

By Category PDF

Category Optical Sensors

Opto Devices

















# Optical Sensors

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## Optical Sensors

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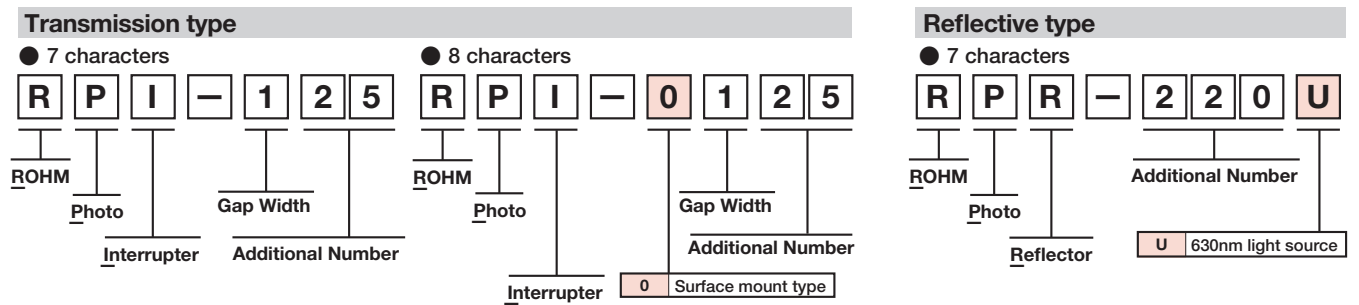
## Transmission type Photointerrupters

Linear Phototransistor Output												
Package	Exterior	Part No.	Output type	Standard Characteristics						Packing Specifications	Positioning	Remarks
				Detection Groove Width (mm)	Slit Width (mm)	I <sub>c</sub> (mA)	V <sub>CE</sub> (V)	I <sub>F</sub> (mA)	t <sub>r</sub> , t <sub>f</sub> (μs)			
Surface Mount type		<b>New</b> 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			
		<b>New</b> RPI-222G	2.0	0.2	0.18 Min 0.95 Max	5	10	10			Halogen free	
		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			

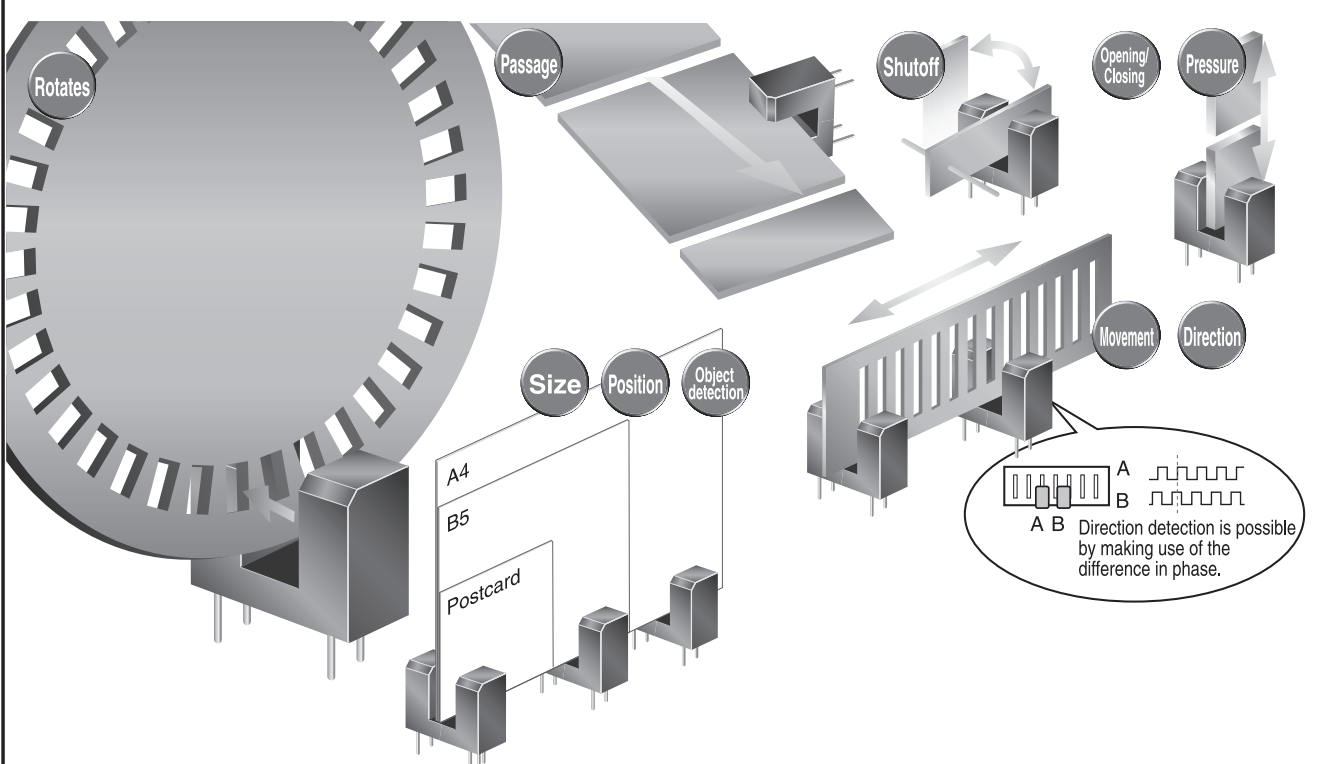
# Reflective type Photosensors

Photoreflectors type												
Package	Exterior	Part No.	Output type	Standard Characteristics								
				Focal Length (mm)	LED $\lambda_P$ (nm)	Ptr $\lambda_P$ (nm)	I <sub>c</sub> (mA)	V <sub>CE</sub> (V)	I <sub>F</sub> (mA)	tr, tf (μs)	Packing Specifications	Remarks
Lead type		RPR-220	Phototransistor	6.0	940	800	0.08 Min 0.8 Max	2	10	10	Bulk	
		RPR-220UC30N		6.0	630	800	0.08 Min 0.8 Max	5	10	10	Stick	Emitting Color: Red

## ● Product No. Explanation



## Detection of all movements





The diagram illustrates the versatility of reflective photosensors in detecting different types of movements and objects:

- Rotates:** A sensor is positioned to detect the rotation of a disk with a slotted edge.
- Passage:** A sensor is used to detect the presence of an object passing through a defined gap.
- Shutoff:** A sensor is used to detect when a component is moved into a specific position, triggering a shutoff.
- Opening/Closing:** A sensor is used to detect the state of a door or lid.
- Pressure:** A sensor is used to detect when a force is applied to a surface.
- Movement/Direction:** A sensor is used to detect the direction of movement. A phase diagram shows two signals, A and B, where the phase difference indicates the direction of travel.
- Size/Position/Object detection:** A sensor is used to detect the size and position of a postcard.


## Infrared Light Emitting Diodes

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

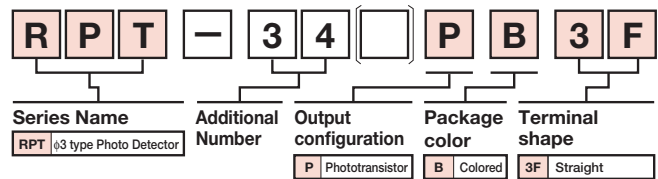
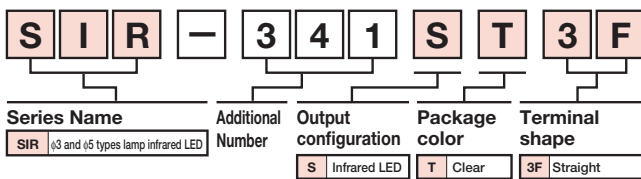
Infrared Light Emitting Diodes											
Package	Exterior	Part No.	Features	Absolute Maximum Rating	Standard Characteristics						
				I <sub>F</sub> (mA)	I <sub>E</sub> (mW/sr)	I <sub>F</sub> (mA)	V <sub>F</sub> (V)	I <sub>F</sub> (mA)	λ <sub>P</sub> (nm)	tr, tf (μs)	θ1/2 (deg)
φ3 resin		SIR-34ST3F	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
φ5 resin		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

## Phototransistors


ROHM phototransistors have high reliability and large collector currents, φ3 mm lamp packages are available.

Phototransistors												
Package	Exterior	Part No.	Feature	Visible Light Filter	Visible Light Filter		Standard Characteristics					
					V <sub>CE0</sub> (V)	P <sub>C</sub> Max (mW)	I <sub>CE0</sub> Max (μA)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	λ <sub>P</sub> (nm)	tr, tf (μs)	θ1/2 (deg)
φ3 resin		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

### Product No. Explanation



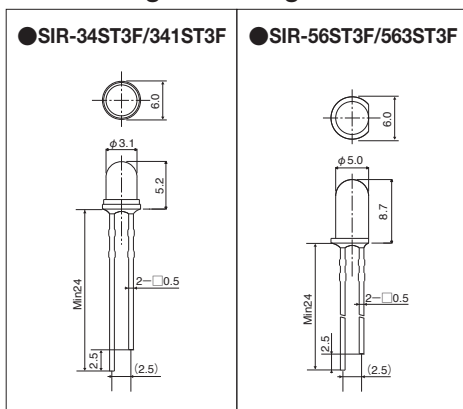
## Ambient Light and Proximity Sensor

Ambient Light and Proximity Sensor									
Package	Exterior	Part No.	Features	Visible Light Filter	Interface	Absolute Maximum Rating		Standard Characteristics	
						V <sub>DD</sub> Max (V)	V <sub>leda</sub> Max (V)	PS Sensor Out (Count)	λ <sub>P</sub> (nm)
Surface Mount type		RPR-0521RS	Proximity Sensor and Ambient Light Sensor	Built-in Noise Cancellation Function	I <sup>2</sup> C	4.5	7	80	940

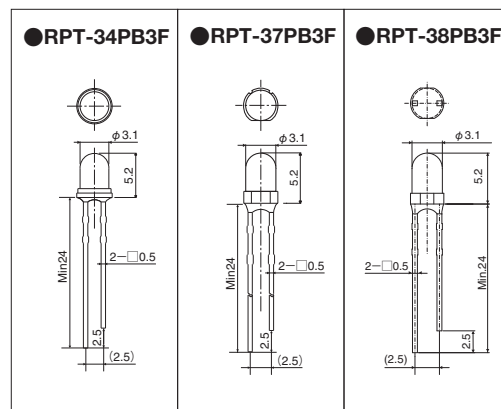
## Packages

### Dimensions (Unit: mm)

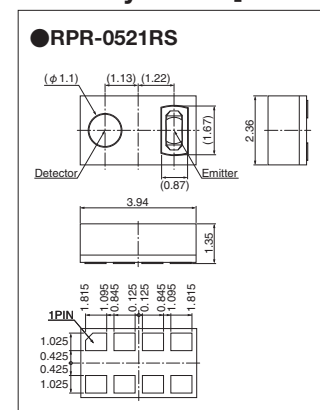
#### [Infrared Light Emitting Diodes]



#### [Phototransistors]



#### [Ambient Light and Proximity Sensor]



## ● Dimensions (Unit: mm)

### [Photointerrupter]

