

By Category PDF

Category Optical Sensors

Opto Devices

Optical Sensors

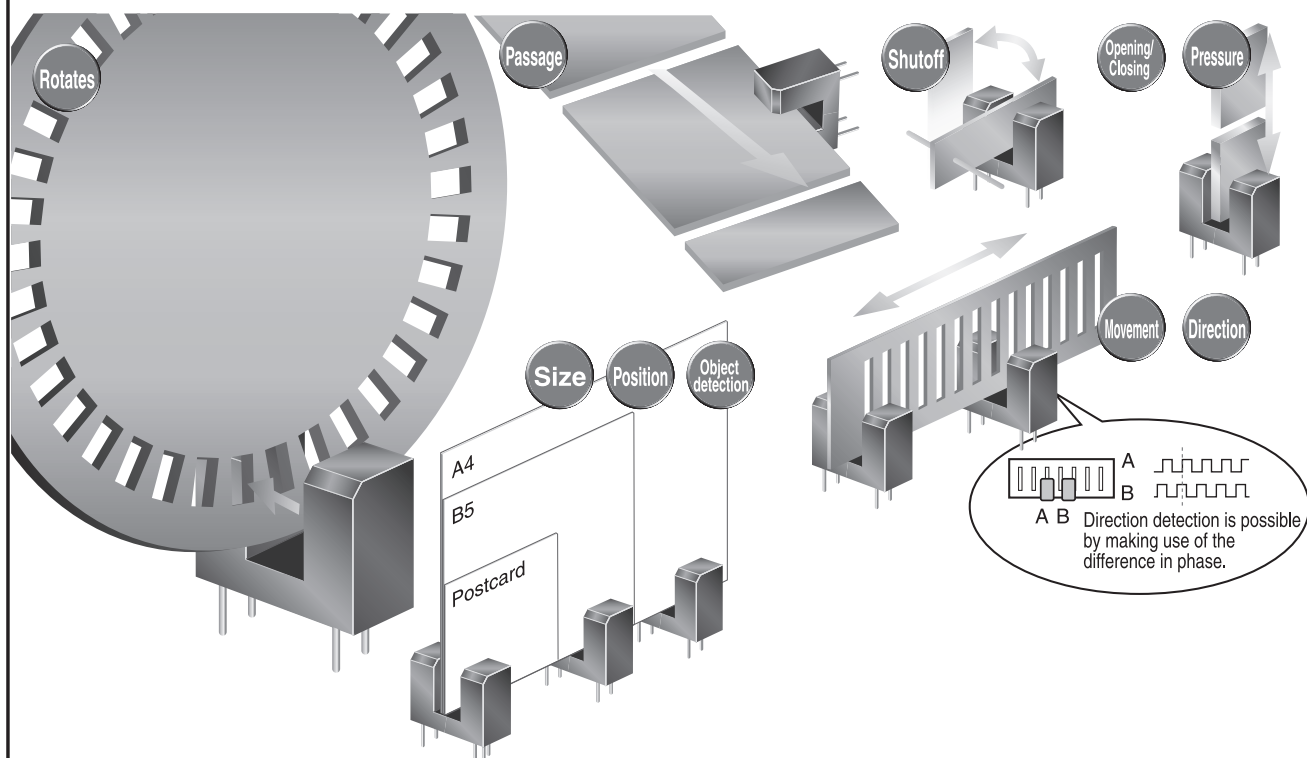
Transmission Type Photointerrupters	285
Reflective Type Photosensors	285
Infrared Light Emitting Diodes (NIR: Near Infrared)	286
Phototransistors (NIR: Near Infrared)	287
Infrared Light Emitting Diodes (SWIR: Short Wavelength Infrared)	287
Photodiodes (SWIR: Short Wavelength Infrared)	287
Packages	288

Optical Sensors

Transmission Type Photointerrupters 	P.285	Reflective Type Photosensors 	P.285
Infrared Light Emitting Diodes (NIR: Near Infrared) 	P.286	Phototransistors (NIR: Near Infrared) 	P.287
Infrared Light Emitting Diodes (SWIR: Short Wavelength Infrared) 	P.287	Photodiodes (SWIR: Short Wavelength Infrared) 	P.287
Packages	P.288		

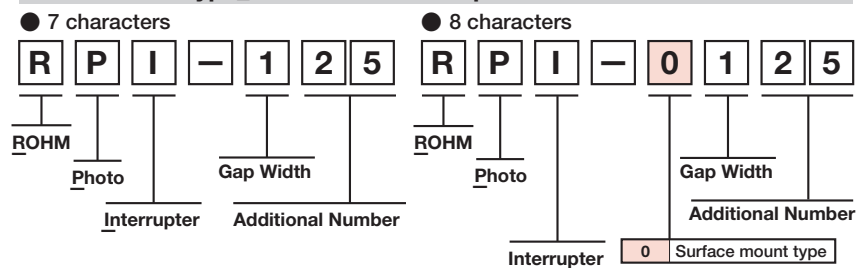
 Click on the icon to access the product page on ROHM's website. Please check the website for the latest updates.

Detection of all movements

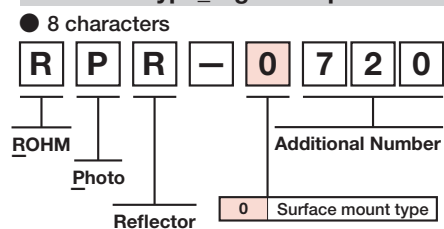


●Product No. Explanation

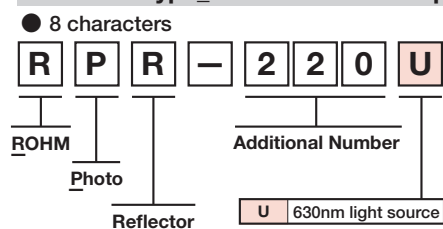
Transmission type_Phototransistor output



Reflective type_Digital output



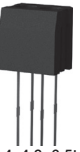
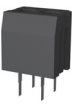
Reflective type_Phototransistor output



Transmission Type Photointerrupters

Linear Phototransistor Output												
Package	Exterior	Part No.	Output type	Standard Characteristics						Packing Specifications	Positioning	Remarks
				Detection Groove Width (mm)	Slit Width (mm)	I _C (mA)	V _{CE} (V)	I _F (mA)	tr, tf (μs)			
Surface Mount type		New RPI-0128	Phototransistor	1.2	0.2	1.0 Min 5.0 Max	5	5	10	Taping		Ultra-Compact
		RPI-0125		1.2	0.3	0.45 Min 4.95 Max	5	20	10			Ultra-Compact
		RPI-0226		2.0	0.3	0.1 Min	5	5	50		✓	Compact
		RPI-0352E		3.0	0.4	0.18 Min	5	10	10		✓	Wide Gap, Energy Saving, High Efficiency
		RPI-0451E		4.5	0.5	0.16 Min	5	10	10		✓	Wide Gap, Energy Saving, High Efficiency
Lead type		RPI-122		0.8	0.25	0.18 Min 1.08 Max	0.7	3	10	Bulk		Ultra-Compact
		RPI-121		0.8	0.4	0.7 Min	5	20	10			Ultra-Compact
		RPI-125		1.2	0.3	0.45 Min 4.95 Max	5	20	10			Ultra-Compact
		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		✓	Wide Gap
		RPI-441C1		4.0	0.5	0.2 Min	5	20	10		✓	Wide Gap
		RPI-441C1E		4.0	0.5	0.2 Min	5	10	10		✓	Wide Gap, Energy Saving, High Efficiency

Reflective Type Photosensors

Digital Output									
Package	Part No.	Type	Interface	Features	Visible Light Filter	Supply Voltage		Emitter Wavelength (nm)	Recommended Operating Distances (mm)
						V _{DD} /V _{CC} (V)	V _{LEDA} /V _{VCELA} (V)		
 2.0×1.0×0.55t	New RPR-0720	SMD	Digital (I ² C)	VCSEL Drvr. Proximity Sensor	Built-in Nose Cancellation Function	1.7 to 3.6	2.7 to 4.5	940	<10
 3.94×2.36×1.35t	RPR-0521RS	SMD	Digital (I ² C)	LED Drvr. Proximity Sensor Ambient Light Sensor	Built-in Nose Cancellation Function	2.5 to 3.6	2.8 to 5.5	940	<50
Phototransistor Output									
Package	Part No.	Type	Interface	Features	Visible Light Filter	Absolute maximum ratings		Emitter Wavelength (nm)	Focus Length (mm)
						I _F (mA)	V _{CEO} (V)		
 6.4×4.9×6.5t Without Leadframe	RPR-220	DIP	Analog	Visible light filter	✓	50	30	940	6.0
 6.4×4.9×6.5t Without Leadframe	RPR-220UC30N	DIP	Analog	Red LED	—	30	30	630	6.0



Infrared Light Emitting Diodes (NIR: Near Infrared)

These Ir-LEDs can be used for various remote control applications.

Infrared Light Emitting Diodes											
Package	Part No.	Type	Features	Standard Characteristics							
				Absolute Maximum Rating							
				I_F (mA)	I_E (mW/sr)	I_F (mA)	V_F (V)	I_F (mA)	λ_P (nm)	t_r, t_f (μs)	$\theta_{1/2}$ (deg)
	SIR-34ST3F	DIP	Optimized for remote controls	100	10.5	50	1.3	100	950	1	27
	SIR-341ST3F	DIP	Compact, high power	75	18.1	50	1.3	50	940	1	16
	SIR-56ST3F	DIP	Optimized for remote controls	100	15	50	1.3	100	950	1	15
	SIR-563ST3F	DIP	High power, Optimized for remote controls	100	21	50	1.34	50	940	1	15

Surface Mount type Infrared LEDs Top View Type

Package (mm)	Part No.	LED Chip	Emitting Color	Electrical and Optical Characteristics (T _a =25°C)										Absolute Maximum Rating (T _a =25°C)					
				Peak Wavelength λ _P		Radiant Intensity				Forward Voltage V _F		Reverse Current I _R		Power Dissipation P _D (mW)	Forward Voltage I _F (mA)	Peak Forward Current I _{FP} (mA)	Reverse Voltage V _R (V)	Operating Temperature T _{opr} (°C)	Storage Temperature T _{stg} (°C)
				Typ (nm)	I _F (mA)	Min (mW/sr)	Typ (mW/sr)	Max (mW/sr)	I _F (mA)	Typ (V)	I _F (mA)	Typ (μA)	V _R (V)						
 1.0×0.6 (t=0.2)	New SML-P14RW	AlGaAs	Infrared	860	30	1.8	2.8	4.5	30	1.5	30	10	5	100	50	200*1	5	-40 to +85	-40 to +100
	New SML-P14R3W	AlGaAs	Infrared	940	30	1.8	2.8	4.5	30	1.5	30	10	5	100	50	200*1	5	-40 to +85	-40 to +100
 1.6×0.8 (t=1.24)	New CSL0902RT	AlGaAs	Infrared	850	20	2.8	4.6	5.6	20	1.4	20	10	5	60	30	100*1	5	-40 to +85	-40 to +100
	New CSL0902R3T	AlGaAs	Infrared	940	20	(2.8)	(4.6)	(7.1)	20	1.4	20	10	5	60	30	100*1	5	-40 to +85	-40 to +100
 1.6×0.8 (t=1.06)	New CSL1002RT	AlGaAs	Infrared	850	20	1.4	1.9	2.8	20	1.4	20	10	5	60	30	100*1	5	-40 to +85	-40 to +100
	New CSL1002R3T	AlGaAs	Infrared	940	20	(1.4)	(1.9)	(2.8)	20	1.4	20	10	5	60	30	100*1	5	-40 to +85	-40 to +100
 2.0×1.25 (t=0.8)	New SML-H15RT	AlGaAs	Infrared	850	20	1.8	2.2	2.8	20	1.4	20	10	5	60	30	100*1	5	-40 to +85	-40 to +100
 2.0×1.25 (t=0.8)	SML-M13RT	AlGaAs	Infrared	870	20	0.5	1.7	3.5	20	1.4	20	10	5	60	30	100*1	5	-40 to +85	-40 to +100
 3.0×1.5 (t=2.2)	SCM-013RT	AlGaAs	Infrared	850	20	0.5	2.0	5.0	20	1.4	20	10	5	57	30	300*1	5	-40 to +85	-40 to +100
 3.2×1.6 (t=1.85)	SML-S13RT	AlGaAs	Infrared	850	20	1.5	2.5	3.6	20	1.4	20	10	5	60	30	300*1	5	-40 to +85	-40 to +100
 3.2×1.6 (t=1.85)	SML-S15R2T	AlGaAs	Infrared	870	20	5.6	12	22	20	1.4	20	10	5	100	50	300*1	5	-40 to +85	-40 to +100

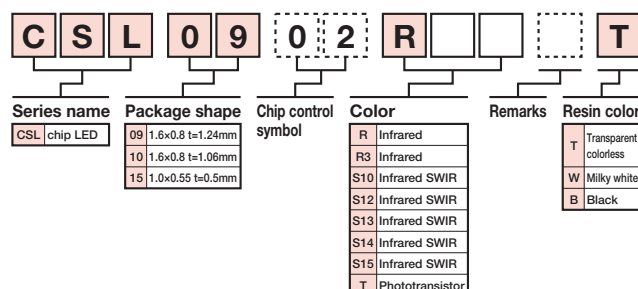
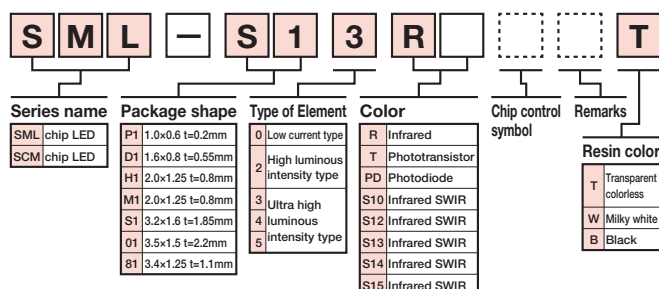
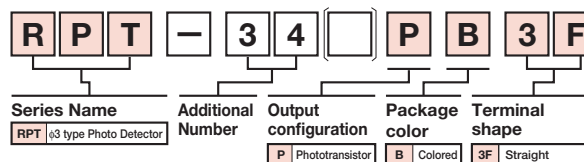
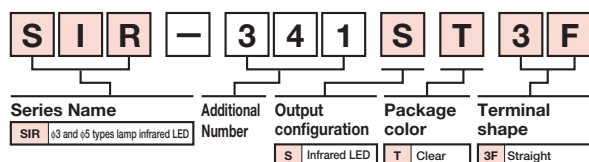
Surface Mount type Infrared LEDs Side View Type

Package (mm)	Part No.	LED Chip	Emitting Color	Electrical and Optical Characteristics (T _a =25°C)										Absolute Maximum Rating (T _a =25°C)					
				Peak Wavelength λ _P		Radiant Intensity				Forward Voltage V _F		Reverse Current I _R		Power Dissipation P _D (mW)	Forward Voltage I _F (mA)	Peak Forward Current I _{FP} (mA)	Reverse Voltage V _R (V)	Operating Temperature T _{op} (°C)	Storage Temperature T _{stg} (°C)
				Typ (nm)	I _F (mA)	Min (mW/sr)	Typ (mW/sr)	Max (mW/sr)	I _F (mA)	Typ (V)	I _F (mA)	Typ (μA)	V _R (V)						
 1.0×0.55 (t=0.5)	New CSL1501RW	AlGaAs	Infrared	860	30	1.9	2.5	3.4	30	1.5	30	10	5	100	50	200*1	5	-40 to +85	-40 to +100
	New CSL1501RT	AlGaAs	Infrared	860	30	1.9	2.5	3.4	30	1.5	30	10	5	100	50	200*1	5	-40 to +85	-40 to +100
	New CSL1501R3T	AlGaAs	Infrared	940	30	1.9	2.5	3.4	30	1.5	30	10	5	100	50	200*1	5	-40 to +85	-40 to +100

*1 Duty≤1/10, 1kHz

(): Reference

●Product No. Explanation



Phototransistors (NIR: Near Infrared)

ROHM phototransistors are used in a variety of compact precision devices due to their high reliability and high output.

Phototransistors																		
Package	Part No.	Type	Feature	Visible Light Filter	Visible Light Filter		Standard Characteristics											
					V _{CEO} (V)	P _C Max (mW)	I _{CEO} Max (μA)	V _{CE} (V)	I _C (mA)	λ _P (nm)	tr, tf (μs)	θ1/2 (deg)						
 φ3mm	RPT-34PB3F	DIP	Visible light filter	✓	32	150	0.5	10	2.0 Min	800	10	36						
	RPT-37PB3F	DIP	Visible light filter, Polarity discrimination	✓	32	150	0.5	10	2.0 Min	800	10	36						
	RPT-38PB3F	DIP	Visible light filter	✓	32	150	0.5	10	2.0 Min	800	10	36						
Phototransistors (NIR: Near Infrared)																		
Package (mm)	Part No.	LED Chip	Electrical and Optical Characteristics (T _a =25°C)										Absolute Maximum Ratings (T _a =25°C)					
			Light Current			Dark Current		Sensitivity Wavelength	Collector-Emitter Saturation Voltage				Collector-Emitter Voltage (V)	Emitter-Collector Voltage (V)	Collector Current (mA)	Collector Power Dissipation (mW)	Operating Temperature Topr (°C)	Storage Temperature Tstg (°C)
			Min (mA)	Max (mA)	V _{CE} (V) / _E (Lx)	Max (μA)	V _{CE} (V)	λ _P Typ (nm)	Min (V)	Typ (V)	Max (V)	I _C (mA) / _E (Lx)						
 2.0×1.25 (t=0.8)	SML-H10TB	Si	2.0	4.0	5/500	0.5	10	800	—	—	0.4	0.1/500	32	5	30	80	-30 to +85	-30 to +100
 3.0×1.5 (t=2.2)	SCM-014TB	Si	0.3	3.8	5/500	0.5	10	800	—	—	0.4	0.1/500	32	5	30	100	-30 to +85	-30 to +100
 Reverse Mount Available 3.4×1.25 (t=1.1)	SML-810TB	Si	2.3	3.8	5/500	0.5	10	800	—	—	0.4	0.1/500	32	5	30	80	-30 to +85	-30 to +100

Infrared Light Emitting Diodes (SWIR: Short Wavelength Infrared)

Surface Mount type Infrared LEDs																			
Package (mm)	Part No.	LED Chip	Emitting Color	Electrical and Optical Characteristics (T _a =25°C)										Absolute Maximum Rating (T _a =25°C)					
				Peak Wavelength λ _P		Radiant Intensity				Forward Voltage V _F		Reverse Current I _R		Power Dissipation P _D (mW)	Forward Current I _F (mA)	Peak Forward Current I _{FP} (mA)	Reverse Voltage V _R (V)	Operating Temperature T _{opr} (°C)	Storage Temperature T _{stg} (°C)
				Typ (nm)	I _F (mA)	Min (mW/sr)	Typ (mW/sr)	Max (mW/sr)	I _F (mA)	Typ (V)	I _F (mA)	Typ (μA)	V _R (V)						
 1.6×0.8 (t=1.24)	New CSL0901S10T	AlGaAs	Infrared	(1050)	50	(7.1)	(13)	(18)	50	1.2	50	10	5	150	80	100*1	5	-40 to +85	-40 to +100
	New CSL0901S13T	InAlGaAs	Infrared	(1300)	50	(3.6)	(6.0)	(9.0)	50	1.0	50	10	5	150	80	100*1	5	-40 to +85	-40 to +100

*1 Duty:1/10, 1kHz

(): Reference

Photodiodes (SWIR: Short Wavelength Infrared)

Photo diodes (SWIR: Short Wavelength Infrared)									
Package (mm)	Part No.	Electrical and Optical Characteristics (T _a =25°C)					Absolute Maximum Rating (T _a =25°C)		
		Photo Sensitive Area (um)	Sensitivity Wavelength (Typ) (nm)	Dark Current (nA)		Responsivity (A/W) λ _P =1550nm	Reverse Voltage (V)	Operation Temperature T _{opr} (°C)	Storage Temperature T _{stg} (°C)
				V _R =1V					
				Typ	Max				
 2.0×1.25 (t=0.8)	New SML-H10PD2B	φ 200	1550	(0.04)	(0.80)	1	5	−25 to +85	−40 to +100

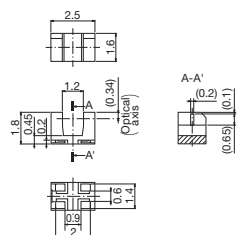
(): Reference

Packages

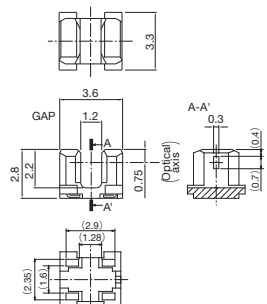
●Dimensions (Unit: mm)

[Transmission Type Photointerrupters]

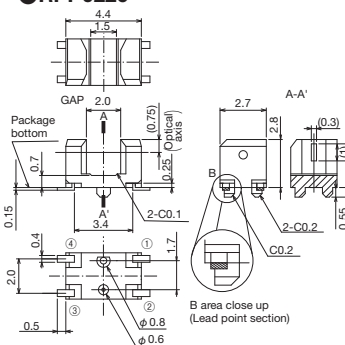
●RPI-0128



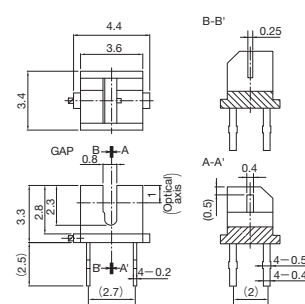
●RPI-0125



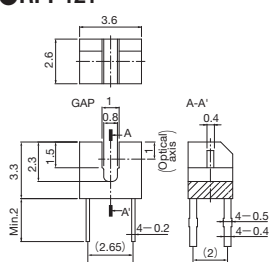
●RPI-0226



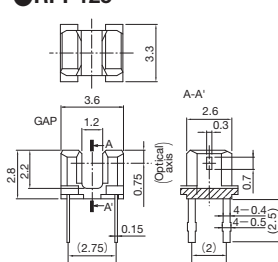
●RPI-122



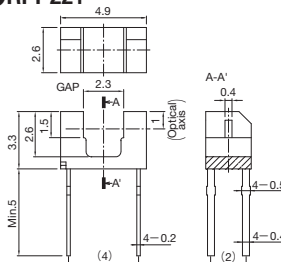
●RPI-121



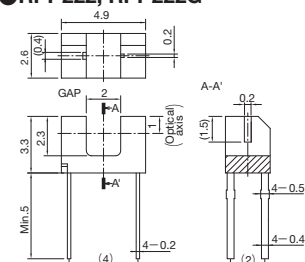
●RPI-125



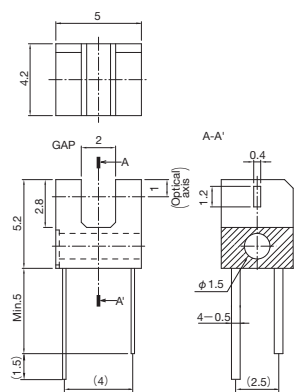
●RPI-221



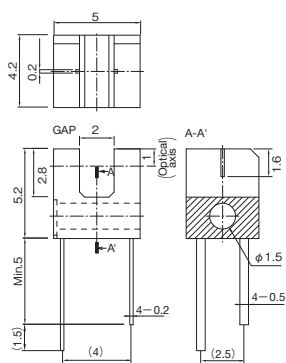
●RPI-222, RPI-222G



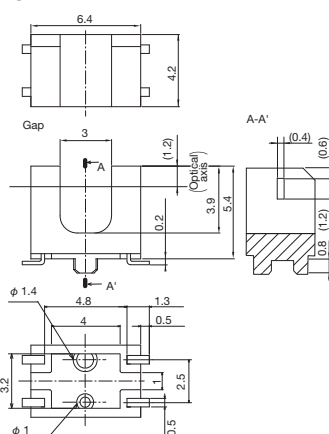
●RPI-243



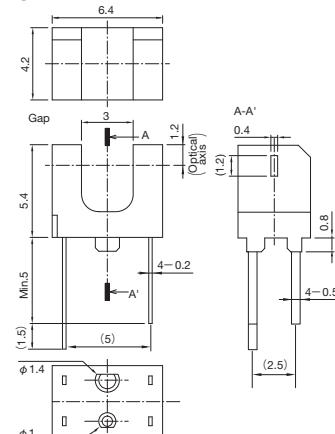
●RPI-246



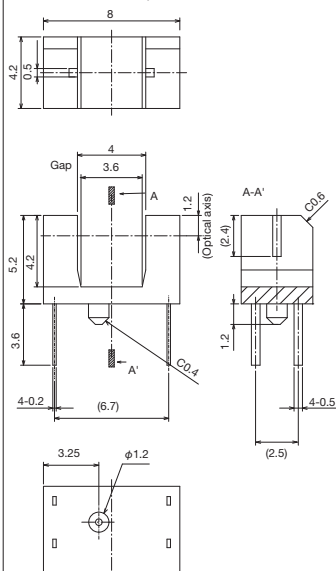
●RPI-0352E



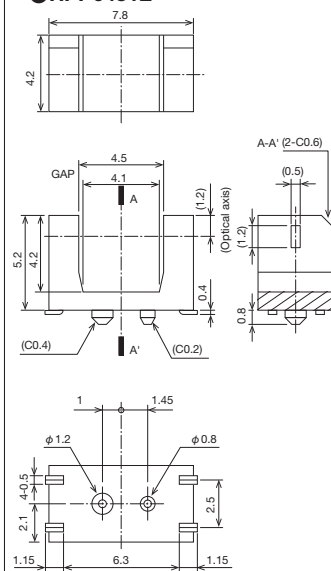
●RPI-352



●RPI-441C1, RPI-441C1E

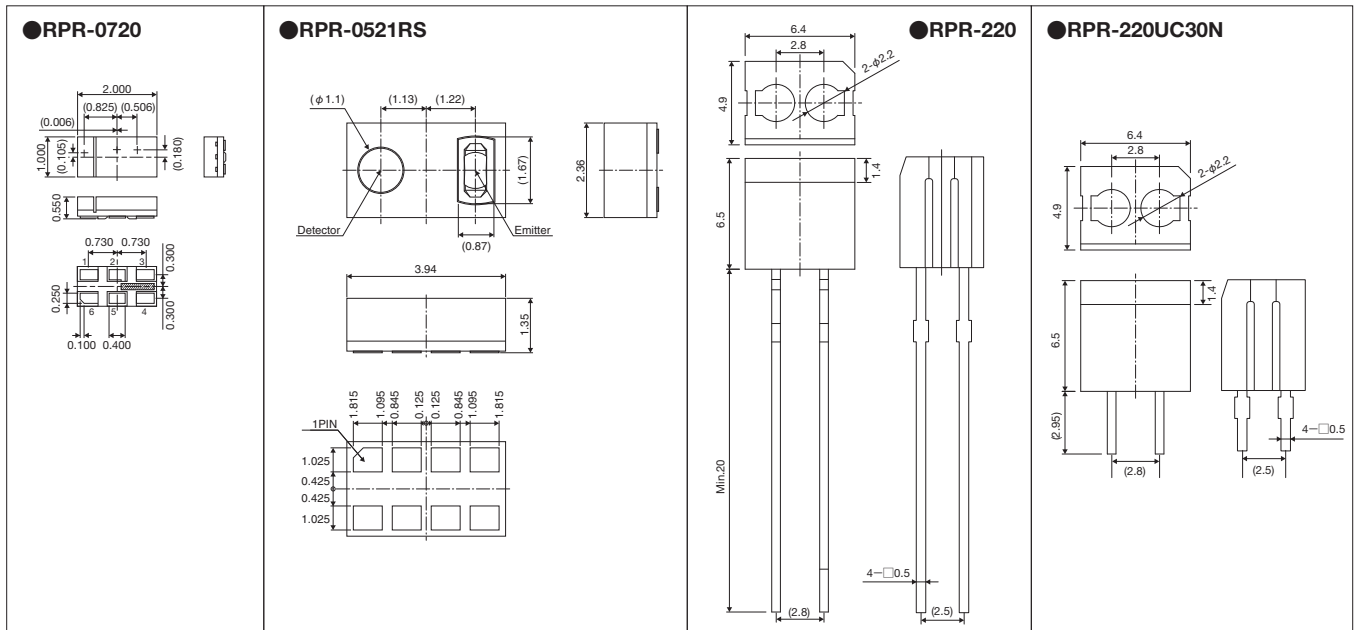


●RPI-0451E

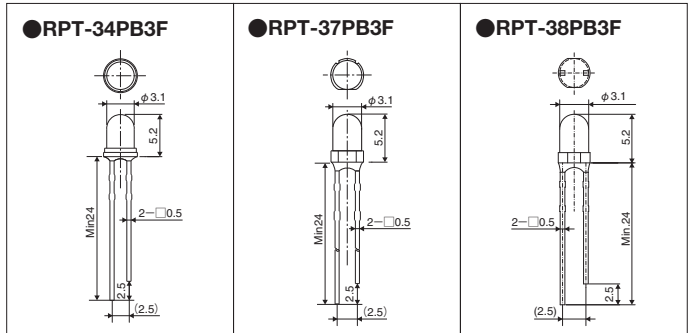


● Dimensions (Unit: mm)

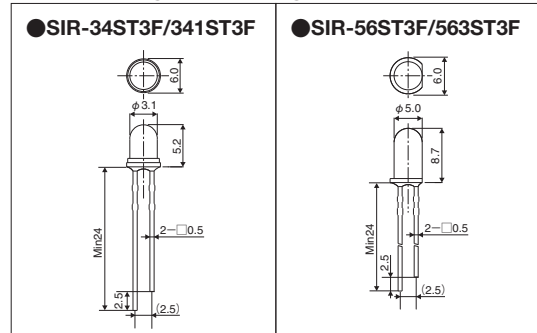
[Reflective Type Photosensors]



[Phototransistors]



[Infrared Light Emitting Diodes]



[NIR: Near Infrared/SWIR: Short Wavelength Infrared]

