光学元器件

光学传感器

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光电断路器选型指南

●透过型光电断路器

Part No.	Package	Output Type	Standard Characteristics				
			Detection Groove Width(mm)	Slit Width(mm)	Screw stop	Positioning	Remarks
RPI-0125	Surface Mount type	Phototransistor	1.2	0.3			
RPI-0226			2.0	0.3		✓	Wide gap surface mount type
RPI-122	Leaded type		0.8	0.25			
RPI-121			0.8	0.4			
RPI-125			1.2	0.3			
RPI-221			2.3	0.4			
RPI-222			2.0	0.2			
RPI-243			2.0	0.4	✓		
RPI-246			2.0	0.2	✓		
RPI-352			3.0	0.4		✓	
RPI-441C1			4.0	0.5		✓	

●节能型光斩波器

Part No.	Package	Output Type	Standard Characteristics		
			Detection Groove Width(mm)	Slit Width(mm)	Remarks
RPI-0352E	Surface Mount type	Phototransistor	3.0	0.4	Energy saving, High efficiency
RPI-441C1E	Leaded type	Phototransistor	4.0	0.5	Energy saving, High efficiency

透过型光电断路器

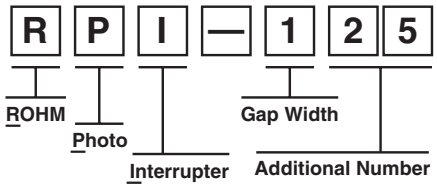
线性光电晶体管输出

Package	Exterior	Part No.	Standard Characteristics					
			Detection Groove Width (mm)	Slit Width (mm)	I_C(mA)	V_{CE}(V)	I_F(mA)	tr,tf(μs)
Ultra-Miniature SMD type		RPI-0125	1.2	0.3	0.45 Min. 4.95 Max.	5	20	10
Miniature SMD type		RPI-0226	2.0	0.3	0.1 Min.	5	5	50
Ultra-Compact type		RPI-122	0.8	0.25	0.18 Min. 1.08 Max.	0.7	3	10
		RPI-121	0.8	0.4	0.7 Min.	5	20	10
		RPI-125	1.2	0.3	0.45 Min. 4.95 Max.	5	20	10
Compact type		RPI-221	2.3	0.4	0.2 Min.	5	20	10
		RPI-222	2.0	0.2	0.18 Min. 0.95 Max.	5	10	10
		RPI-243	2.0	0.4	0.5 Min.	5	20	10
		RPI-246	2.0	0.2	0.35 Min. 1.2 Max.	5	20	10
		RPI-352	3.0	0.4	0.2 Min.	5	20	10
		RPI-441C1	4.0	0.5	0.2 Min.	5	20	10
Eco-Friendly type		RPI-0352E	3.0	0.4	0.18 Min.	5	10	10
		RPI-441C1E	4.0	0.5	0.2 Min.	5	10	10

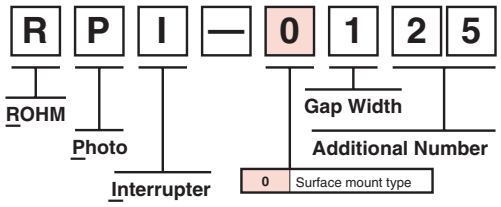
●品名构成说明

●传输型

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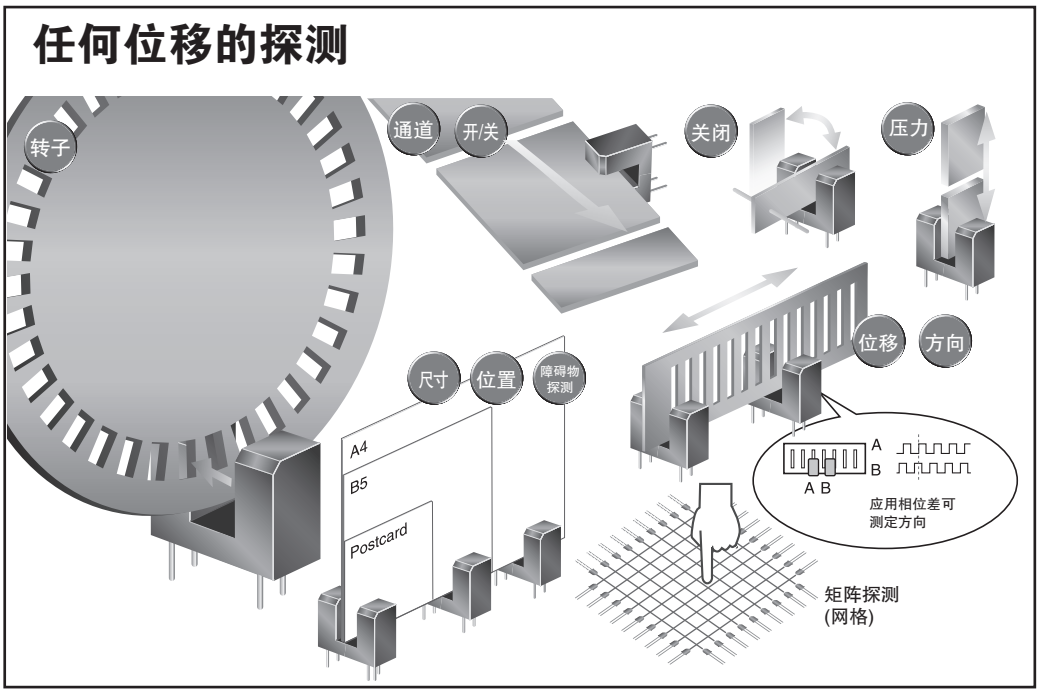


8位：



●封装类型 *举例

Packaging Style	Part No.	Specifications		Quantity Per Unit (pcs)	Basic Ordering Unit (pcs)
		Item Packaging	Case		
Bulk	RPI-243*	Polyethylene bag	Paper box	250/bag	1,000/box
Taping	RPI-0125*	Reel + Aluminum bag	Paper box	750/reel	750/reel



红外线发光二极管

适用于遥控器送信机、光通信等，拥有丰富的产品系列。

红外线发光二极管 1

Package	Exterior	Part No.	Features	Absolute Maximum Rating	Standard Characteristics						
				I_F (mA)	I_E (mW/sr)	I_F (mA)	V_F (V)	I_F (mA)	λ_P (nm)	tr,tf (μs)	θ 1/2 (deg)
φ 3 resin	 SIR-34ST3F	SIR-34ST3F	Optimized for remote controls	100	10.5	50	1.3	100	950	1	27
		SIR-341ST3F	Compact, high power	75	18.1	50	1.3	50	940	1	16
φ 5 resin	 SIR-56ST3F	SIR-56ST3F	Optimized for remote controls	100	15	50	1.3	100	950	1	15
		SIR-563ST3F	High output, Optimized for remote controls	100	21	50	1.34	50	940	1	15
		SIR-568ST3F	High speed LED for optical communications	100	38	50	1.6	50	850	fc=50MHz	13
Resin side view type	 SIM-20ST	SIM-20ST	General purpose molded type	50	7.5	50	1.3	50	950	1	15
		SIM-22ST	General purpose molded type	50	0.8	10	1.3	50	950	1	30
Surface mount type (Top view)	 SIM-040ST	SIM-030ST	Low Profile (0.9mm)	100	25	100	1.7	100	870	0.1	20
		SIM-040ST	High power	100	40	100	1.7	100	870	0.1	20

以下产品同 LED (P.E8)请咨询LED产品组。

红外线发光二极管 2

Package (mm)	Part No.	LED Chip	Emitting Color	Absolute Maximum Rating(Ta=25°C)						Electrical and Optical Characteristics(Ta=25°C)								
				Power Dissipation P_D (mW)	Forward Current I_F (mA)	Peak Forward Current I_{FP} (mA)	Reverse Voltage V_R (V)	Operating Temperature Topr (°C)	Storage Temperature Tstg (°C)	Forward Voltage V_F Typ. (V)	Forward Voltage V_F I_F (mA)	Reverse Current I_R Typ. (μA)	Reverse Current I_R V_R (V)	Light Wavelength λ_P Typ. (nm)	Light Wavelength λ_P I_F (mA)	Radiant Intensity Min. (mW/sr)	Radiant Intensity Typ. (mW/sr)	Radiant Intensity I_F (mA)
Surface mount type Infrared LEDs 1.0×0.6(t = 0.2)	☆SML-P15R2T	AlGaAs	Infrared	(40)	(20)	(100)*1	(5)	(−40 to +85)	(−40 to +100)	(1.6)	20	(100)	5	(870)	20	–	(1.1)	20
Surface mount type Infrared LEDs (Reverse mount available) 3.2×1.6(t=1.85)	☆SML-S15R2T			(100)	(50)	(300)*1	(5)	−40 to +85	−40 to +100	(1.4)		(10)		(840)		(5.6)	(12)	20
Surface mount type Infrared LEDs 2.0×1.25(t = 0.8)	SML-M13RT			60	30	100*1	5	−40 to +85	−40 to +100	1.4		10		870		0.5	1.7	20
Surface mount type Infrared LEDs (Reverse mount available) 3.2×1.6(t=1.85)	SML-S13RT					300*1								850		1.5	2.5	20
Surface mount type Infrared LEDs 3.0×1.5(t=2.2)	SCM-013RT			57		500*1								850		0.5	2.0	20

*1：Duty1/10, 1kHz　*请慎重考虑安装条件。　(　)：参考值　　☆：开发中

●品名构成说明

S I R — 3 4 1 S T 3 F

系列名称

SIR	3mm and 5mm lamp infrared LED
SIM	Side view infrared LED
	Surface mount Infrared LED
SCM	Chip LEDs
SML	

附加编号

输出配置

S	Infrared LED
R	

封装颜色

B	Colored
T	Clear

端子形状

3F	Straight	A47	Taping
T31	Taping	T68	Embossed taping
T32	Taping	T86	Embossed taping

●封装类型

Packaging Style	Package	Specifications		Quantity Per Unit(pcs)	Basic Ordering Unit(pcs)
Taping	Surface mount type	Embossed taping		–	3,000/reel, 2,000/reel
	All Part No	Radial taping		–	2,000/reel
Bulk	φ3, φ5 types	Item Packaging: polyethylene bag	Case:paper box	500/bag	φ5mm lamps 1,000/box. φ3mm and side view 2,000/box.
	Side-view			200/bag	

光电晶体管

罗姆的光电晶体管多用于高可靠性、高输出的小型精密仪器，拥有 ϕ3mm的正面发光型和侧面发光型。

光电晶体管 1

Package	Exterior	Part No.	Feature	Visible Light Filter	Visible Light Filter		Standard Characteristics					
					V_{CEO} (V)	Pc Max. (mW)	I_{CEO} Max. (μA)	V_{CE} (V)	I_C (mA)	λ_P (nm)	tr, tf (μs)	θ 1/2 (deg)
ϕ3 resin	 RPT-38PB3F	RPT-34PB3F	Visible light filter	✓	32	150	0.5	10	2.0 Min.	800	10	36
		RPT-37PB3F	Visible light filter, Polarity discrimination	✓	32	150	0.5	10	2.0 Min.	800	10	36
		RPT-38PB3F	Visible light filter	✓	32	150	0.5	10	2.0 Min.	800	10	36
Resin side view type	 RPM-20PB	RPM-20PB	Visible light filter	✓	32	100	0.5	10	0.5 Min.	800	10	14
		RPM-22PB	Visible light filter, Wide viewing angle	✓	32	100	0.5	10	0.48 Min.	800	10	32

以下产品同 LED (P.E9)请咨询LED产品组。

光电晶体管 2

Package size(mm)	Part No.	LED Chip	Absolute Maximum Ratings(Ta=25°C)						Electrical and Optical Characteristics(Ta=25°C)								
			Collector-Emitter Voltage (V)	Emittter-Collector Voltage (V)	Collector Current (mA)	Collector Power Dissipation (mW)	Operating Temperature Topr (°C)	Storage Temperature Tstg (°C)	Light Current			Dark Current		Sensitivity Wavelength	Collector-emitter Saturation Voltage			
									Min. (mA)	Max. (mA)	V_{CE}(V) /I_E(Lx)	Max. (μA)	V_{CE} (V)	λ_P Typ. (nm)	Min. (V)	Typ. (V)	Max. (V)	I_C(mA) /I_E(Lx)
 Surface mount photo transistor 2.0×1.25(t=0.8)	SML-H10TB	Si	32	5	30	80	−30 to +85	−30 to +100	2.0	4.0	5/500	0.5	10	800	–	–	0.4	0.1/500
 Surface mount photo transistor (Reverse mount available) 3.4×1.25(t=1.1)	SML-810TB								2.3	3.8								
 Surface mount photo transistor 3.0×1.5(t=2.2)	SCM-014TB					100			0.3	3.8								

接近传感器

接近传感器

Package	Exterior	Part No.	Features	Visible Light Filter	Interface	Absolute Maximum Rating		Standard Characteristics	
						V_{DD} Max. (V)	Vleda Max. (V)	PS Sensor Out (Count)	λ_P (nm)
Surface mount		RPR-0521RS	Proximity Sensor and Ambient Light Sensor	Built-in Noise Cancellation Function	I^2C	4.5	7	80	940

●品名构成说明

R P T — 3 4 □ P B 3 F

系列名称

RPT	3mm lamp device
RPM	Side view infrared LED
SML	Surface mount infrared type
SCM	

附加编号

输出配置

P	Phototransistor
T	

封装颜色

B	Colored
T	Clear

端子形状

3F	Straight	T68	Embossed taping
T31	Radial taping	T86	Embossed taping
T32	Radial taping		

●封装类型

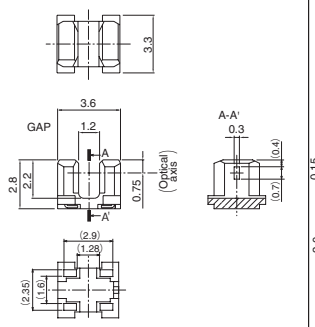
Packaging Style	Package	Specifications		Quantity Per Unit(pcs)	Basic Ordering Unit(pcs)
Taping	Surface mount type	Embossed taping		–	3,000/reel, 2,000/reel
	ϕ3 type	Radial taping		–	2,000/reel
	Side-view				
Bulk	ϕ3 type	Item Packaging: polyethylene bag	Case;paper box	500/bag	2,000/box
	Side-view			200/bag	

封装

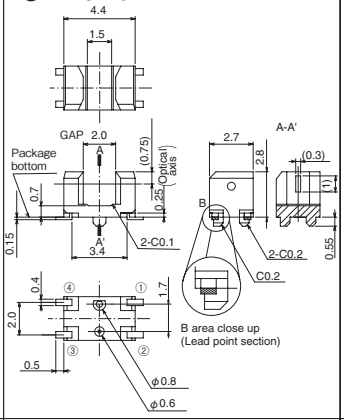
●外形尺寸图 (单位：mm)

〈光斩波器〉

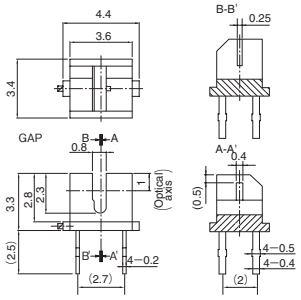
●RPI-0125



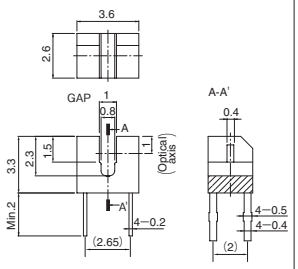
●RPI-0226



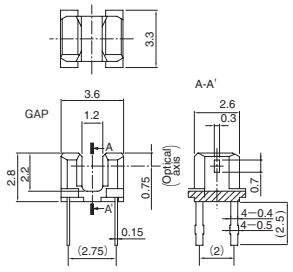
●RPI-122



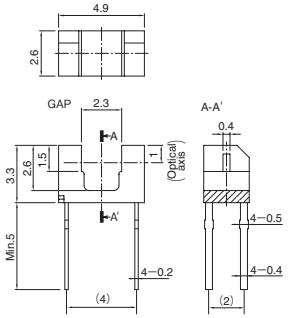
●RPI-121



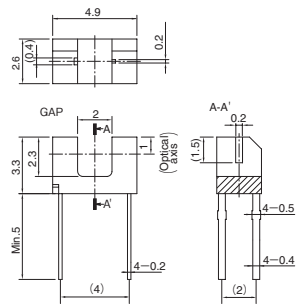
●RPI-125



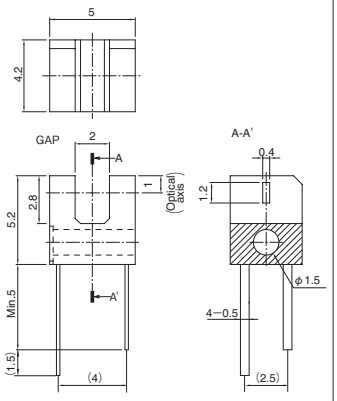
●RPI-221



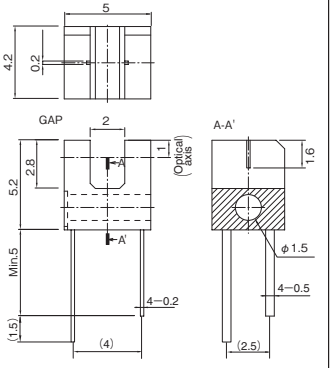
●RPI-222



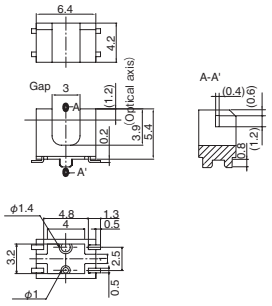
●RPI-243



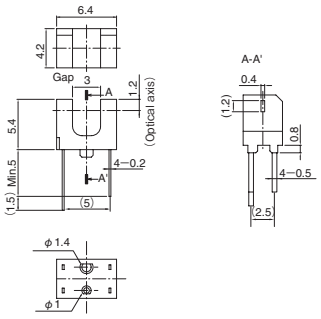
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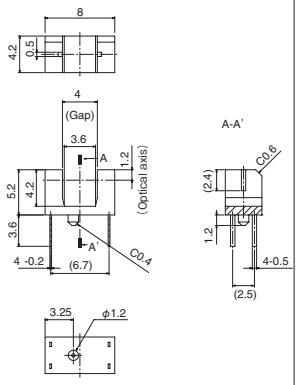
●RPI-0352E



●RPI-352

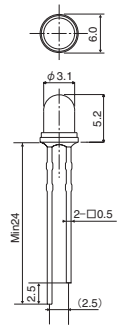


●RPI-441C1, RPI-441C1E

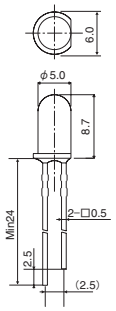


〈红外发光二极管〉

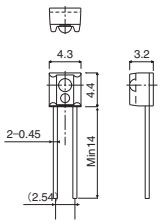
●SIR-34ST3F/341ST3F



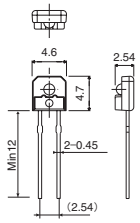
●SIR-56ST3F/563ST3F/568ST3F



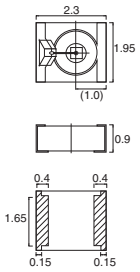
●SIM-20ST



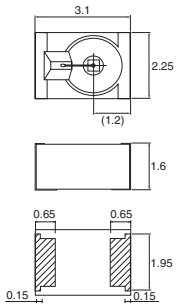
●SIM-22ST



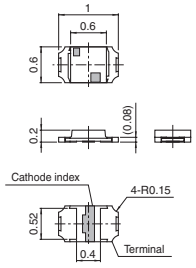
●SIM-030ST



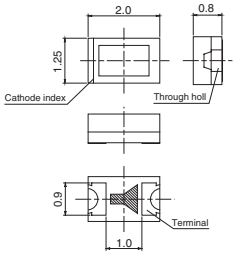
●SIM-040ST



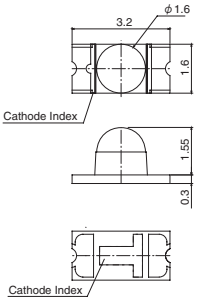
●SML-P15R2T (PICOLED)



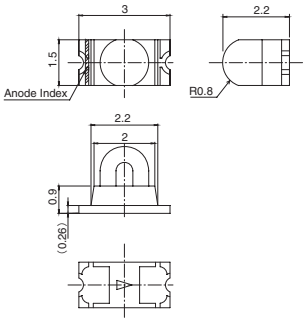
●SML-M13RT



●SML-S13RT, SCM-S15R2T



●SCM-013RT

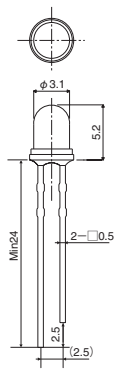


封装

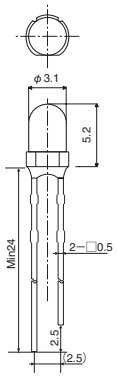
●外形尺寸图 (单位：mm)

〈光电晶体管〉

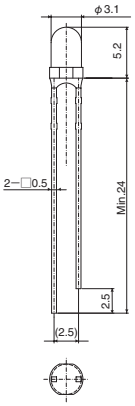
●RPT-34PB3F



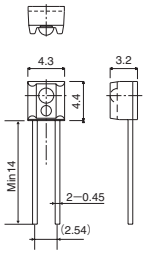
●RPT-37PB3F



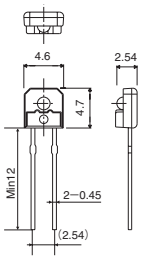
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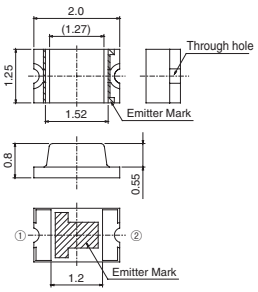
●RPM-20PB



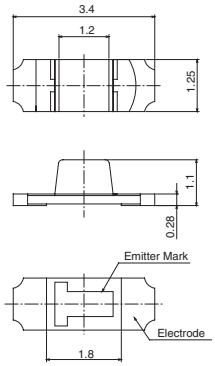
●RPM-22PB



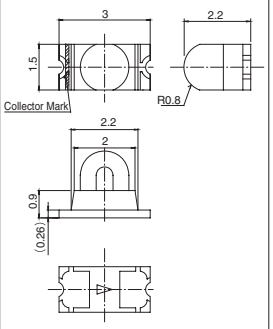
●SML-H10TB



●SML-810TB



●SCM-014TB



〈接近传感器〉

●RPR-0521RS

