

RPM-012PB

Sensors

# High Sensitivity Chip Sensor, Side view type

## RPM-012PB

The RPM-012PB is ultra small size and high sensitivity chip sensor. Original technology, original structure and original optical design enable to use Automatic mounting machine, Reflow, ultra small size, high sensitivity.

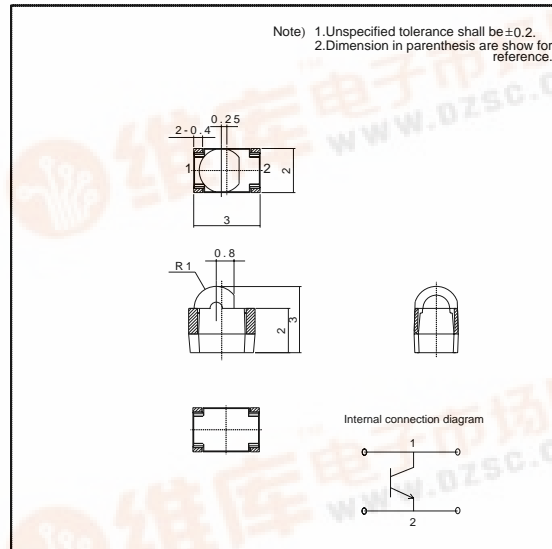
●Application

Optical control equipment  
Receiver for sensors

●Features

- 1) High sensitivity by  $\phi 2$  lenze.
- 2) Ultra-compact surface mount package.  
(3mm x 3mm x 2mm)
- 3) It is possible to do Reflow.

●External dimensions (Units : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-emitter voltage	V <sub>CEO</sub>	32	V
Emitter-collector voltage	V <sub>ECO</sub>	5	V
Collector current	I <sub>c</sub>	20	mA
Collector power dissipation	P <sub>c</sub>	75	mW
Operating temperature	T <sub>opr</sub>	-30~+85	°C
Storage temperature	T <sub>stg</sub>	-40~+100	°C

●Electrical and optical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Light current	I <sub>c</sub>	0.56	1.6	2.8	mA	V <sub>CE</sub> =5V, E=500Lx
Dark current	I <sub>CEO</sub>	-	-	0.5	μA	V <sub>CE</sub> =10V (Black box)
Peak sensitivity wavelength	λ <sub>p</sub>	-	800	-	nm	-
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-	0.4	V	I <sub>c</sub> =0.1mA, E=500Lx
Half-angle	θ <sub>1/2</sub>	-	±12	-	deg	-
Response time	tr-tf	-	10	-	μs	V <sub>CC</sub> =5V, I <sub>c</sub> =1mA, R <sub>L</sub> =100Ω

Sensors

●Electrical and optical characteristic curves

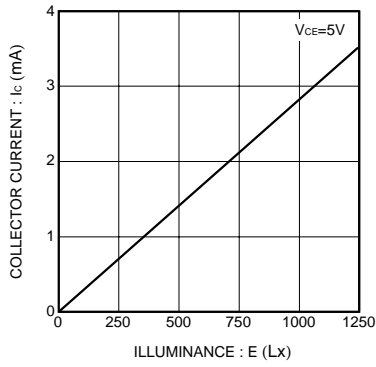


Fig.1 Collector current-Illuminance

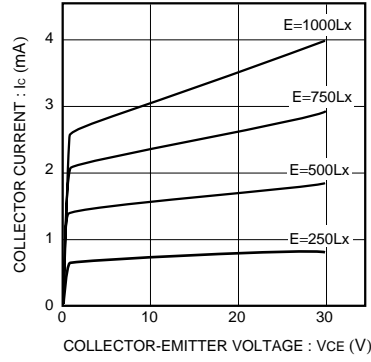


Fig.2 Output characteristics

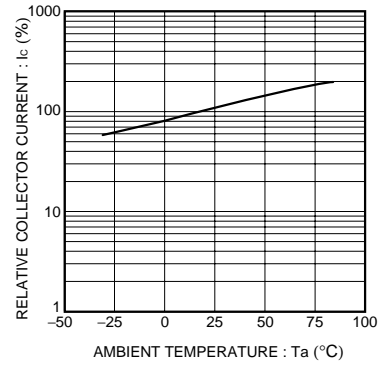


Fig.3 Relative output-Ambient temperature

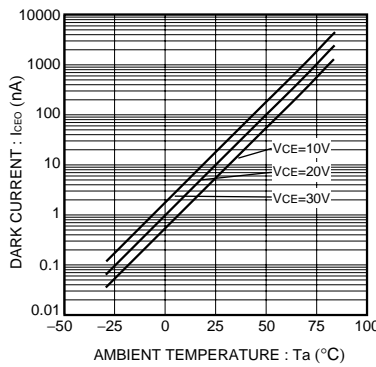


Fig.4 Dark current-Ambient temperature

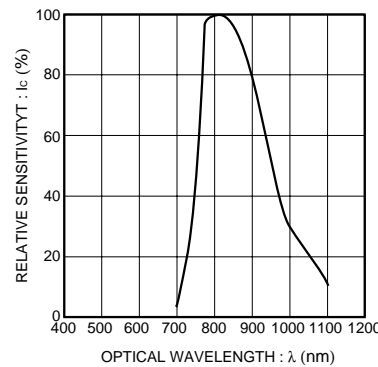


Fig.5 Spectral sensitivity characteristics

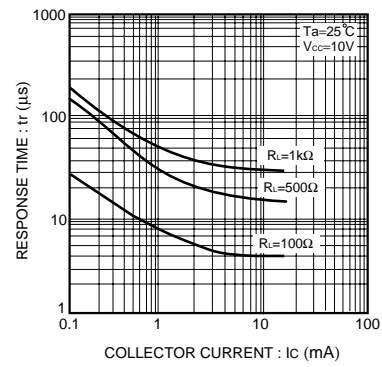


Fig.6 Response time-Collector current

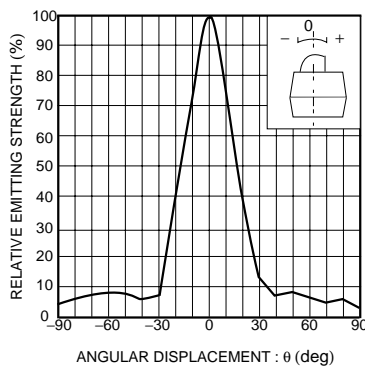


Fig.7 Directional pattern(1)

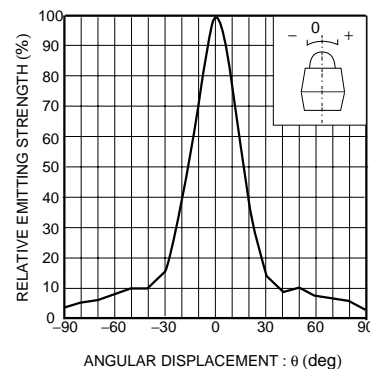


Fig.8 Directional pattern(2)

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