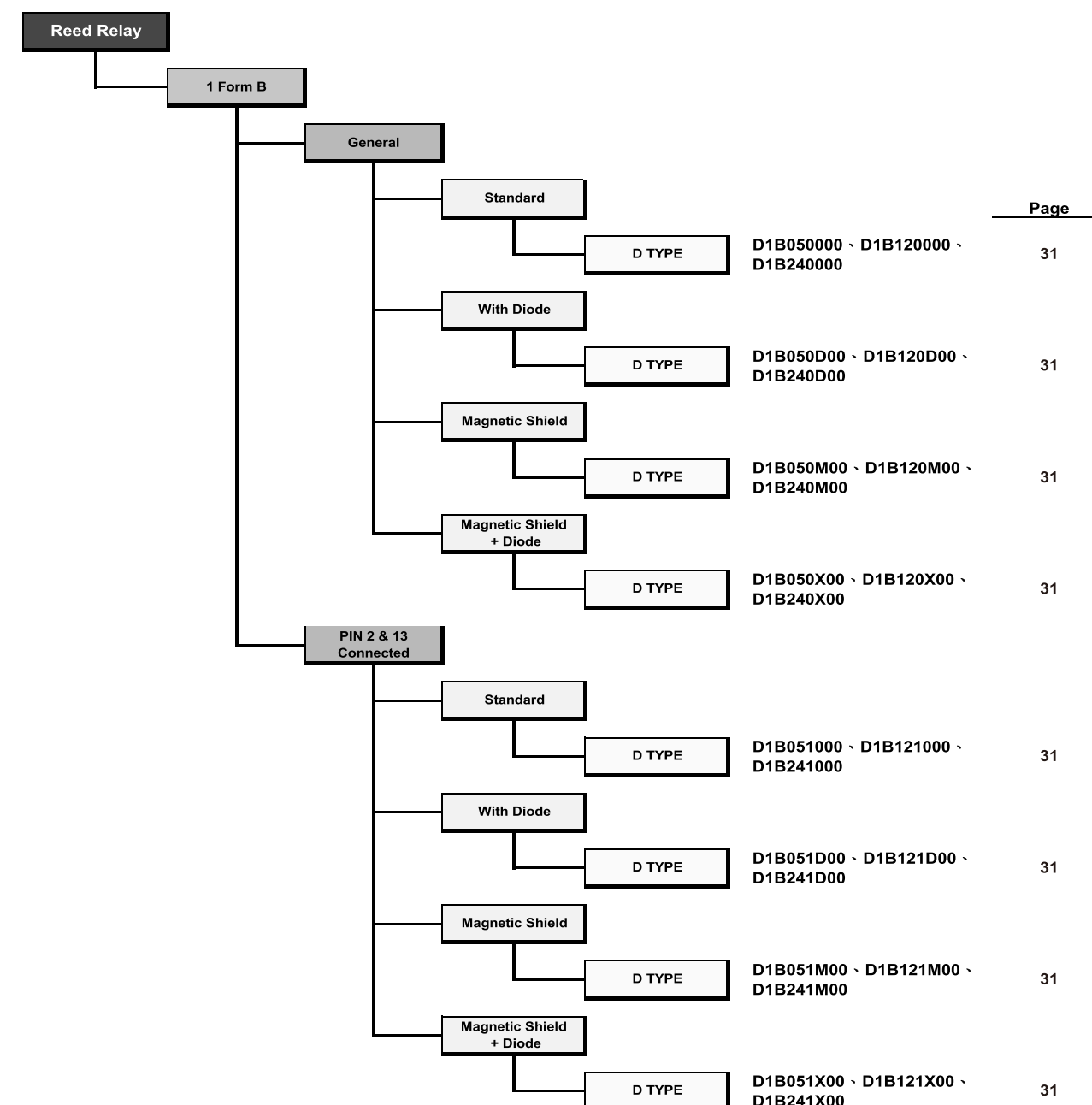
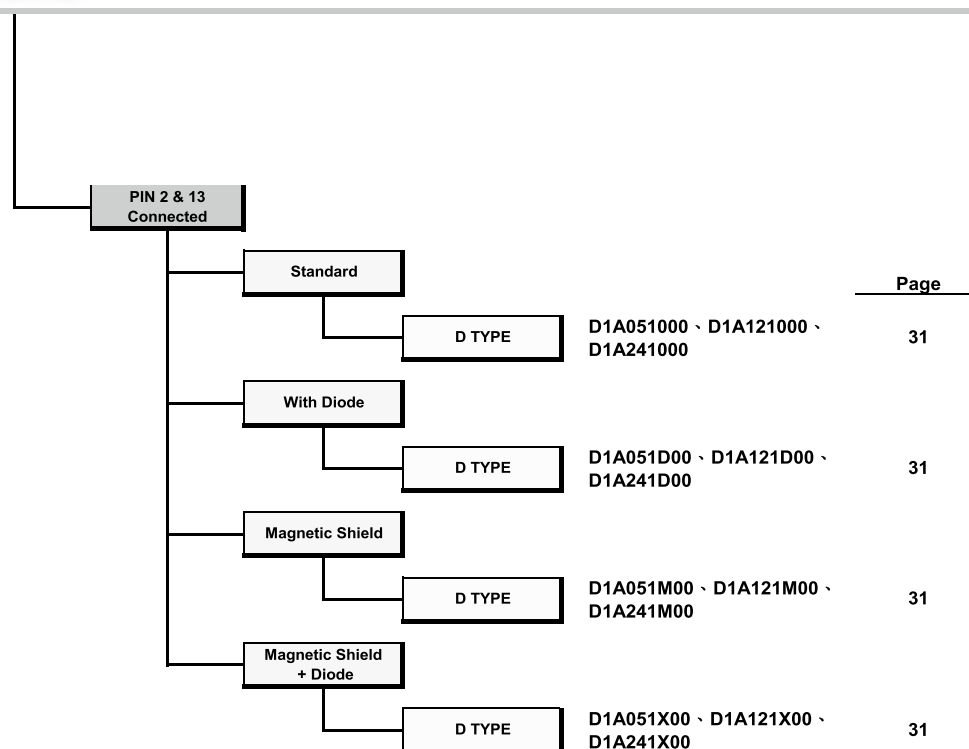


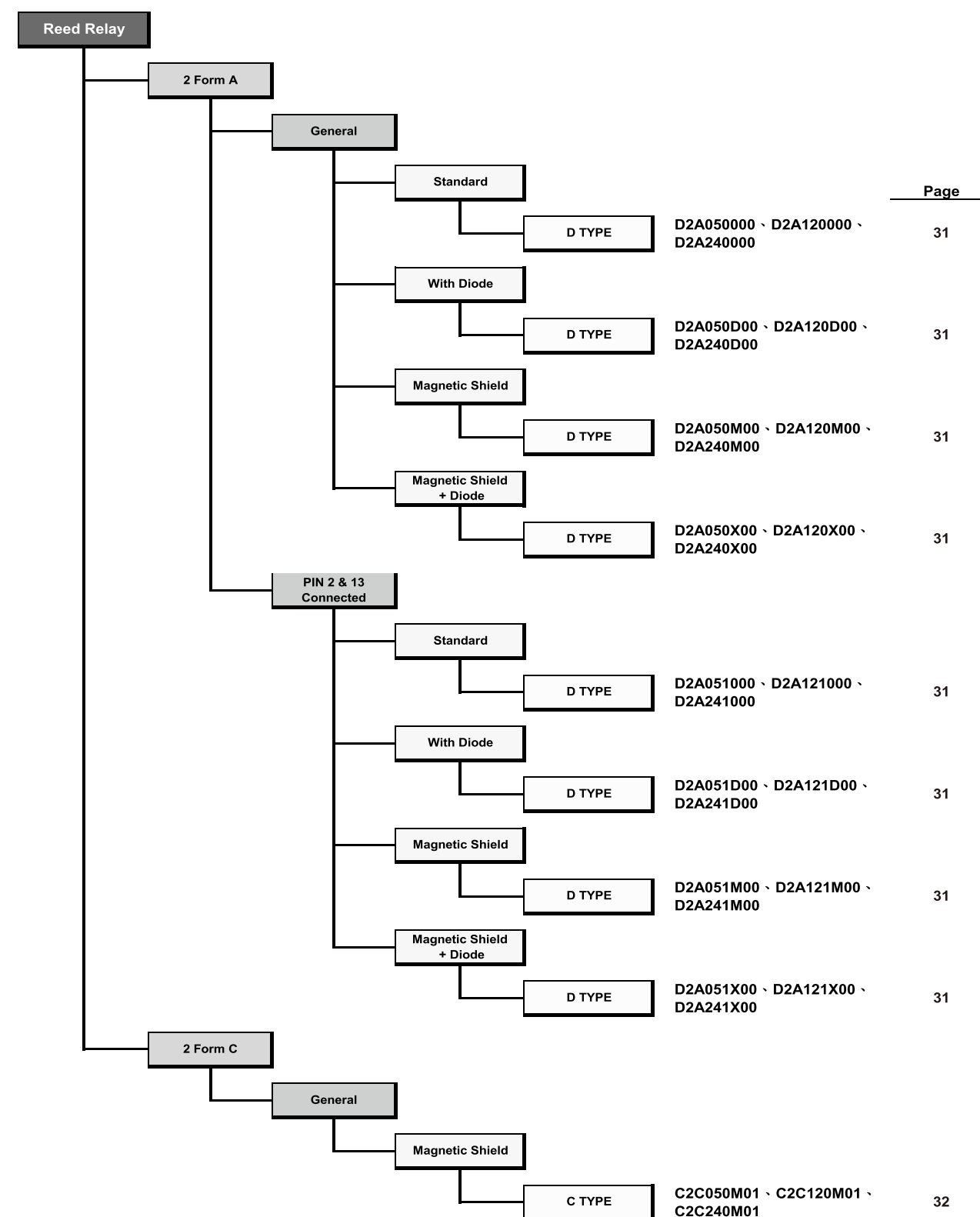
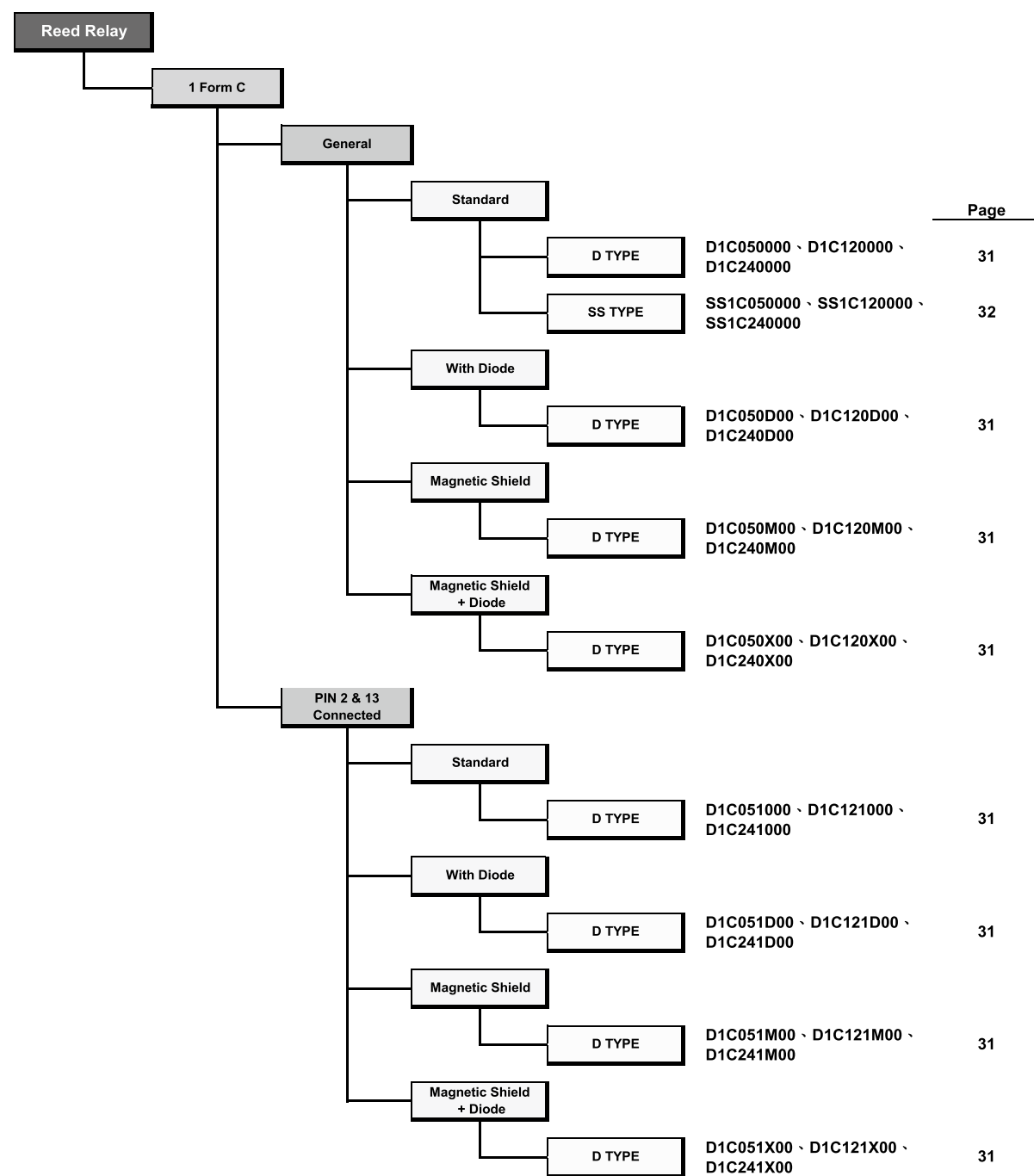


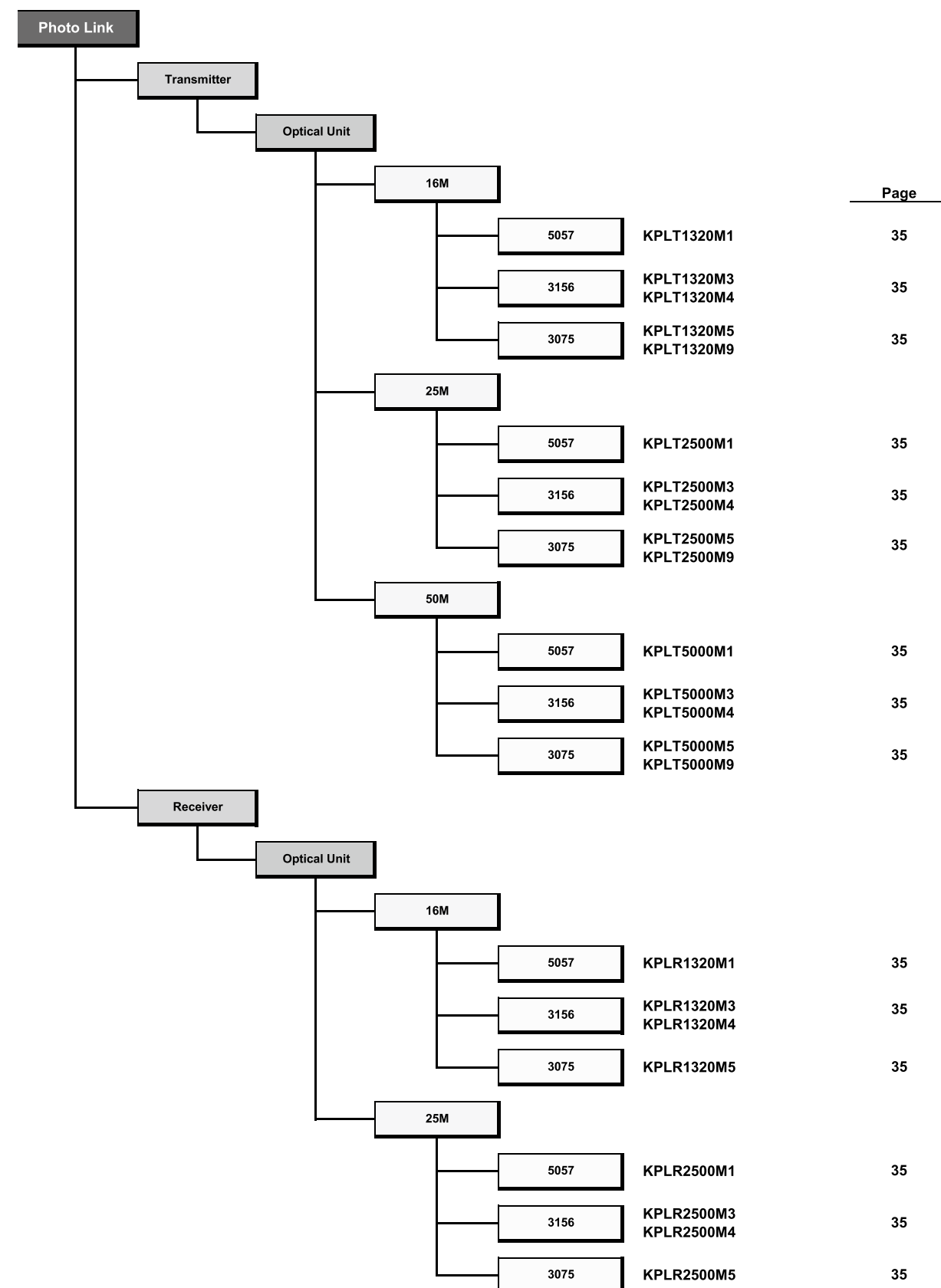
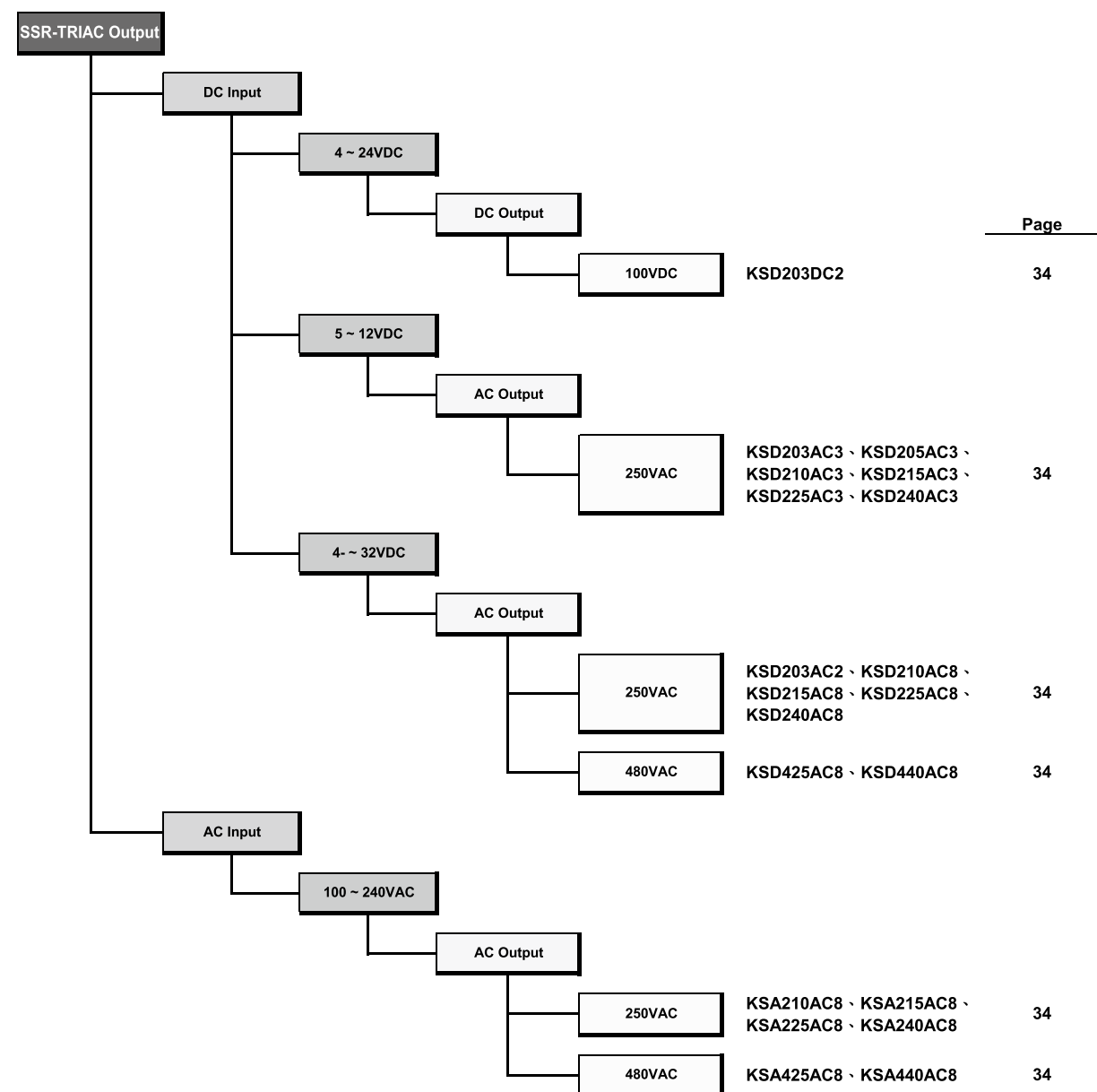


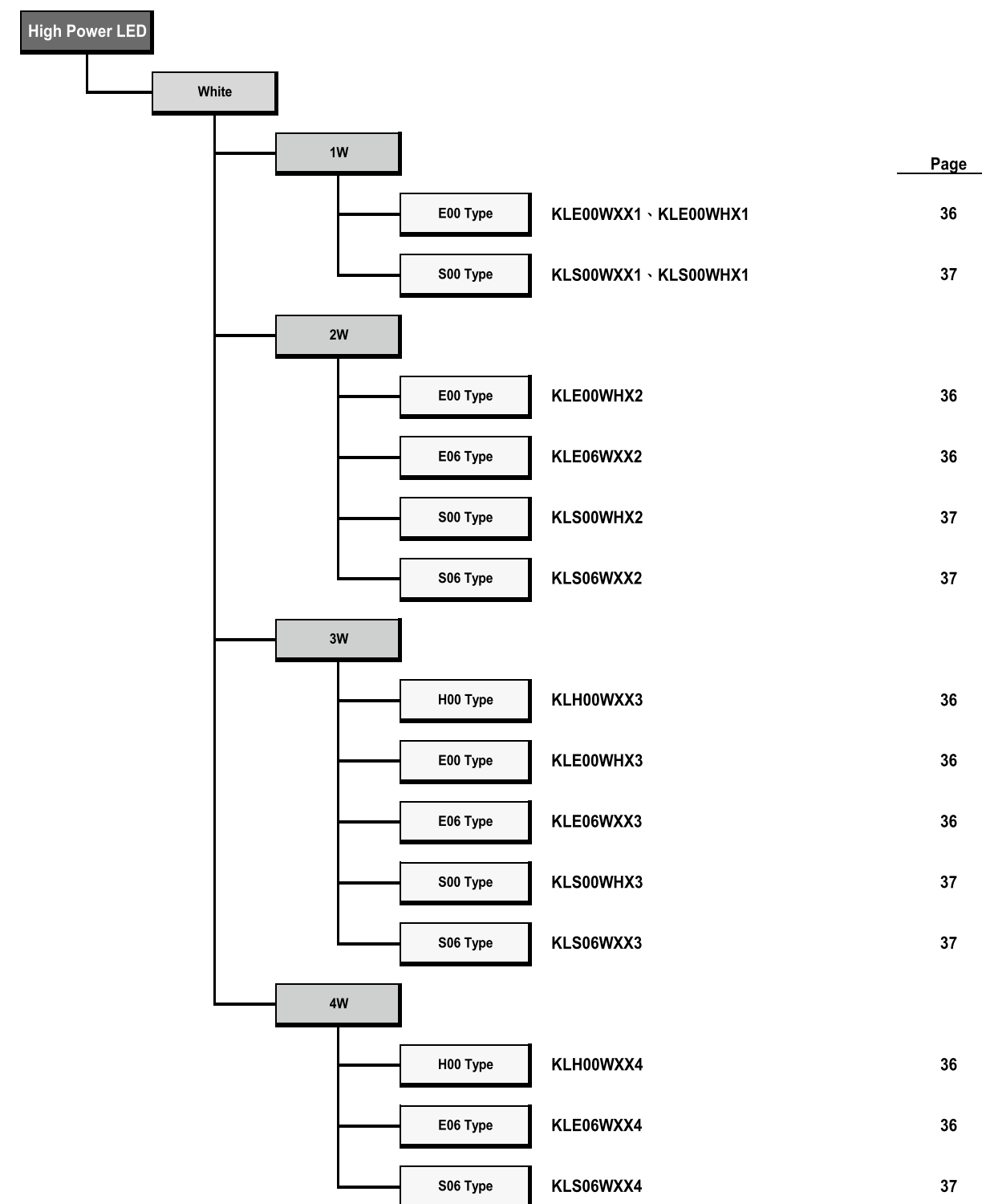
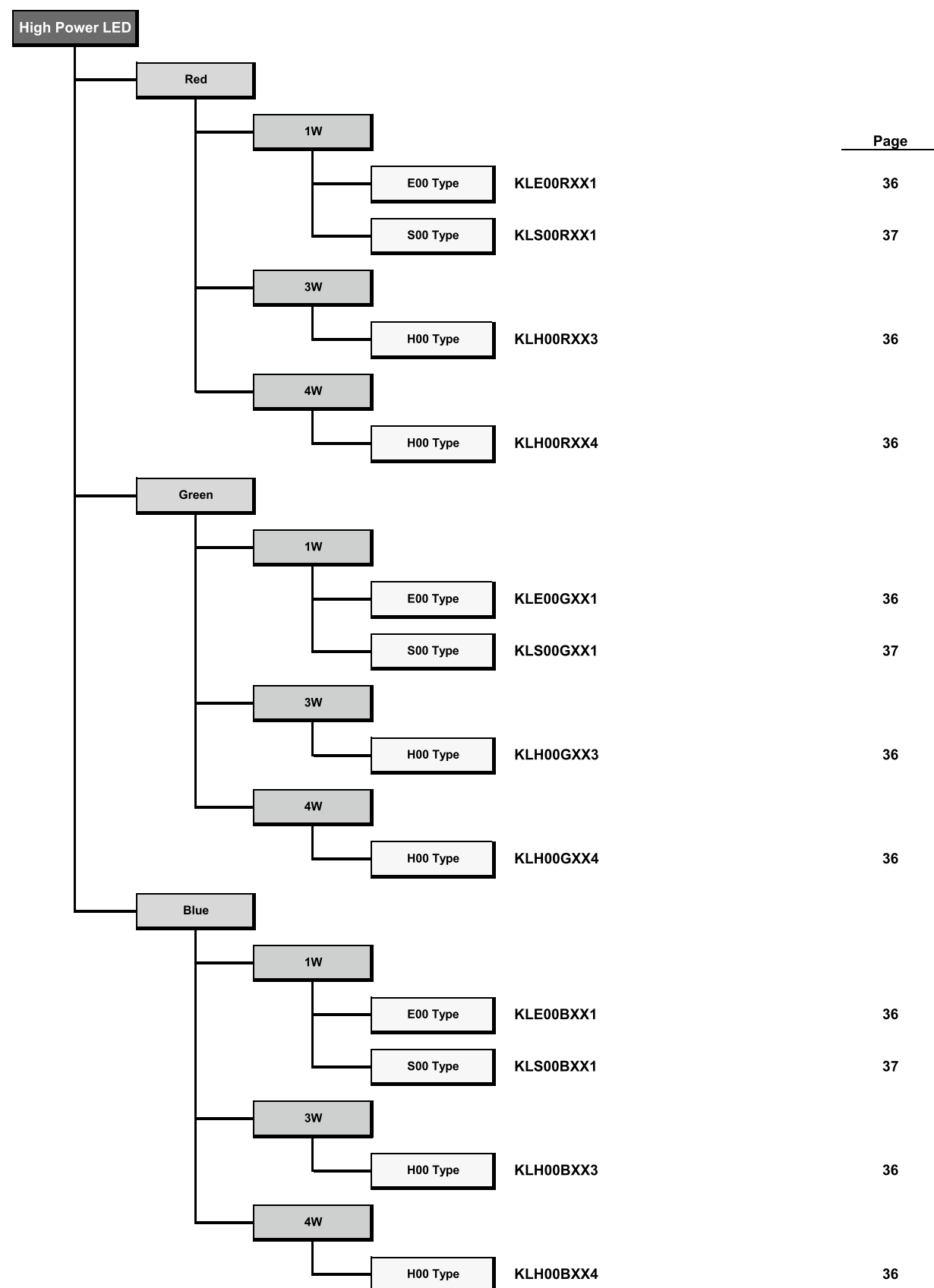


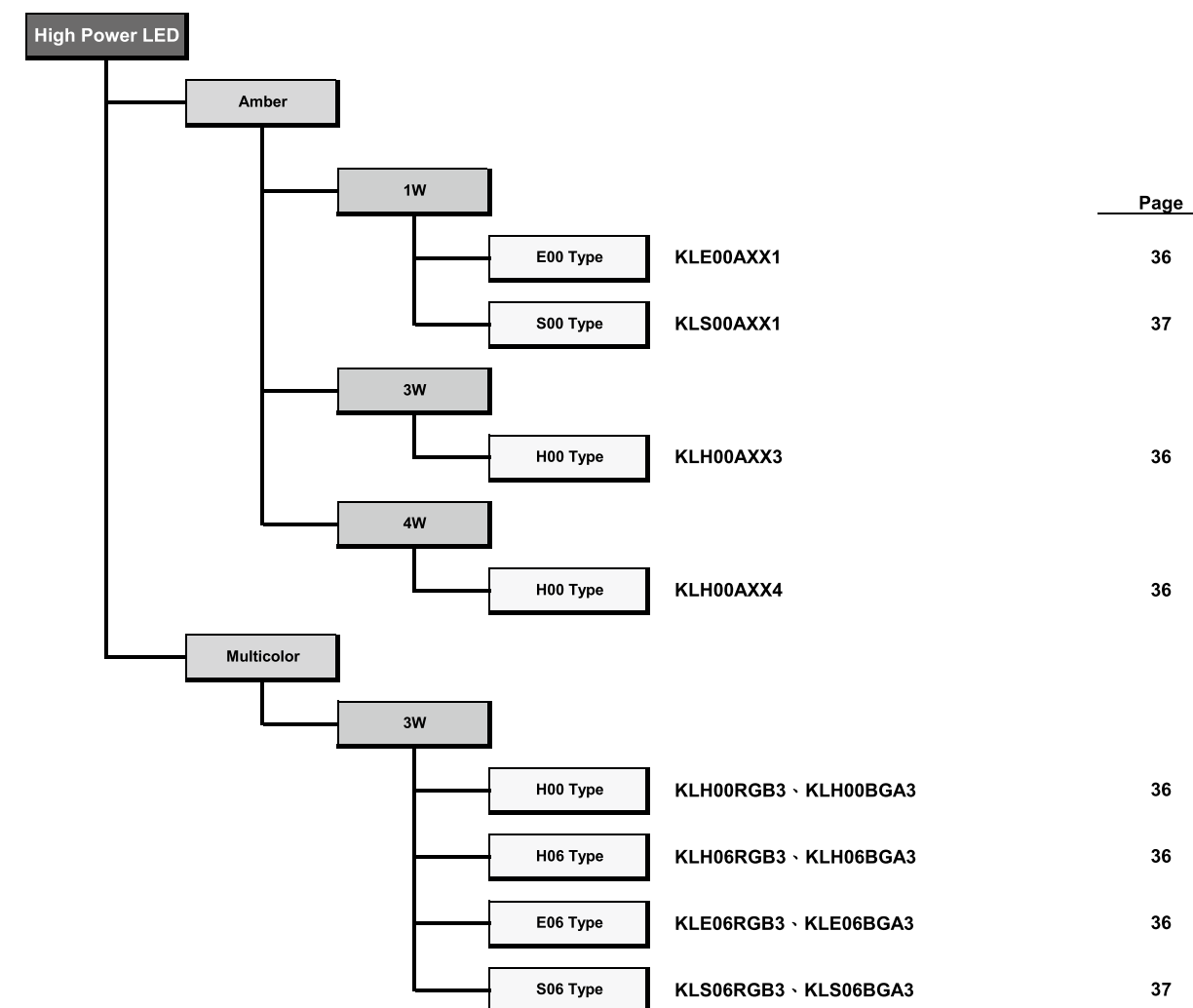
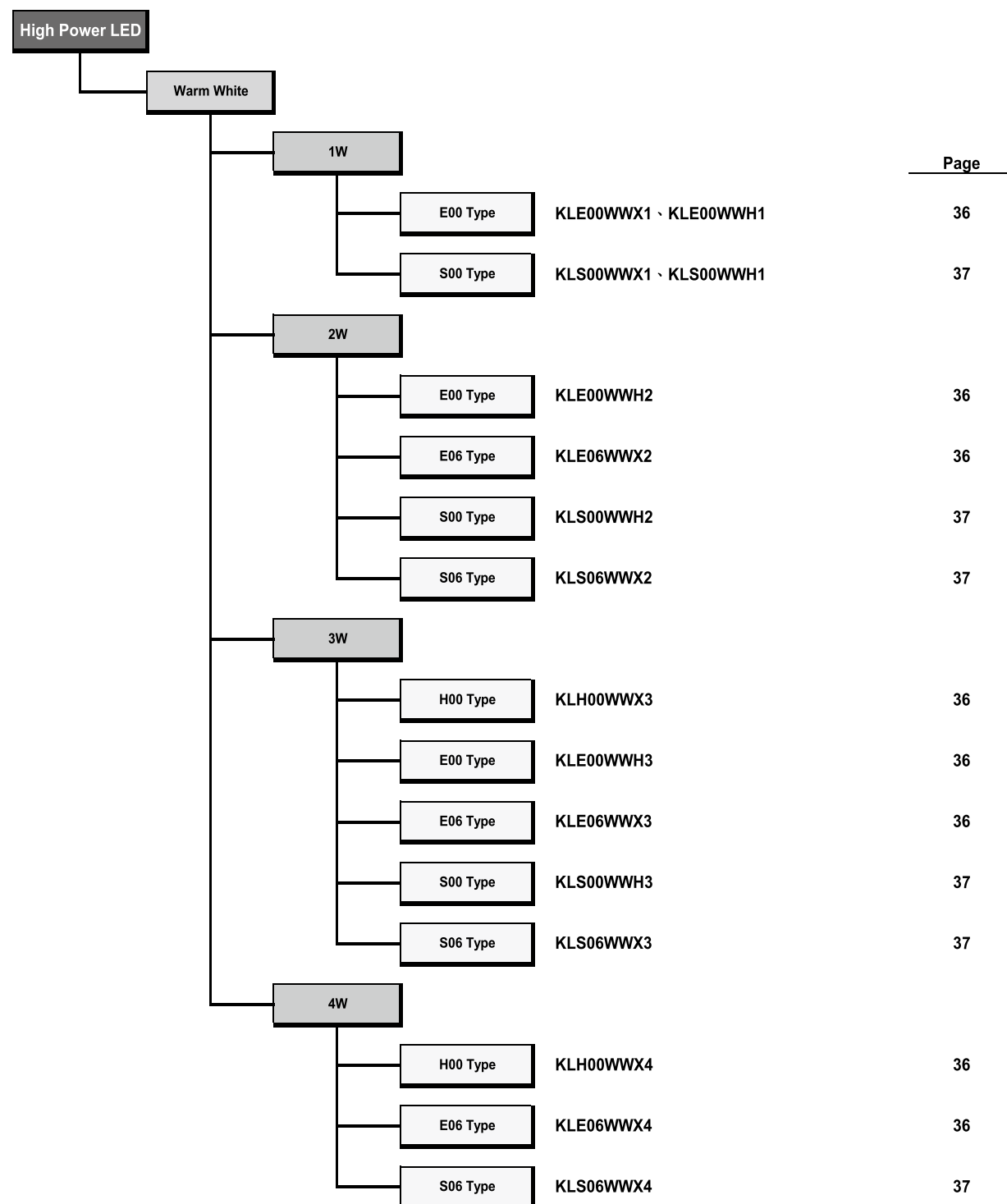


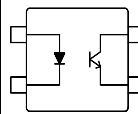
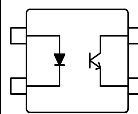
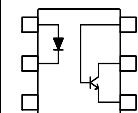
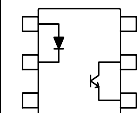
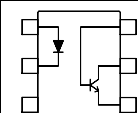
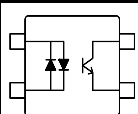
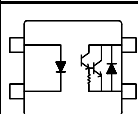
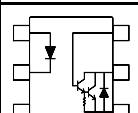
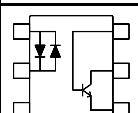
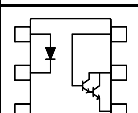
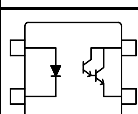


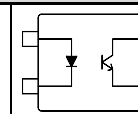
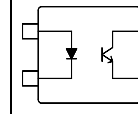
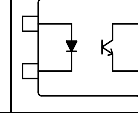
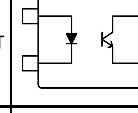
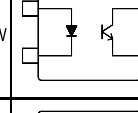
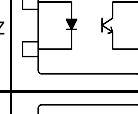
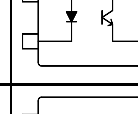
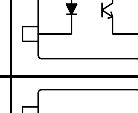
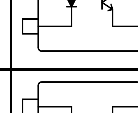
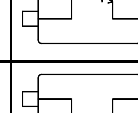
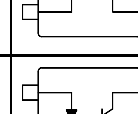
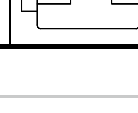




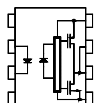
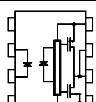
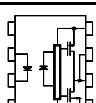


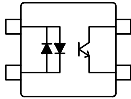
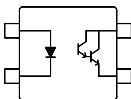
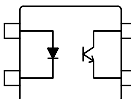
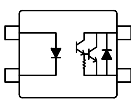


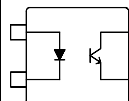
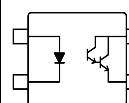
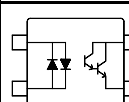
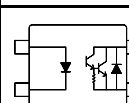
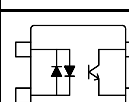
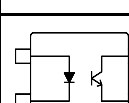
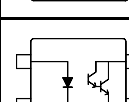
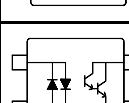
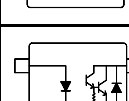
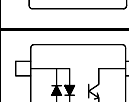
Transistor / Darlington Output												
Model Number	Schematic	Absolute Maximum Ratings				Electro-optical Characteristics					Remark	
		IF (mA)	VCE0 (V)	IC (mA)	Viso (Vrms)	VF (V) Max.	CTR%	VCE(sat) (V) Max.	tr (us) Typ.	tf (us) Typ.	Series Product	Description
K1010		50	80	50	5000	1.4	50 ~ 600	IF=5mA Vce=5V	0.2	4	3	KP1020 KP1040 2-Channel 4-Channel
KP1210		50	350	50	5000	1.3	50 ~ 600	IF=5mA Vce=5V	0.4	3	2	
K2010		50	80	50	5000	1.4	60 ~ 600	IF=2mA Vce=5V	0.3	5	4	
KP2110		50	80	50	5000	1.4	60 ~ 600	IF=2mA Vce=5V	0.3	5	4	
KP2210		50	350	50	5000	1.3	50 ~ 600	IF=5mA Vce=5V	0.4	3	2	
K3010		± 50	80	50	5000	1.4	60 ~ 600	IF=±1mA Vce=5V	0.3	5	4	KP3020 KP3040 2-Channel 4-Channel
KP4010		50	300	150	5000	1.4	600 ~ 9000	IF=1mA Vce=2V	1.5	60	50	KP4020 KP4040 2-Channel 4-Channel
KP5010		50	300	150	5000	1.4	600 ~ 9000	IF=1mA Vce=2V	1.5	60	50	
KP6010		± 50	80	50	5000	1.4	60 ~ 600	IF=±1mA Vce=5V	0.3	5	4	
KPC4N33		50	35	150	5000	1.4	Min.500	IF=1mA Vce=2V	1.5	80	72	
KPC815		50	35	80	5000	1.4	Min.600	IF=1mA Vce=2V	1.5	80	72	KPC825 KPC845 2-Channel 4-Channel

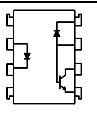
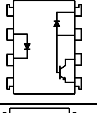
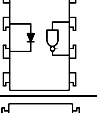
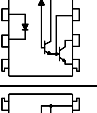
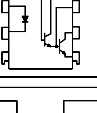
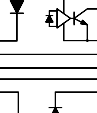
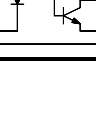
Low Input Current												
Model Number	Schematic	Absolute Maximum Ratings				Electro-optical Characteristics					Remark	
		IF (mA)	VCE0 (V)	IC (mA)	Viso (Vrms)	VF (V) Max.	CTR%	VCE(sat) (V) Max.	tr (us) Typ.	tf (us) Typ.	Series Product	Description
K1010XT		50	80	50	5000	1.4	50 ~ 600	IF=1mA Vce=5V	0.2	4	3	
K1010XW		50	80	50	5000	1.8	50 ~ 600	IF=0.5mA Vce=5V	0.2	4	3	
K1010XZ		50	80	50	5000	1.8	50 ~ 600	IF=0.1mA Vce=5V	0.2	4	3	
KPC357NT0T		50	80	50	3750	1.4	50 ~ 600	IF=1mA Vce=5V	0.2	4	3	
KPC357NT0W		50	80	50	3750	1.8	50 ~ 600	IF=0.5mA Vce=5V	0.2	4	3	
KPC357NT0Z		50	80	50	3750	1.8	50 ~ 600	IF=0.1mA Vce=5V	0.2	4	3	
KPS28010T		50	80	50	3750	1.4	50 ~ 600	IF=1mA Vce=5V	0.2	4	3	
KPS28010W		50	80	50	3750	1.8	50 ~ 600	IF=0.5mA Vce=5V	0.2	4	3	
KPS28010Z		50	80	50	3750	1.8	50 ~ 600	IF=0.1mA Vce=5V	0.2	4	3	
KT101T		50	80	50	5000	1.4	50 ~ 600	IF=1mA VCE=5V	0.2	4	3	
KT101W		50	80	50	5000	1.8	50 ~ 600	IF=0.5mA VCE=5V	0.3	11	11	
KT101Z		50	80	50	5000	1.8	50 ~ 600	IF=0.1mA VCE=5V	0.3	11	11	

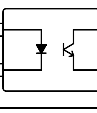
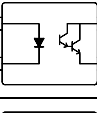
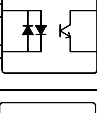
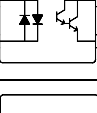












IC Output													
Model Number	Schematic	Absolute Maximum Ratings				Electro-optical Characteristics						Remark	
		IF (mA)	Vcc (V)	IO (A)	Viso (Vrms)	ICCL (mA) Typ.	ICCH (mA) Typ.	IFLH (mA) Max.	VFHL (V) Min.	TPHL (us) Typ.	TPLH (us) Typ.	Series Product	Description
KP1510		20	35	2.5	5000	2.5	2.5	5	0.7	0.3	0.3		
KTLP250		20	35	±1.5	5000	7.5	7	5	0.7	0.15	0.15		
KTLP350		20	35	±2.5	5000	2	2	5	0.7	0.26	0.26		

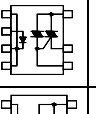
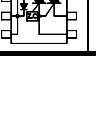
Mini Flat Type													
Model Number	Schematic	Absolute Maximum Ratings				Electro-optical Characteristics						Remark	
		IF (mA)	V <sub>CEO</sub> (V)	IC (mA)	V <sub>iso</sub> (Vrms)	V <sub>F</sub> (V) Max.	CTR%		V <sub>CE(sat)</sub> (V) Max.	t <sub>r</sub> (us) Typ.	t <sub>f</sub> (us) Typ.	Series Product	Description
KPC354NT		±50	80	50	3750	1.4	20 ~ 400	IF=±1mA V <sub>ce</sub> =5V	0.3	4	3		
KPC355NT		50	35	150	3750	1.4	Min.600	IF=1mA V <sub>ce</sub> =2V	1.0	60	53		
KPC357NT		50	80	50	3750	1.4	50 ~ 600	IF=5mA V <sub>ce</sub> =5V	0.3	5	4		
KPC452		50	300	150	3750	1.4	Min.1000	IF=1mA V <sub>ce</sub> =2V	1.5	100	20		

4LSOP Type													
Model Number	Schematic	Absolute Maximum Ratings				Electro-optical Characteristics						Remark	
		IF (mA)	VCE0 (V)	IC (mA)	Viso (Vrms)	VF (V) Max.	CTR%		VCE(sat) (V) Max.	tr (us) Typ.	tf (us) Typ.	Series Product	Description
KT1000		50	80	50	5000	1.4	50 ~ 600	IF=5mA VCE=5V	0.3	5	4		
KT1200		50	35	150	5000	1.4	Min.200	IF=1mA VCE=2V	1	200	200		
KT1300		±50	35	150	5000	1.4	Min.200	IF=±1mA VCE=2V	1	200	200		
KT1400		50	300	150	5000	1.4	Min.1000	IF=1mA VCE=2V	1.5	100	20		
KT1600		±50	80	50	5000	1.4	50 ~ 300	IF=±5mA VCE=5V	0.3	5	4		
KT1010		50	80	50	5000	1.4	50 ~ 600	IF=5mA VCE=5V	0.3	5	4		
KT1210		50	35	150	5000	1.4	Min.200	IF=1mA VCE=2V	1	200	200		
KT1310		±50	35	150	5000	1.4	Min.200	IF=±1mA VCE=2V	1	200	200		
KT1410		50	300	150	5000	1.4	Min.1000	IF=1mA VCE=2V	1.5	100	20		
KT1610		±50	80	50	5000	1.4	50 ~ 300	IF=±5mA VCE=5V	0.3	5	4		

High Speed Output												
Model Number	Schematic	Absolute Maximum Ratings				Electro-optical Characteristics					Remark	
		IF (mA)	Vcc (V)	IO (mA)	Viso (Vrms)	Data Rate	CTR%	CMR (V/uS) Typ.	TPHL (us) Typ.	TPLH (us) Typ.	Series Product	Description
KPC6N135		25	15	8	5000	1M	Min.7	IF=16mA Vo=0.4V Vcc=4.5V	1000	0.3	0.4	
KPC6N136		25	15	8	5000	1M	Min.19	IF=16mA Vo=0.4V Vcc=4.5V	1000	0.3	0.3	
KPC6N137		25	7	50	5000	10M	-	-	500	0.045	0.045	
KPC6N138		20	7	60	5000	-	Min.300	IF=1.6mA Vo=0.4V Vcc=4.5V	500	2	7	
KPC6N139		20	18	60	5000	-	Min.500	IF=1.6mA Vo=0.4V Vcc=4.5V	500	5	10	
KPC410		25	7	50	3750	10M	-	-	500	0.045	0.045	
KPC457		25	15	8	3750	1M	Min.19	IF=16mA Vo=0.4V Vcc=4.5V	30K	0.2	0.4	

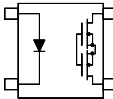
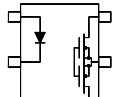
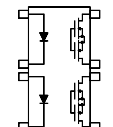
4SSOP Type												
Model Number	Schematic	Absolute Maximum Ratings				Electro-optical Characteristics					Remark	
		IF (mA)	VCEO (V)	IC (mA)	Viso (Vrms)	VF (V) Max.	CTR%	VCE(sat) (V) Max.	tr (us) Typ.	tf (us) Typ.	Series Product	Description
KPS2801		50	80	50	3750	1.4	50 ~ 600	IF=5mA Vce=5V	0.3	3	5	
KPS2802		50	40	90	3750	1.4	Min.200	IF=1mA Vce=2V	1.0	200	200	
KPS2805		±50	80	50	3750	1.4	50 ~ 600	IF=±5mA Vce=5V	0.3	3	5	
KPS2806		±50	40	90	3750	1.4	Min.200	IF=±1mA Vce=2V	1.0	200	200	
KPS2832		50	300	60	3750	1.4	Min.400	IF=1mA Vce=2V	1.0	100	20	

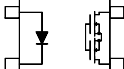
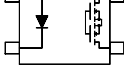
Triac Output												
Model Number	Schematic	Absolute Maximum Ratings			Electro-Optical Characteristics						Remark	
		I <sub>F</sub> (mA)	V <sub>DRM</sub> (V <sub>peak</sub> )	V <sub>ISO</sub> (V <sub>rms</sub> )	V <sub>F</sub> (V) Max.	I <sub>DRM</sub> (nA) Max.	I <sub>FT</sub> (mA) Max.	V <sub>TM</sub> (V) Max.	V <sub>INH</sub> (V) Max.	dv/dt (V/us) Min.	Description	
KMOC3011		50	600	5300	1.4	500	10	3	-	600		
KMOC3012		50	600	5300	1.4	500	10	3	20	600		
KMOC3021		50	400	5300	1.4	100	15	3	-	600		
KMOC3022							10					
KMOC3023							5					
KMOC3041		50	400	5300	1.4	500	15	3	20	600		
KMOC3042							10					
KMOC3043							5					
KMOC3051		50	600	5300	1.4	500	15	3	-	600		
KMOC3052							10					
KMOC3053							5					
KMOC3061		50	600	5300	1.4	500	15	3	20	600		
KMOC3062							10					
KMOC3063							5					
KMOC3081		50	800	5300	1.4	500	15	3	20	600		
KMOC3082							10					
KMOC3083							5					
KTLP160G		50	400	3750	1.4	1000	10	3	-	600		
KTLP160J		50	600	3750	1.4	1000	10	3	-	600		
KTLP165J		50	600	3750	1.4	1000	10	3	-	600		
KTLP260J		50	600	3750	1.4	1000	10	3	-	600		
KTLP161G		50	400	3750	1.4	1000	10	3	20	600		
KTLP161J		50	600	3750	1.4	1000	10	3	20	600		
KTLP166J		50	600	3750	1.4	1000	10	3	50	600		
KTLP168J		50	600	3750	1.4	1000	3	3	50	600		
KTLP161L		50	800	3750	1.4	1000	10	3	50	600		

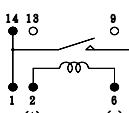
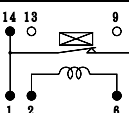
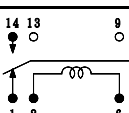
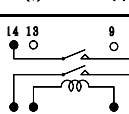
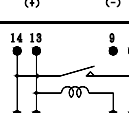
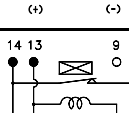
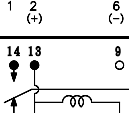
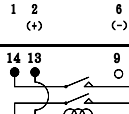
Power Triac Output												
Model Number	Schematic	Absolute Maximum Ratings			Electro-Optical Characteristics						Remark	
		IF (mA)	VDRM (Vpeak)	IT (Arms)	Viso (Vrms)	VF (V) Max.	IDRM (uA) Max.	IFT (mA) Max.	VTM (V) Max.	VINH (V) Max.	dv/dt (V/us) Typ.	Description
KTLP3502		50	400	0.5	5300	1.4	100	10	3	-	1000	
KTLP3506			600	0.5								
KTLP3616			600	1.2								
KTLP3503		50	400	0.5	5300	1.4	100	10	3	50	1000	
KTLP3507			600	0.5								
KTLP3617			600	1.2								

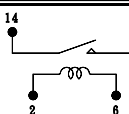
Normal Open Type												
Model Number	Schematic	Absolute Maximum Ratings			Electro-Optical Characteristics							Remark
		V <sub>B</sub> (V)	I <sub>L</sub> (mA)	V <sub>ISO</sub> (Vrms)	V <sub>F</sub> (V) Max.	I <sub>FOR</sub> (mA) Max.	I <sub>OFF</sub> (mA) Min.	I <sub>TOFF</sub> (μA) Max.	R <sub>ON</sub> (Ω) Typ.	T <sub>ON</sub> (mS) Max.	T <sub>OFF</sub> (mS) Max.	Description
KAQY212S		60	400	1500	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQY212			400	3750	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQY212H			400	5000	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQY217S		200	180	1500	1.5	3.0	0.2	1.0	6	1.0	1.0	
KAQY217			180	3750	1.5	3.0	0.2	1.0	6	1.0	1.0	
KAQY217H			180	5000	1.5	3.0	0.2	1.0	6	1.0	1.0	
KAQY213S		250	200	1500	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQY213			200	3750	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQY213H			200	5000	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQY210S		350	130	1500	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQY210			130	3750	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQY210H			130	5000	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQY214S		400	130	1500	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQY214			130	3750	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQY214H			130	5000	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQY216S		600	120	1500	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQY216			120	3750	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQY216H			120	5000	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQV212S		60	400	1500	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQV212			400	3750	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQV212H			400	5000	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQV217S		200	180	1500	1.5	3.0	0.2	1.0	6	1.0	1.5	
KAQV217			180	3750	1.5	3.0	0.2	1.0	6	1.0	1.5	
KAQV217H			180	5000	1.5	3.0	0.2	1.0	6	1.0	1.5	
KAQV213S		250	200	1500	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQV213			200	3750	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQV213H			200	5000	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQV210S		350	130	1500	1.5	3.0	0.2	1.0	20	1.0	1.5	
KAQV210			130	3750	1.5	3.0	0.2	1.0	20	1.0	1.5	
KAQV210H			130	5000	1.5	3.0	0.2	1.0	20	1.0	1.5	
KAQV214S		400	130	1500	1.5	3.0	0.2	1.0	20	1.0	1.5	
KAQV214			130	3750	1.5	3.0	0.2	1.0	20	1.0	1.5	
KAQV214H			130	5000	1.5	3.0	0.2	1.0	20	1.0	1.5	
KAQV216S		600	120	1500	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQV216			120	3750	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQV216H			120	5000	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQW212S		60	400	1500	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQW212			400	3750	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQW212H			400	5000	1.5	3.0	0.2	1.0	0.83	1.5	1.5	
KAQW217S		200	180	1500	1.5	3.0	0.2	1.0	6	1.0	1.0	
KAQW217			180	3750	1.5	3.0	0.2	1.0	6	1.0	1.0	
KAQW217H			180	5000	1.5	3.0	0.2	1.0	6	1.0	1.0	
KAQW213S		250	200	1500	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQW213			200	3750	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQW213H			200	5000	1.5	3.0	0.2	1.0	8	1.0	1.5	
KAQW210S		350	130	1500	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQW210			130	3750	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQW210H			130	5000	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQW214S		400	130	1500	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQW214			130	3750	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQW214H			130	5000	1.5	3.0	0.2	1.0	20	1.0	1.0	
KAQW216S		600	120	1500	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQW216			120	3750	1.5	3.0	0.2	1.0	35	1.0	1.5	
KAQW216H			120	5000	1.5	3.0	0.2	1.0	35	1.0	1.5	

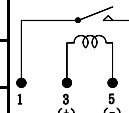
Normal Open / Low Input Current & ON Resistance Type												
Model Number	Schematic	Absolute Maximum Ratings			Electro-Optical Characteristics							Remark
		V <sub>B</sub> (V)	I <sub>L</sub> (mA)	V <sub>ISO</sub> (Vrms)	V <sub>F</sub> (V) Max.	I <sub>FOR</sub> (mA) Max.	I <sub>OFF</sub> (μA) Min.	I <sub>TOFF</sub> (μA) Max.	R <sub>ON</sub> (Ω) Typ.	T <sub>ON</sub> (mS) Max.	T <sub>OFF</sub> (mS) Max.	Description
KAQY212SE		60	200	1500	1.5	2.0	0.2	1.0	7	1.5	1.0	
KCP1017		60	130	1500	1.5	1.0	0.2	1.0	7	1.0	1.0	
KCP1008		100	150	1500	1.5	3.0	0.2	1.0	6	2.0	1.0	
KAQV253		250	200	3750	1.5	3.0	0.2	1.0	5	1.0	1.5	
KAQV253H		250	200	5000	1.5	3.0	0.2	1.0	5	1.0	1.5	
KAQV254		400	150	3750	1.5	3.0	0.2	1.0	12	1.0	1.5	
KAQV254H		400	150	5000	1.5	3.0	0.2	1.0	12	1.0	1.5	

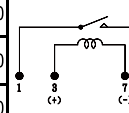
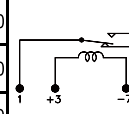
Normal Close Type												
Model Number	Schematic	Absolute Maximum Ratings			Electro-Optical Characteristics							Remark
		V <sub>B</sub> (V)	I <sub>L</sub> (mA)	V <sub>ISO</sub> (Vrms)	V <sub>F</sub> (V) Max.	I <sub>FOFF</sub> (mA) Max.	I <sub>FOR</sub> (mA) Min.	I <sub>TOFF</sub> (μA) Max.	R <sub>ON</sub> (Ω) Typ.	T <sub>ON</sub> (mS) Max.	T <sub>OFF</sub> (mS) Max.	Description
KAQY412S		60	200	1500	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQY412			200	3750	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQY412H			200	5000	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQY414S		400	130	1500	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQY414			130	3750	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQY414H			130	5000	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQV412S		60	200	1500	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQV412			200	3750	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQV412H			200	5000	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQV414S		400	130	1500	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQV414			130	3750	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQV414H			130	5000	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQW412S		60	200	1500	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQW412			200	3750	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQW412H			200	5000	1.5	3.0	0.2	2.0	2.5	1.5	1.5	
KAQW414S		400	130	1500	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQW414			130	3750	1.5	3.0	0.2	2.0	25	1.5	1.0	
KAQW414H			130	5000	1.5	3.0	0.2	2.0	25	1.5	1.0	

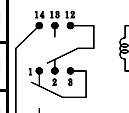
Normal Close + Normal Open Type												
Model Number	Schematic	Absolute Maximum Ratings			Electro-Optical Characteristics							Remark
		V <sub>B</sub> (V)	I <sub>L</sub> (mA)	V <sub>ISO</sub> (Vrms)	V <sub>F</sub> (V) Max.	I <sub>FORN</sub> (mA) Max./Min.	I <sub>FOFF</sub> (mA) Min./Max.	I <sub>TOFF</sub> (μA) Max.	R <sub>ON</sub> (Ω) Typ.	T <sub>ON</sub> (mS) Max.	T <sub>OFF</sub> (mS) Max.	Description
KAQW612S		60	200	1500	1.5	N.O=3.0 N.C=0.2	N.O=0.2 N.C=3.0	N.O=1.0 N.C=2.0	N.O=0.83 N.C=2.50	N.O=1.5 N.C=1.5	N.O=1.5 N.C=1.5	
KAQW612			200	3750	1.5	N.O=3.0 N.C=0.2	N.O=0.2 N.C=3.0	N.O=1.0 N.C=2.0	N.O=0.83 N.C=2.50	N.O=1.5 N.C=1.5	N.O=1.5 N.C=1.5	
KAQW612H			200	5000	1.5	N.O=3.0 N.C=0.2	N.O=0.2 N.C=3.0	N.O=1.0 N.C=2.0	N.O=0.83 N.C=2.50	N.O=1.5 N.C=1.5	N.O=1.5 N.C=1.5	
KAQW614S		400	130	1500	1.5	N.O=3.0 N.C=0.2	N.O=0.2 N.C=3.0	N.O=1.0 N.C=2.0	N.O=20 N.C=25	N.O=1.0 N.C=1.5	N.O=1.5 N.C=1.0	
KAQW614			130	3750	1.5	N.O=3.0 N.C=0.2	N.O=0.2 N.C=3.0	N.O=1.0 N.C=2.0	N.O=20 N.C=25	N.O=1.0 N.C=1.5	N.O=1.5 N.C=1.0	
KAQW614H			130	5000	1.5	N.O=3.0 N.C=0.2	N.O=0.2 N.C=3.0	N.O=1.0 N.C=2.0	N.O=20 N.C=25	N.O=1.0 N.C=1.5	N.O=1.5 N.C=1.0	

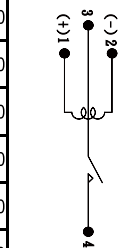
D Type												
Model Number	Schematic	Contact Form	Coil Ratings				Electrical Characteristics					
			Coil Resistance +/- 10% Ω	Nominal Coil Voltage (VDC)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (mΩ max)	Insulation Resistance (Ω min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VDC min)
D1A050000		1 form A	500	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	500
D1A120000		1 form A	1000	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	500
D1A240000		1 form A	2150	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	500
D1B050000		1 form B	500	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	500
D1B120000		1 form B	1000	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	500
D1B240000		1 form B	2150	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	500
D1C050000		1 form C	200	5	3.75	1.0	150	10 <sup>9</sup>	3	100	0.25	500
D1C120000		1 form C	500	12	9	1.2	150	10 <sup>9</sup>	3	100	0.25	500
D1C240000		1 form C	2150	24	18	2.4	150	10 <sup>9</sup>	3	100	0.25	500
D2A050000		2 form A	140	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	500
D2A120000		2 form A	500	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	500
D2A240000		2 form A	2150	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	500
D1A051000		1 form A	500	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	500
D1A121000		1 form A	1000	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	500
D1A241000		1 form A	2150	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	500
D1B051000		1 form B	500	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	500
D1B121000		1 form B	1000	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	500
D1B241000		1 form B	2150	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	500
D1C051000		1 form C	200	5	3.75	1.0	150	10 <sup>9</sup>	3	100	0.25	500
D1C121000		1 form C	500	12	9	1.2	150	10 <sup>9</sup>	3	100	0.25	500
D1C241000		1 form C	2150	24	18	2.4	150	10 <sup>9</sup>	3	100	0.25	500
D2A051000		2 form A	140	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	500
D2A121000		2 form A	500	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	500
D2A241000		2 form A	2150	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	500


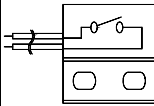
DH Type												
Model Number	Schematic	Contact Form	Coil Ratings				Electrical Characteristics					
			Coil Resistance +/- 10% Ω	Nominal Coil Voltage (VDC)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (mΩ max)	Insulation Resistance (Ω min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VAC min)
DH1A050000		1 form A	500	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	4000
DH1A120000		1 form A	1000	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	4000
DH1A240000		1 form A	2150	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	4000

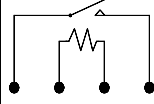
S Type												
Model Number	Schematic	Contact Form	Coil Ratings				Electrical Characteristics					
			Coil Resistance +/- 10% Ω	Nominal Coil Voltage (VDC)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (mΩ max)	Insulation Resistance (Ω min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VDC min)
S1A050000		1 form A	500	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	1000
S1A120000		1 form A	1000	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	1000
S1A240000		1 form A	2000	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	1000

SS Type												
Model Number	Schematic	Contact Form	Coil Ratings				Electrical Characteristics					
			Coil Resistance +/- 10% Ω	Nominal Coil Voltage (VDC)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (mΩ max)	Insulation Resistance (Ω min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VDC min)
SS1A050000		1 form A	500	5	3.75	1.0	100	10 <sup>11</sup>	10	200	0.5	2500
SS1A120000		1 form A	1000	12	9	1.2	100	10 <sup>11</sup>	10	200	0.5	2500
SS1A240000		1 form A	2000	24	18	2.4	100	10 <sup>11</sup>	10	200	0.5	2500
SS1C050000		1 form C	200	5	3.75	1.0	150	10 <sup>9</sup>	3	100	0.25	1000
SS1C120000		1 form C	500	12	9	1.2	150	10 <sup>9</sup>	3	100	0.25	1000
SS1C240000		1 form C	2000	24	18	2.4	150	10 <sup>9</sup>	3	100	0.25	1000

C Type												
Model Number	Schematic	Contact Form	Coil Ratings				Electrical Characteristics					
			Coil Resistance +/- 10% Ω	Nominal Coil Voltage (VDC)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (mΩ max)	Insulation Resistance (Ω min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VDC min)
C2C050M01		2 form C	200	5	3.75	0.8	150	10 <sup>9</sup>	3	100	0.25	4000
C2C120M01		2 form C	500	12	9	1.8	150	10 <sup>9</sup>	3	100	0.25	4000
C2C240M01		2 form C	2000	24	18	3.6	150	10 <sup>9</sup>	3	100	0.25	4000

CG Type												
Model Number	Schematic	Contact Form	Coil Ratings				Electrical Characteristics					
			Coil Resistance +/- 10% Ω	Nominal Coil Voltage (VDC)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (mΩ max)	Insulation Resistance (Ω min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VDC min)
CG1A030000		1 form A	63	3	2.1	0.3	150	10 <sup>9</sup>	10	100	0.5	3000
CG1A050000		1 form A	500	5	3.5	0.5	150	10 <sup>9</sup>	10	100	0.5	3000
CG1A060000		1 form A	250	6	4.2	0.6	150	10 <sup>9</sup>	10	100	0.5	3000
CG1A090000		1 form A	700	9	6.3	0.9	150	10 <sup>9</sup>	10	100	0.5	3000
CG1A120000		1 form A	1050	12	8.4	1.2	150	10 <sup>9</sup>	10	100	0.5	3000
CG1A240000		1 form A	2080	24	16.8	2.4	150	10 <sup>9</sup>	10	100	0.5	3000

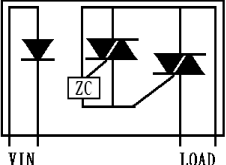
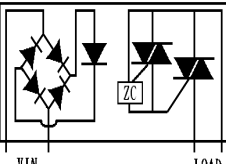
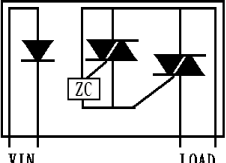
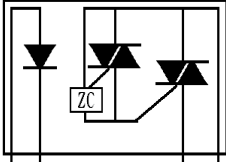
Proximity Sensor Type												
Model Number	Schematic	Contact Form	Coil Resistance +/- 10% $\Omega$	Total Pull-In Sensitivity (AT)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (m $\Omega$ max)	Insulation Resistance ( $\Omega$ min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VDC min)
P3-1A15		1 form A	—	10-40	—	—	150	$10^9$	1	24	0.1	150
P3-1A16		1 form A	—	10-40	—	—	150	$10^9$	1	24	0.1	150
P3-1A17		1 form A	—	10-40	—	—	150	$10^9$	1	24	0.1	150
P1-1A15 P010		1 form A	—	—	—	—	200	—	10	200	0.5	250

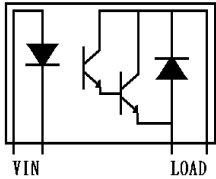
Reed Sensor - MK Type												
Model Number	Schematic	Contact Form	Coil Resistance +/- 10% $\Omega$	Total Pull-In Sensitivity (AT)	Must Operate (VDC)	Must Release (VDC)	Contact Resistance (m $\Omega$ max)	Insulation Resistance ( $\Omega$ min)	Power Consumption (VA max)	Switching Voltage (VDC max)	Switching Current (A max)	Breakdown Voltage (VDC min)
MK-0150		1 form A	150	10-40	—	—	100	$10^{10}$	5	100	0.5	150

\* Standard + Diode = D (D1A050D00)

\* Standard + Electrostatic Shield = M (D1A050M00)

\* Electrostatic Shield + Diode = X (D1A050X00)

Triac Output											
Model Number	Schematic	Absolute Maximum Ratings						Electrical Characteristics			
		Input Voltage	Input Type	Output Voltage	Output Type	RMS on-state current (A)	Isolation voltage input to output (V)	On-state voltage (V max)	Leakage current (mA max)	Load Voltage Rating (VAC)	Zero Cross
KSD210AC8		4 ~ 32	VDC	250	VAC	10	4000	1.5	7	50~280	Y
KSD215AC8		4 ~ 32	VDC	250	VAC	15	4000	1.5	7	50~280	Y
KSD225AC8		4 ~ 32	VDC	250	VAC	25	4000	1.5	7	50~280	Y
KSD240AC8		4 ~ 32	VDC	250	VAC	40	4000	1.5	7	50~280	Y
KSD425AC8		4 ~ 32	VDC	480	VAC	25	4000	1.5	14	75~480	Y
KSD440AC8		4 ~ 32	VDC	480	VAC	40	4000	1.5	14	75~480	Y
KSA210AC8		100 ~ 240	VAC	250	VAC	10	4000	1.5	7	50~280	Y
KSA215AC8		100 ~ 240	VAC	250	VAC	15	4000	1.5	7	50~280	Y
KSA225AC8		100 ~ 240	VAC	250	VAC	25	4000	1.5	7	50~280	Y
KSA240AC8		100 ~ 240	VAC	250	VAC	40	4000	1.5	7	50~280	Y
KSA425AC8		100 ~ 240	VAC	480	VAC	25	4000	1.5	14	75~480	Y
KSA440AC8		100 ~ 240	VAC	480	VAC	40	4000	1.5	14	75~480	Y
KSD203AC3		5 ~ 12	VDC	250	VAC	3	4000	1.5	7	50~280	Y
KSD205AC3		5 ~ 12	VDC	250	VAC	5	4000	1.5	7	50~280	Y
KSD210AC3		5 ~ 12	VDC	250	VAC	10	4000	1.5	7	50~280	Y
KSD215AC3		5 ~ 12	VDC	250	VAC	15	4000	1.5	7	50~280	Y
KSD225AC3		5 ~ 12	VDC	250	VAC	25	4000	1.5	7	50~280	Y
KSD240AC3		5 ~ 12	VDC	250	VAC	40	4000	1.5	7	50~280	Y
KSD203AC2		4 ~ 32	VDC	250	VAC	3	4000	1.5	7	50~280	Y

Transistor Output											
Model Number	Schematic	Absolute Maximum Ratings						Electrical Characteristics			
		Input Voltage	Input Type	Collector voltage	Output Type	RMS on-state current (A)	Isolation voltage (V)	Collector -emitter saturation voltage (V max)	Leakage current (uA max)	Collector current (mA min)	Zero Cross
KSD203DC2		4 ~ 24	VDC	100	VDC	3	4000	2	15	50	—



Transmitter											
Model Number	$\lambda_p$ (nm)	T (Mbps)	$V_{CC}$ (V)		$I_{CC}$ (mA)	$P_f$ (dBm)		$t_{PLH}$ (ns)	$t_{PHL}$ (ns)	$t_w$ (ns)	
			Min.	Max.		Min.	Max.			Min.	Max.
KPLT1320M1	650	16	2.7	5.5	8	-21	-15	100	100	-20	20
KPLT1320M3	650	16	2.7	5.5	8	-21	-15	100	100	-20	20
KPLT1320M4	650	16	2.7	5.5	8	-21	-15	100	100	-20	20
KPLT1320M5	650	16	2.7	5.5	8	-21	-15	100	100	-20	20
KPLT1320M9	650	16	2.7	5.5	8	-21	-15	100	100	-20	20
KPLT2500M1	650	25	2.7	5.5	8	-21	-15	100	100	-12	12
KPLT2500M3	650	25	2.7	5.5	8	-21	-15	100	100	-12	12
KPLT2500M4	650	25	2.7	5.5	8	-21	-15	100	100	-12	12
KPLT2500M5	650	25	2.7	5.5	8	-21	-15	100	100	-12	12
KPLT2500M9	650	25	2.7	5.5	8	-21	-15	100	100	-12	12
KPLT5000M1	650	50	2.7	5.5	8	-21	-15	50	50	-6	6
KPLT5000M3	650	50	2.7	5.5	8	-21	-15	50	50	-6	6
KPLT5000M4	650	50	2.7	5.5	8	-21	-15	50	50	-6	6
KPLT5000M5	650	50	2.7	5.5	8	-21	-15	50	50	-6	6
KPLT5000M9	650	50	2.7	5.5	8	-21	-15	50	50	-6	6

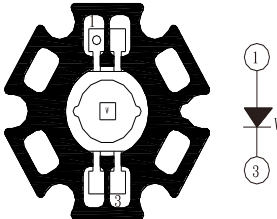
Receiver											
Model Number	$\lambda_p$ (nm)	T (Mbps)	$V_{CC}$ (V)		$I_{CC}$ (mA)	$P_i$ (dBm)		$t_{PLH}$ (ns)	$t_{PHL}$ (ns)	$t_r / t_f$ (ns)	$t_w$ (ns)
			Min.	Max.		Min.	Max.				
KPLR1320M1	650	16	2.7	5.25	13	-27	-14.5	180	180	20	±20
KPLR1320M3	650	16	2.7	5.25	13	-27	-14.5	180	180	20	±20
KPLR1320M4	650	16	2.7	5.25	13	-27	-14.5	180	180	20	±20
KPLR1320M5	650	16	2.7	5.25	13	-27	-14.5	180	180	20	±20
KPLR2500M1	650	25	2.7	5.25	13	-27	-14.5	100	100	20	±20
KPLR2500M3	650	25	2.7	5.25	13	-27	-14.5	100	100	20	±20
KPLR2500M4	650	25	2.7	5.25	13	-27	-14.5	100	100	20	±20
KPLR2500M5	650	25	2.7	5.25	13	-27	-14.5	100	100	20	±20

H00 Type						
Model Number	Schematic	Emitter color	$\lambda_D$ (nm) Typ.	$V_F$ @ $I_F=350mA$ (V) Typ. ~ Max.	Luminous Flux (lm) Min. ~ Typ.	View angle (2 $\theta$ 1/2)
KLH00RXX3		Red	625	7.2~9.6	60~70	120°
KLH00GXX3		Green	525	10.8~12	100~125	
KLH00BXX3		Blue	460	10.8~12	15~20	
KLH00AXX3		Amber	590	7.2~7.8	60~70	
KLH00WXX3		White	4500 ~ 9000K	10.8~12	170~220	
KLH00WWX3		Warm White	2500 ~ 3500K	10.8~12	90~160	
KLH00RGB3		Red/Green/Blue	625 / 525 / 460	8.4~10.5	65~85	
KLH00BGA3		Blue/Green/Amber	460 / 525 / 590	8.6~10.6	65~85	
KLH00RXX4		Red	625	9.6~12.8	70~80	
KLH00GXX4		Green	525	14.4~16	130~160	
KLH00BXX4		Blue	460	14.4~16	20~25	
KLH00AXX4		Amber	590	9.6~10.4	70~80	
KLH00WXX4		White	4500 ~ 9000K	14.4~16	240~280	
KLH00WWX4		Warm White	2500 ~ 3500K	14.4~16	120~210	

H06 Type						
Model Number	Schematic	Emitter color	$\lambda_D$ (nm) Typ.	$V_F$ @ $I_F=350mA$ (V) Typ. ~ Max.	Luminous Flux (lm) Min. ~ Typ.	View angle (2 $\theta$ 1/2)
KLH06RGB3		Red/Green/Blue	625 / 525 / 460	8.4~10.5	65~85	120°
KLH06BGA3		Blue/Green/Amber	460 / 525 / 590	8.4~10.5	65~85	

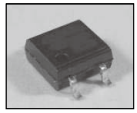
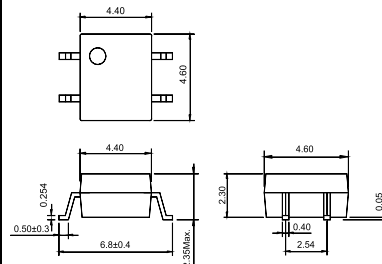
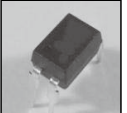
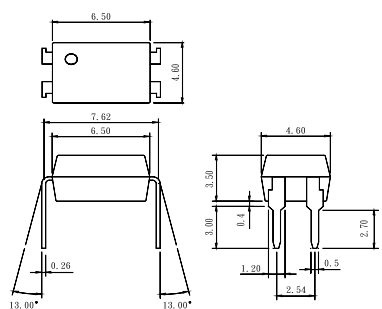

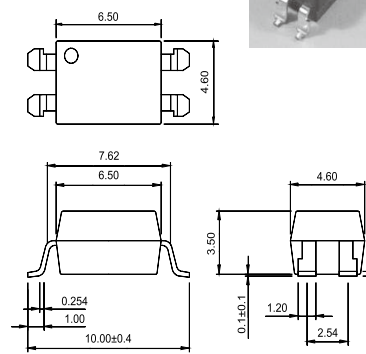

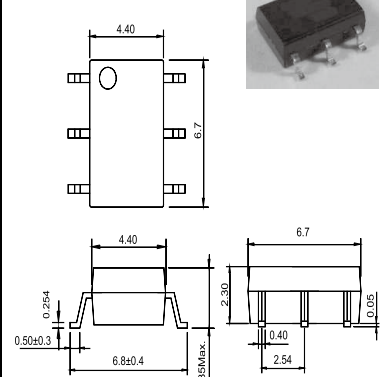
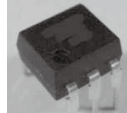
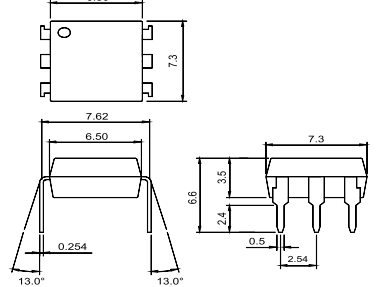
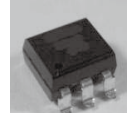
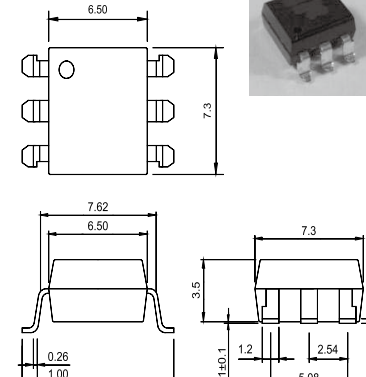
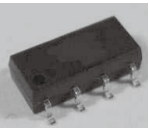
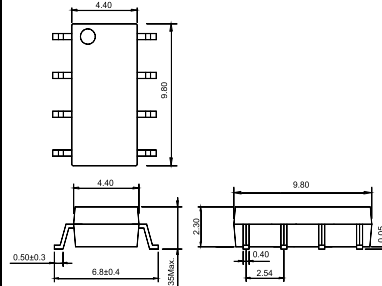

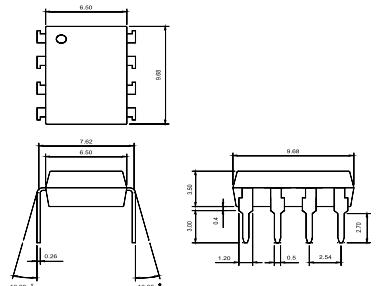
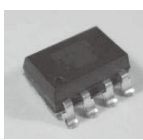
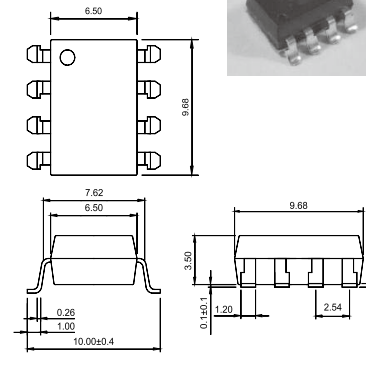
E00 Type						
Model Number	Schematic	Emitter color	$\lambda_D$ (nm) Typ.	$V_F$ @ $I_F=350mA$ (V) Typ. ~ Max.	Luminous Flux (lm) Min. ~ Typ.	View angle (2 $\theta$ 1/2)
KLE00RXX1		Red	625	2.4~3.2	25~30	120°
KLE00GXX1		Green	525	3.6~4	35~45	
KLE00BXX1		Blue	460	3.6~4	5~10	
KLE00AXX1		Amber	590	2.4~2.6	25~30	
KLE00WXX1		White	4500 ~ 9000K	3.6~4	60~80	
KLE00WWX1		Warm White	2500 ~ 3500K	3.6~4	30~60	
KLE00WHX1		White	4500 ~ 9000K	3.4~3.6	70~100	
KLE00WWH1		Warm White	2500 ~ 3500K	3.4~3.6	45~70	
KLE00WHX2		White	4500 ~ 9000K	3.5~3.8 (@ $I_F=700mA$ )	110~180	
KLE00WWH2		Warm White	2500 ~ 3500K	3.5~3.8 (@ $I_F=700mA$ )	80~90	
KLE00WHX3		White	4500 ~ 9000K	3.7~3.9 (@ $I_F=1000mA$ )	160~260	
KLE00WWH3		Warm White	2500 ~ 3500K	3.7~3.9 (@ $I_F=1000mA$ )	120~140	

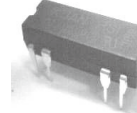
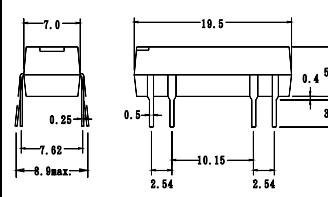
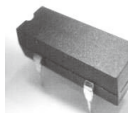
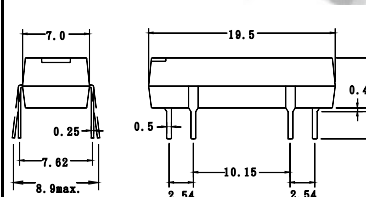
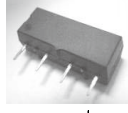
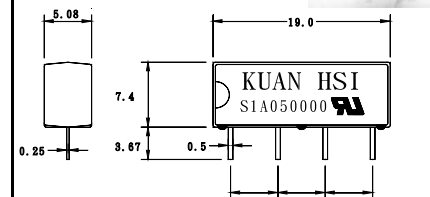
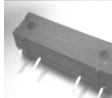
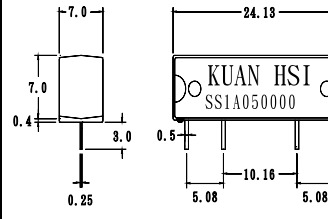

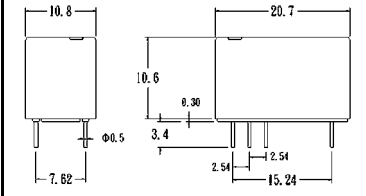

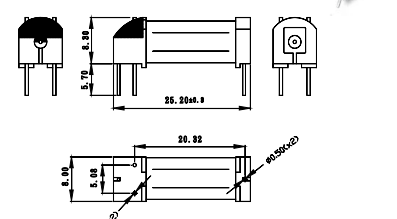

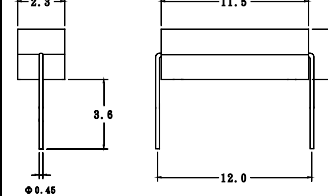

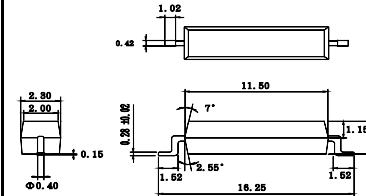

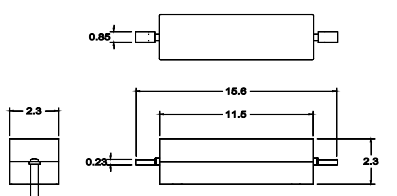

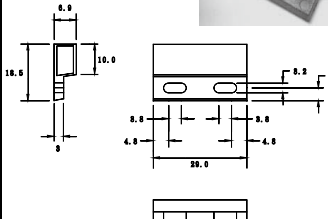
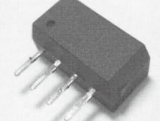
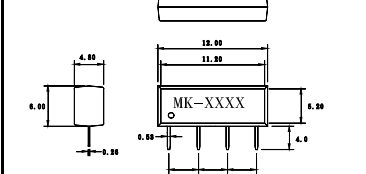
E06 Type						
Model Number	Schematic	Emitter color	$\lambda_D$ (nm) Typ.	$V_F$ @ $I_F=350mA$ (V) Typ. ~ Max.	Luminous Flux (lm) Min. ~ Typ.	View angle (2 $\theta$ 1/2)
KLE06WXX2		White	4500 ~ 9000K	7.2~8	110~150	120°
KLE06WWX2		Warm White	2500 ~ 3500K	7.2~8	60~110	
KLE06WXX3		White	4500 ~ 9000K	10.8~12	170~220	
KLE06WWX3		Warm White	2500 ~ 3500K	10.8~12	90~160	
KLE06RGB3		Red / Green / Blue	625 / 525 / 460	8.4~10.5	65~85	
KLE06BGA3		Blue / Green / Amber	460 / 525 / 590	8.6~10.6	65~85	
KLE06WXX4		White	4500 ~ 9000K	14.4~16	240~280	
KLE06WWX4		Warm White	2500 ~ 3500K	14.4~16	120~210	

S00 Type						
Model Number	Schematic	Emitter color	$\lambda$ D (nm) Typ.	VF @IF=350mA (V) Typ. ~ Max.	Luminous Flux (lm) Min. ~ Typ.	View angle (2 $\theta$ 1/2)
KLS00RXX1		Red	625	2.4~3.2	25~30	120°
KLS00GXX1		Green	525	3.6~4	35~45	
KLS00BXX1		Blue	460	3.6~4	5~10	
KLS00AXX1		Amber	590	2.4~2.6	25~30	
KLS00WXX1		White	4500 ~ 9000K	3.6~4	60~80	
KLS00WXX1		Warm White	2500 ~ 3500K	3.6~4	30~60	
KLS00WHX1		White	4500 ~ 9000K	3.4~3.6	70~100	
KLS00WWH1		Warm White	2500 ~ 3500K	3.4~3.6	45~70	
KLS00WHX2		White	4500 ~ 9000K	3.5~3.8 (@IF=700mA)	110~180	
KLS00WWH2		Warm White	2500 ~ 3500K	3.5~3.8 (@IF=700mA)	80~90	
KLS00WHX3		White	4500 ~ 9000K	3.7~3.9 (@IF=1000mA)	160~260	
KLS00WWH3		Warm White	2500 ~ 3500K	3.7~3.9 (@IF=1000mA)	120~140	

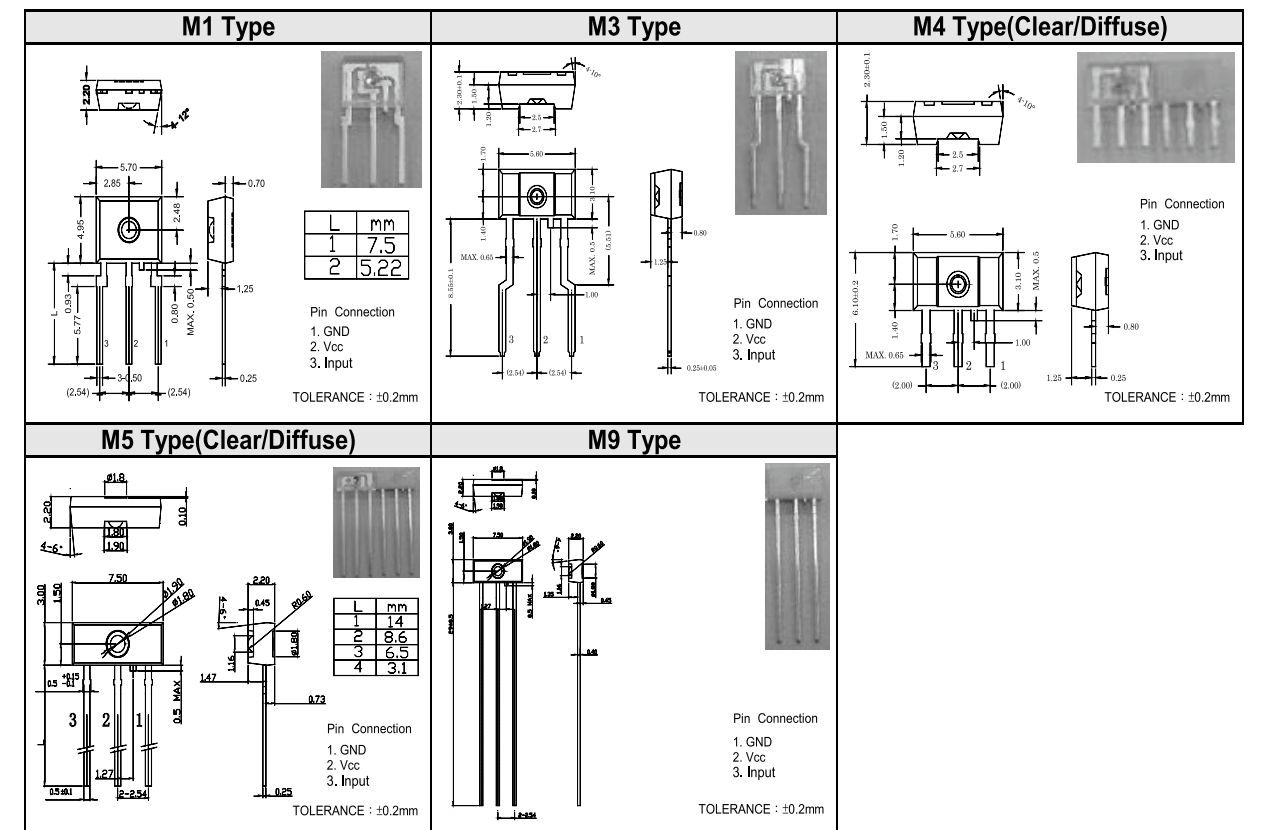
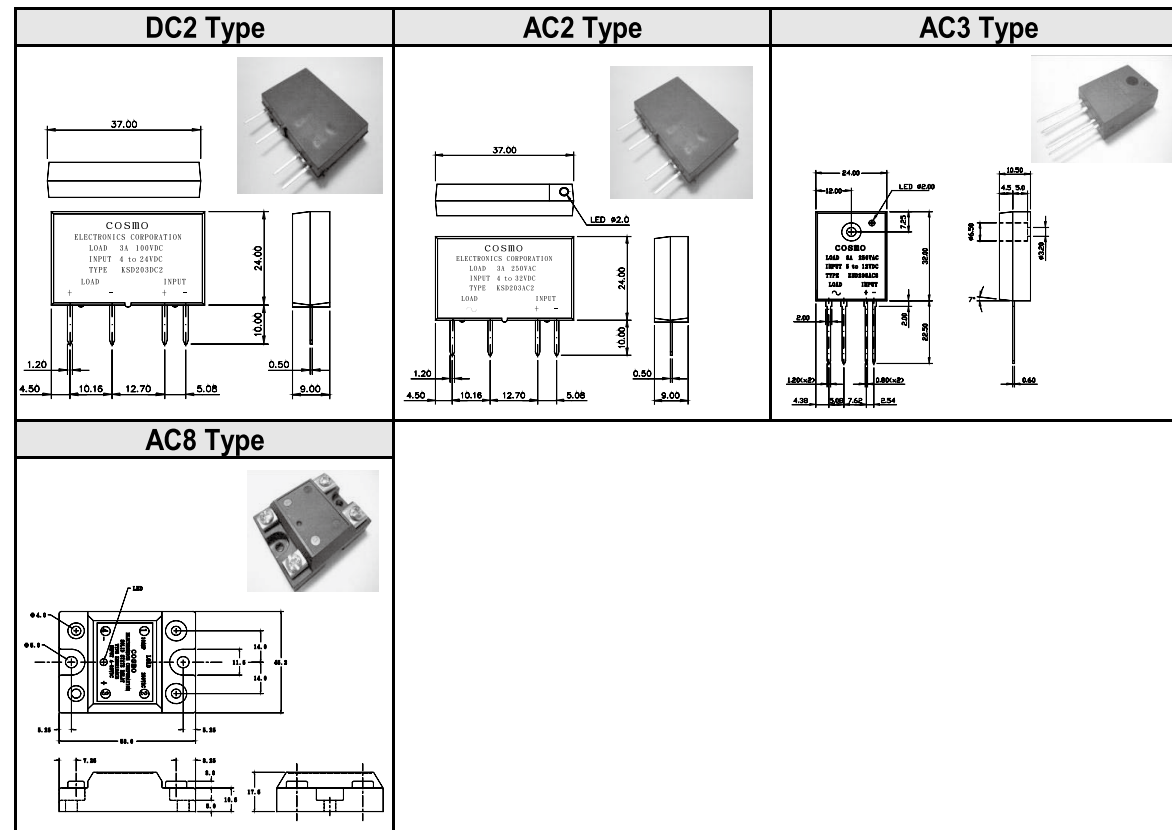
S06 Type						
Model Number	Schematic	Emitter color	$\lambda_D$ (nm) Typ.	V <sub>F</sub> @I <sub>F</sub> =350mA (V) Typ. ~ Max.	Luminous Flux (lm) Min. ~ Typ.	View angle (2 $\theta$ 1/2)
KLS06WXX2		White	4500 ~ 9000K	7.2~8	110~150	120°
KLS06WWX2		Warm White	2500 ~ 3500K	7.2~8	60~110	
KLS06WXX3		White	4500 ~ 9000K	10.8~12	170~220	
KLS06WWX3		Warm White	2500 ~ 3500K	10.8~12	90~160	
KLS06RGB3		Red / Green / Blue	625 / 525 / 460	8.4~10.5	65~85	
KLS06BGA3		Blue / Green / Amber	460 / 525 / 590	8.6~10.6	65~85	
KLS06WXX4		White	4500 ~ 9000K	14.4~16	240~280	
KLS06WWX4		Warm White	2500 ~ 3500K	14.4~16	120~210	

4-pin DIP Type	4-pin SMD Type	4-pin H Type	4-pin L Type
<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>
6-pin DIP Type	6-pin SMD Type	6-pin H Type	6-pin L Type
<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>
8-pin DIP Type	8-pin SMD Type	8-pin H Type	8-pin L Type
<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>
16-pin DIP Type	16-pin SMD Type	16-pin H Type	16-pin L Type
<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>
4-pin Mini - Flat Type	4-pin SSOP Type	4-pin LSOP TYPE	
<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	<p>TOLERANCE : ±0.2mm</p>	

4-pin SOP Type	4-pin DIP Type	4-pin SMD Type
  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>
6-pin SOP Type	6-pin DIP Type	6-pin SMD Type
  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>
8-pin SOP Type	8-pin DIP Type	8-pin SMD Type
  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>

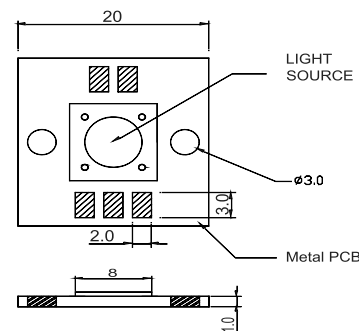
DIP Type	DH Type	SIP Type
  <p>TOLERANCE : <math>\pm 0.1\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.1\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.1\text{mm}</math></p>
SSIP Type	C Type	CG Type
  <p>TOLERANCE : <math>\pm 0.1\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.1\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>
P3-1A15 Type	P3-1A16 Type	P3-1A17 Type
  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>
P1-1A15 Type	MK Type	
  <p>TOLERANCE : <math>\pm 0.2\text{mm}</math></p>	  <p>TOLERANCE : <math>\pm 0.1\text{mm}</math></p>	





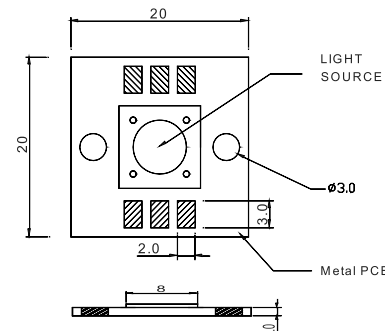
## High Power LED

## H00 Type



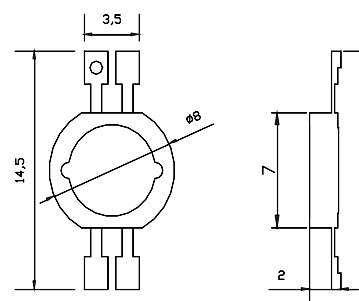
Unit : mm  
Tolerance :  $\pm 1$

## H06 Type



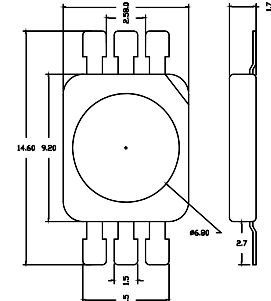
Unit : mm  
Tolerance :  $\pm 1$

### E00 Type



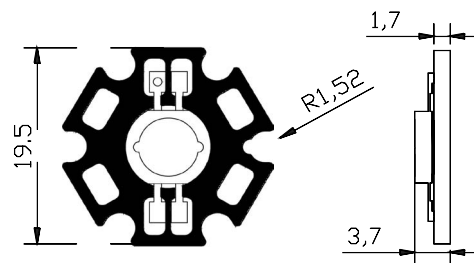
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### E06 Type



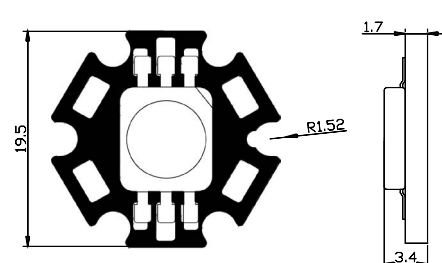
Unit : mm  
Tolerance :  $\pm 0.4$

### S00 Type



Unit : mm  
Tolerance :  $\pm 1$

## S06 Type



Unit : mm  
Tolerance :  $\pm 1$

## Cross Reference

*Photo Coupler*

FAIRCHILD		cosmo	TIL113		KPC4N33	PS2506		KPC815	TLP185		KPC357NT	SFH628A		K3010
FOD617		K1010	FOD815		KPC815	PS2503		K10101T	TLP127		KPC452	K814P		K3010
FOD817		K1010	K815P		KPC815	PS2705-1		KPC354NT	6N135		KPC6N135	SFH620		K3010
H11A617		K1010	FOD3120		KP1510	PS2702-1		KPC355NT	6N136		KPC6N136	SFH6206		K3010
H11A817		K1010	FODM2705		KPC354NT	PS2701-1		KPC357NT	6N137		KPC6N137	SFH628		K3010
H11A1		K2010	FODM121		KPC357NT	PS2733-1		KPC452	TLP113		KPC410	SFH6286		K3010
H11AG1		K2010	6N135		KPC6N135	PS59513		KPC6N136	TLP112		KPC457	TCET1600		K3010
MCT520		K2010	6N136		KPC6N136	PS9617		KPC6N137				SFH612A		KP4010
MCT521		K2010	6N137		KPC6N137	PS9113		KPC457	TOSHIBA		cosmo	SFH619A		KP4010
4N25		K2010	6N138		KPC6N138	PS2801-1		KPS2801	TLP285		KPS2801	TCED1100		KP4010
4N26		K2010	6N139		KPC6N139	PS2802-1		KPS2802	TLP284		KPS2805	IL66		KP5010
4N27		K2010	FODM8801		KPS2801	PS2805-1		KPS2805	TLP360J		KMOC3011	H11AA1		KP6010
4N28		K2010	HMHAA280		KPS2805	PS2806-1		KPS2806	TLP361J		KMOC3012	IL255		KP6010
4N35		K2010	MOC3021M		KMOC3021	PS2832-1		KPS2832	TLP3022		KMOC3022	H11B1		KPC4N33
4N36		K2010	MOC3022M		KMOC3022				TLP3023		KMOC3023	H11B2		KPC4N33
4N37		K2010	MOC3023M		KMOC3023	TOSHIBA		cosmo	TLP3042		KMOC3042	H11B3		KPC4N33
4N38		K2010	MOC3041M		KMOC3041	TLP781		K1010	TLP3043		KMOC3043	4N32		KPC4N33
H11A1		K2010	MOC3042M		KMOC3042	TLP781F		K1010	TLP3052		KMOC3052	4N33		KPC4N33
H11A2		K2010	MOC3043M		KMOC3043	TLP785		K1010	TLP3052		KMOC3053	MCA231		KPC4N33
H11A3		K2010	MOC3051M		KMOC3051	TLP785F		K1010	TLP3062		KMOC3062	K815P		KPC815
H11A4		K2010	MOC3052M		KMOC3052	TLP624		K1010	TLP3063		KMOC3063	SFH655A		KPC815
H11A5		K2010	MOC3053M		KMOC3053	TLP628		KP1210	TLP3082		KMOC3082	VO618A		K10101T
MCT21		K2010	MOC3061M		KMOC3061	TLP531		K2010	TLP3783		KMOC3083	VOL618A		KT101T
MOC8100		K2010	MOC3062M		KMOC3062	TLP631		K2010	TLP160G		KTLP160G	SFH691AT		KPC354NT
TIL111		K2010	MOC3063M		KMOC3063	TLP731		K2010	TLP160J		KTLP160J			
TIL117		K2010	MOC3081M		KMOC3081	TLP733		K2010	TLP165J		KTLP165J	VISHAY		cosmo
CNY17		K2010	MOC3082M		KMOC3082	TLP733F		K2010	TLP260J		KTLP260J	SFH690XT		KPC357NT
H11D1		K2010	MOC3083M		KMOC3083	TLP331		K2010	TLP161G		KTLP161G	SFH692AT		KPC452
MOC8204		K2010	FODM3022		KTLP160G	TLP532		KP2110	TLP161J		KTLP161J	VOL617A		KT1000
CNY17F		KP2110	FODM3052		KTLP160J	TLP632		KP2110	TLP166J		KTLP166J	TCLD1000		KT1200
MOC8106		KP2110	FODM3063		KTLP161J	TLP732		KP2110	TLP168J		KTLP168J	VOL617A		KT1010
FOD814		K3010	FODM3083		KTLP161L	TLP734		KP2110				TCLD1000		KT1210
H11AA814		K3010				TLP734F		KP2110	VISHAY		cosmo	6N135		KPC6N135
FOD852		KP4010	NEC		cosmo	TLP332		KP2110	SFH615A		K1010	6N136		KPC6N136
H11G1		KP5010	PS2501		K1010	TLP620		K3010	SFH617A		K1010	6N137		KPC6N137
H11G2		KP5010	PS2561		K1010	TLP620F		K3010	TCET1100		K1010	6N138		KPC6N138
H11AA1		KP6010	PS2571		K1010	TLP626		K3010	VO615A		K1010	6N139		KPC6N139
H11AA2		KP6010	PS2581		K1010	TLP523		KP4010	VO617A		K1010	K3021P		KMOC3021
H11AA3		KP6010	PS2513		K1010	TLP627		KP4010	SFH614A		KP1210	K3022P		KMOC3022
			PS2514		K1010	TLP371		KP5010	CNY117		K2010	K3023P		KMOC3023
			PS2505		K3010	TLP630		KP6010	CNY17		K2010	VO3052		KMOC3052
			PS2565		K3010	TLP571		KPC4N33	MCT5211		K2010	VO3053		KMOC3053
			PS2502		KP4010	TLP624		K10101T	CNY117F		KP2110	VO3062		KMOC3062
			PS2532		KP4010	TLP124		KPS28010T	CNY17F		KP2110	VO3063		KMOC3063
			PS2533		KP4010	TLP250		KTLP250	MOC8101		KP2110	VOM160R		KTLP160J
			PS2535		KP4010	TLP350		KTLP350	MOC8106		KP2110	VO2526		KTLP3616
			PS2502		KPC815	TLP184		KPC354NT	SFH640		KP2210			

FAIRCHILD		cosmo	H11AA4		KP6010	4N29		KPC4N33	4N30		KPC4N33	4N32		KPC4N33	4N33		KPC4N33	H11B1		KPC4N33
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SHARP	cosmo
PC123	K1010
PC817	K1010
PC851	KP1210
PC713V	K2010
PC714V	KP2110
PC852	KP4010
PC853	KP4010
PC725V	KP5010
PC815	KPC815
PC8171	K10101W
PC354N	KPC354NT
PC355N	KPC355NT
PC357N	KPC357NT
PC452	KPC452
PC957L0NSZ0F	KPC6N136
PC910L0NSZ0F	KPC6N137
PC410L0NIP0F	KPC410
PC457L0NIP0F	KPC457
PC3H2	KPS2801
PC3H5	KPS2802
PC3H3	KPS2805
PC35T11NSZAX	KMOC3011
PC35T21NSZBX	KMOC3012
PR22MA11NTZF	KMOC3022
PC25D11NTZAF	KMOC3023
PR32MA11NTZF	KMOC3052
S2S3000F	KTLP160J
S2S4000F	KTLP161J
PR26MF11NSZF	KTLP3502
PR36MF51NSZF	KTLP3506
PR3BMF51NSKF	KTLP3616
PR26MF21NSZF	KTLP3503
PR36MF21NSZF	KTLP3507
PR3BMF21NSZF	KTLP3617

LITEON	cosmo
LTV-817	K1010
LTV-123	K1010
LTV-816	K1010
LTV-851	KP1210
4N25	K2010

4N26	K2010
4N27	K2010
4N28	K2010
4N35	K2010
4N37	K2010
CNY17-1	K2010
CNY17-2	K2010
CNY17-3	K2010
CNY17-4	K2010
LTV-702V	K2010
CNY17F-1	KP2110
CNY17F-2	KP2110
CNY17F-3	KP2110
CNY17F-4	KP2110
LTV-702F	KP2110
LTV-814	K3010
LTV-852	KP4010
LTV-725V	KP5010
LTV-733	KP6010
LTV-815	KPC815
LTV-354T	KPC354NT
LTV-355T	KPC355NT
LTV-352T	KPC452
MOC3021	KMOC3021
MOC3022	KMOC3022
MOC3023	KMOC3023
MOC3052	KMOC3052
MOC3063	KMOC3063
MOC3083	KMOC3083

EVERLIGHT	cosmo
EL816	K1010
EL817	K1010
EL851	KP1210
4N25	K2010
4N26	K2010
4N27	K2010
4N28	K2010
4N35	K2010
4N36	K2010
4N37	K2010
4N38	K2010

CNY17-1	K2010
CNY17-2	K2010
CNY17-3	K2010
CNY17-4	K2010
H11A1	K2010
H11A2	K2010
H11A3	K2010
H11A4	K2010
H11A5	K2010
MCT21	K2010
TIL111	K2010
TIL117	K2010
CNY17F-1	KP2110
CNY17F-2	KP2110
CNY17F-3	KP2110
CNY17F-4	KP2110
EL814	K3010
EL852	KP4010
H11AA1	KP6010
H11AA2	KP6010
H11AA3	KP6010
H11AA4	KP6010
4N29	KPC4N33
4N30	KPC4N33
4N31	KPC4N33
4N32	KPC4N33
4N33	KPC4N33

EVERLIGHT	cosmo
H11B1	KPC4N33
H11B2	KPC4N33
H11B3	KPC4N33
H11B255	KPC4N33
TIL113	KPC4N33
EL815	KPC815
EL3120	KP1510
EL354N-G	KPC354NT
EL357N_G	KPC357NT
EL452_G	KPC452
EL1010	KT1010
ELM600	KPC410
ELM452	KPC457

EL3H7_G	KPS2801
EL3H4_G	KPS2805
ELT3052	KMOC3011
ELT3062	KMOC3012
EL3021	KMOC3021
EL3022	KMOC3022
EL3023	KMOC3023
EL3041	KMOC3041
EL3042	KMOC3042
EL3043	KMOC3043
EL3051	KMOC3051
EL3052	KMOC3052
EL3053	KMOC3053
EL3061	KMOC3061
EL3062	KMOC3062
EL3063	KMOC3063
EL3081	KMOC3081
EL3082	KMOC3082
EL3083	KMOC3083
ELM3022	KTLP160G
ELM3052	KTLP160J
ELM3042	KTLP161G
ELM3062	KTLP161J
ELM3064	KTLP168J

Avago	cosmo
HCPL-817	K1010
4N25	K2010
CNY17	K2010
HCPL-814	K3010
HCPL-3120	KP1510
ACPL-T350	KTLP350
HCPL-354	KPC354NT
HCPL-181	KPC357NT
6N135	KPC6N135
6N136	KPC6N136
6N137	KPC6N137
6N138	KPC6N138
6N139	KPC6N139
HCPL-M600	KPC410
HCPL-M452	KPC457

PANASONIC	cosmo
AQY212S	KAQY212S
AQY212EH	KAQY212H
AQY210S	KAQY210S
AQY210EH	KAQY210H
AQY214S	KAQY214S
AQY214EH	KAQY214H
AQY216EH	KAQY216H
AQV212S	KAQV212S
AQV212	KAQV212
AQV217S	KAQV217S
AQV217	KAQV217
AQV210S	KAQV210S
AQV210	KAQV210
AQV210EH	KAQV210H
AQV214S	KAQV214S
AQV214	KAQV214
AQV214EH	KAQV214H
AQV216S	KAQV216S
AQV216	KAQV216
AQW212S	KAQW212S
AQW212	KAQW212
AQW212EH	KAQW212H
AQW217	KAQW217
AQW210S	KAQW210S
AQW210	KAQW210
AQW210EH	KAQW210H
AQW214S	KAQW214S
AQW214	KAQW214
AQW214EH	KAQW214H
AQW216	KAQW216
AQW216EH	KAQW216H
AQV253	KAQV253
AQV253H	KAQV253H
AQV254	KAQV254
AQV254H	KAQV254H

PANASONIC	cosmo
AQY412S	KAQY412S
AQY412EH	KAQY412H
AQY414S	KAQY414S
AQY414EH	KAQY414H
AQY412EH	KAQY412H
AQV414S	KAQV414S
AQV414	KAQV414
AQV414EH	KAQV414H

AQW414S	KAQW414S
AQW414	KAQW414
AQW414EH	KAQW414H
AQW612S	KAQW612S
AQW612EH	KAQW612H
AQW614	KAQW614
AQW614EH	KAQW614H

NEC (RENESAS)	cosmo
PS7431-1A	KAQY210S
PS7241E-1A	KAQY214S
PS7341-1A	KAQV214
PS7360-1A	KAQV216
PS7122A-2A	KAQW212
PS7241-2A	KAQW214S
PS7141-2A	KAQW214
PS7160-2A	KAQW216
PS7122A-1A	KAQV253
PS7241E-1B	KAQY414S
PS7341-1B	KAQV414
PS7241-2B	KAQW414S
PS7141-2B	KAQW414
PS7241-1C	KAQW614S
PS7141-1C	KAQW614

OMRON	cosmo
G3VM-61G1	KAQY212S
G3VM-61A1	KAQY212
G3VM-201G1	KAQY217S
G3VM-351G	KAQY210S
G3VM-351A	KAQY210
G3VM-401G	KAQY214S
G3VM-401A	KAQY214
G3VM-601G	KAQY216S
G3VM-61H1	KAQV212S
G3VM-61B1	KAQV212
G3VM-201H1	KAQV217S
G3VM-351H	KAQV210S
G3VM-351B	KAQV210
G3VM-401H	KAQV214S
G3VM-401B	KAQV214
G3VM-401BY	KAQV214H
G3VM-601BY	KAQV216H
G3VM-202J1	KAQW217S
G3VM-352J	KAQW210S
G3VM-352C	KAQW210

G3VM-402J	KAQW214S
G3VM-402C	KAQW214
G3VM-353G	KAQY414S
G3VM-353A	KAQY414
G3VM-353H	KAQV414S
G3VM-353B	KAQV414
G3VM-354J	KAQW414S
G3VM-354C	KAQW414
G3VM-355J	KAQW614S
G3VM-355C	KAQW614

OKITA	cosmo
AB37S	KAQY212S
AB34S	KAQY217S
AB31S	KAQY210S
AB31	KAQY210
AB30S	KAQY214S
AB30	KAQY214
AA37	KAQV212
AA34	KAQV217
AA31	KAQV210
AA30	KAQV214
AA38	KAQV216
AC37	KAQW212
AC34	KAQW217
AC31S	KAQW210S
AC31	KAQW210
AC30S	KAQW214S
AC30	KAQW214
AC38	KAQW216
AG74S	KAQY414S
AG74	KAQY414
AE74	KAQV414
AH74S	KAQW414S
AH74	KAQW414
AK74S	KAQW614S
AK74	KAQW614

CP Clare	cosmo
CPC1014N	KAQY212S
CPC1030N	KAQY210S
CPC1330	KAQY210H
CPC1025N	KAQY214S
CPC1390	KAQY214H
CPC1394	KAQY216H
LCA126	KAQV213

LCA100	KAQV210
PLA110	KAQV214
PLA190	KAQV214H
PLA193	KAQV216H
CPC2014N	KAQW212S
LAA126	KAQW213
CPC2030N	KAQW210S
LAA110	KAQW210
CPC2025N	KAQW214S
PAA110	KAQW214
CPC1017N	KCP1017
CPC1008N	KCP1008
XCB170	KAQV414
PLB190	KAQV414H
CPC2125N	KAQW414S
XBB170	KAQW414
XBA170	KAQW614

TOSHIBA	cosmo
TLP176A	KAQY212S
TLP222A	KAQY212
TLP220A	KAQY212H
TLP176D	KAQY217S
TLP220D	KAQY217H
TLP176G	KAQY210S
TLP224G	KAQY210
TLP220G	KAQY210H
TLP176GA	KAQY214S
TLP224GA	KAQY214
TLP220GA	KAQY214H
TLP220J	KAQY216H
TLP197A	KAQV212S
TLP592A	KAQV212
TLP197D	KAQV217S
TLP197G	KAQV210S
TLP597G	KAQV210
TLP197GA	KAQV214S
TLP597GA	KAQV214
TLP797GA	KAQV214H
TLP797J	KAQV216H
TLP206A	KAQW212S
TLP222A-2	KAQW212
TLP200D	KAQW217S
TLP206G	KAQW210S
TLP224G-2	KAQW210
TLP206GA	KAQW214S

TLP224GA-2	KAQW214
TLP798GA	KAQV254
TLP4172G	KAQY414S
TLP4222G	KAQY414
TLP4192G	KAQV414S
TLP4592G	KAQV414
TLP4202G	KAQW414S
TLP4222G-2	KAQW414
TLP4027G	KAQW614S
TLP4007G	KAQW614

AVAGO	cosmo
ASSR-1219-001E	KAQV212
ASSR-3211-001E	KAQV213
ASSR-4119-001E	KAQV214
ASSR-1228-002E	KAQW212
ASSR-3220-002E	KAQW213
ASSR-4128-002E	KAQW214

Vishay	cosmo
LH1546	KAQY210
LH1546AD	KAQY210H
LH1530AT	KAQV210H
LH1532FP	KAQW210S
LH1531AB	KAQW210H
LH1501BT	KAQV414
LH1521AB	KAQW414H

International Rectifier	cosmo
PVT312	KAQV213
PVA3354N	KAQV210H
PVT412	KAQV214H
PVT322A	KAQW213
PVR3301N	KAQW210H
PVT422P	KAQW214S
PVT422	KAQW214H



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- d. Nuclear power control
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