5mm Phototransistor T-1

Features

- Fast response time
- High photo sensitivity
- Pb free
- This product itself will remain within RoHS compliant version.

Descriptions

- PT5308B-M-5B is a high speed and high sensitive NPN silicon NPN epitaxial planar phototransistor molded in a standard 5 mm package. Due to is black epoxy the device is sensitive to visible and near Infrared radiation.

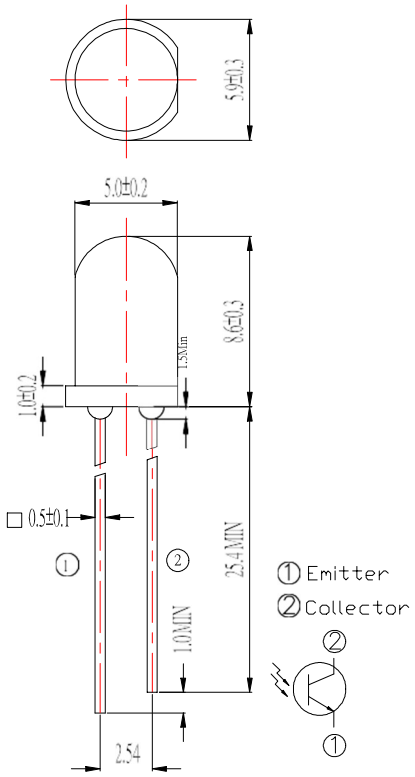
Applications

- Infrared applied system
- Camera
- Cockroach catcher

Device Selection Guide

LED Part No.	Chip Material	Lens Color
PT	Silicon	Black

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ±0.25mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector-Voltage	V_{ECO}	5	V
Collector Current	I_C	20	mA
Operating Temperature	Topr	-25 ~ +85℃	℃
Storage Temperature	Tstg	-40 ~ +85℃	℃
Lead Soldering Temperature(*1)	Tsol	260	℃
Power Dissipation at (or below) 25℃ Free Air Temperature	Pc	100	mW

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.		Typ.	Max.	Units
Collector – Emitter Breakdown Voltage	BV_{CEO}	I_C=100μA Ee=0mW/cm^2	30		---	---	V
Emitter-Collector Breakdown Voltage	BV_{ECO}	I_E=100μA Ee=0mW/cm^2	5		---	---	V
Collector-Emitter Saturation Voltage	$V_{CE)(sat)}$	I_C=2mA Ee=1mW/cm^2	---		---	0.4	V
Rise Time	t_r	V_{CE}=5V I_C=1mA RL=1000Ω	---		15	---	μS
Fall Time	t_f		---		15	---	
Collector Dark Current	I_{CEO}	Ee=0mW/cm^2 V_{CE}=20V	---		---	300	nA
On State Collector Current	$I_{C(on)}$	Ee=1mW/cm^2 V_{CE}=5V	0.7		3.0	---	mA
Wavelength of Peak Sensitivity	λp	---	---		940	---	nm
Rang of Spectral Bandwidth	$\lambda_{0.5}$	---	---		750-1100	---	nm

Typical Electro-Optical Characteristics Curves

Fig.1Collector Power Dissipation vs. Ambient Temperature

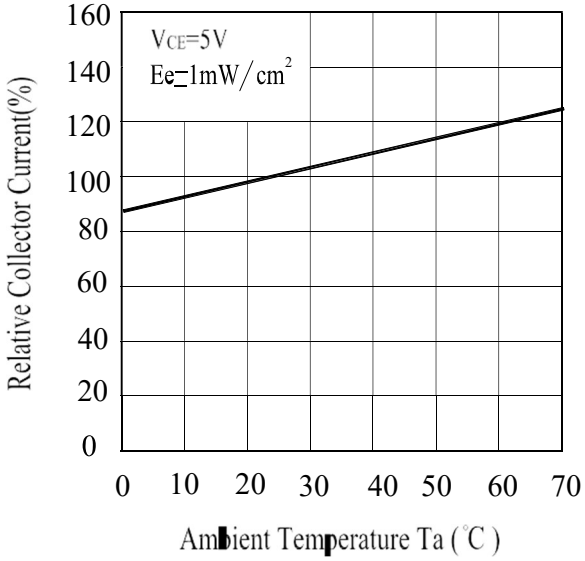


Fig.2 Spectral Sensitivity

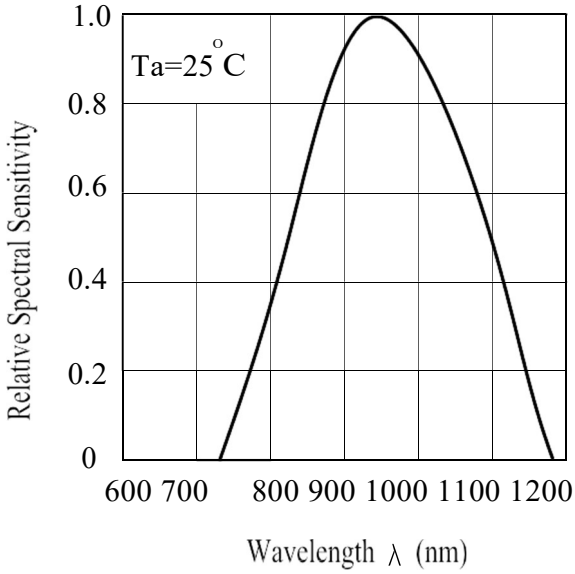


Fig.3 Relative Collector Current vs. Ambient Temperature

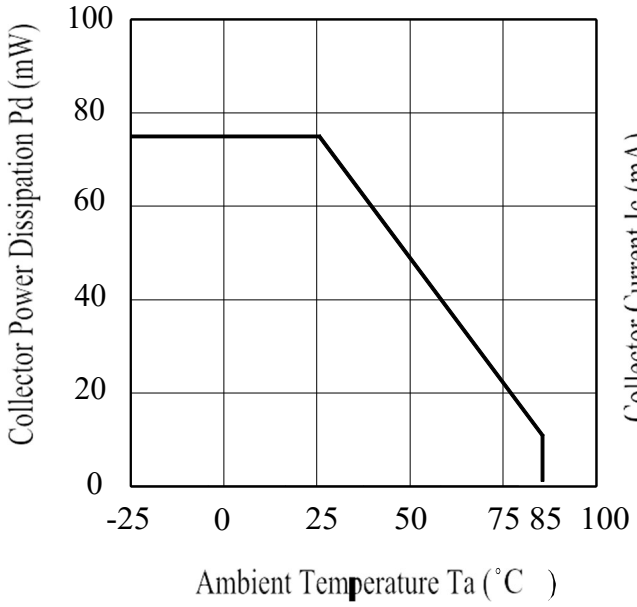
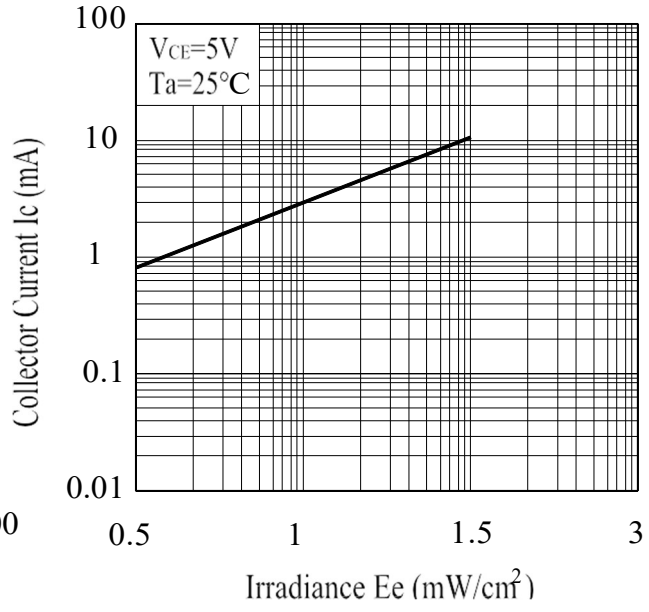


Fig.4 Collector Current vs. Irradiance



Typical Electro-Optical Characteristics Curves

Fig.5 Collector Dark Current vs. Ambient Temperature

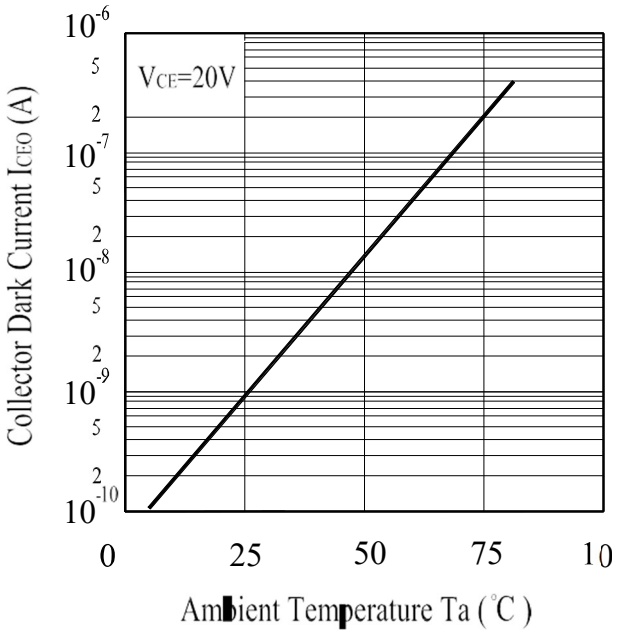


Fig.6 Collector Current vs. Collector-Emitter Voltage