



**THE DATASHEET OF
RPM-012PBT87**



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.

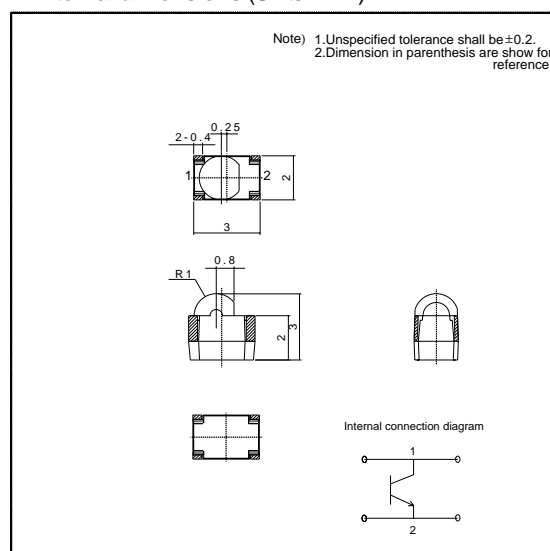
●Application

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_{CE0}	32	V
Emitter-collector voltage	V_{EC0}	5	V
Collector current	I_c	20	mA
Collector power dissipation	P_c	75	mW
Operating temperature	T_{opr}	-30~+85	°C
Storage temperature	T_{stg}	-40~+100	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Light current	I_c	0.56	1.6	2.8	mA	$V_{CE}=5V, E=500Lx$
Dark current	I_{CE0}	-	-	0.5	μA	$V_{CE}=10V$ (Black box)
Peak sensitivity wavelength	λ_P	-	800	-	nm	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.4	V	$I_c=0.1mA, E=500Lx$
Half-angle	$\theta_{1/2}$	-	± 12	-	deg	-
Response time	tr·tf	-	10	-	μs	$V_{CC}=5V, I_c=1mA, R_L=100\Omega$

Sensors

●Electrical and optical characteristic curves

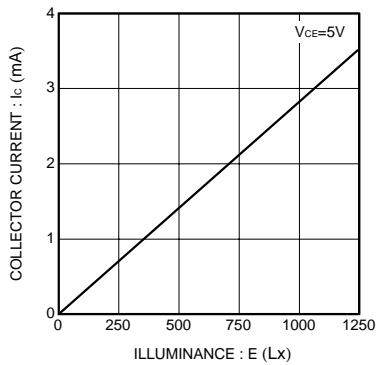


Fig.1 Collector current-Illuminance

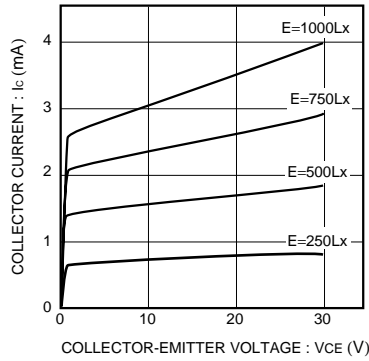


Fig.2 Output characteristics

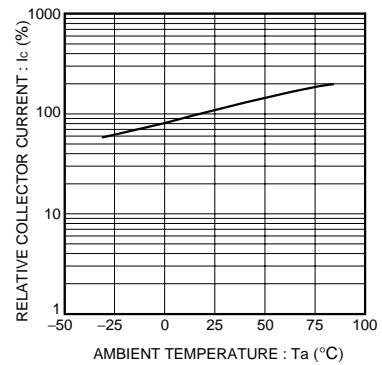


Fig.3 Relative output-Ambient temperature

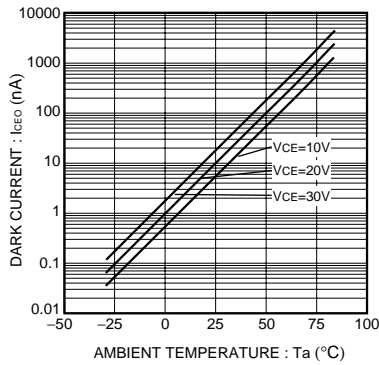


Fig.4 Dark current-Ambient temperature

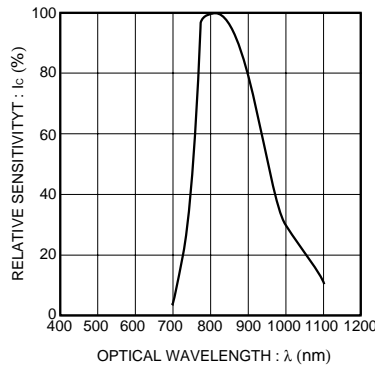


Fig.5 Spectral sensitivity characteristics

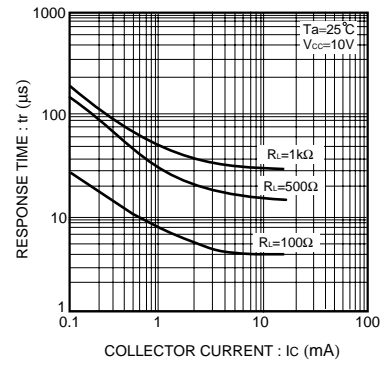


Fig.6 Response time-Collector current

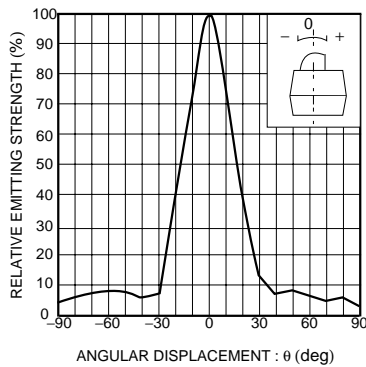


Fig.7 Directional pattern(1)

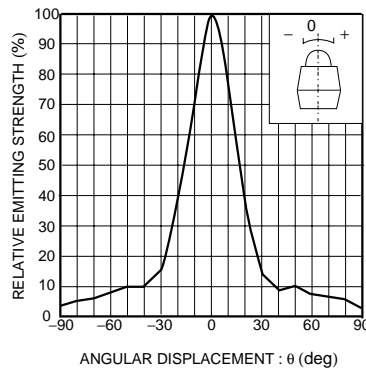




Fig.8 Directional pattern(2)

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