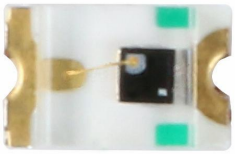
Technical Data Sheet

0805 SMD Phototransistor： PT0805CS

■ Features



. Fast response time
. High photo sensitivity
. Pb free
. Compliance with EU REACH
. The product itself will remain within RoHS compliant version.

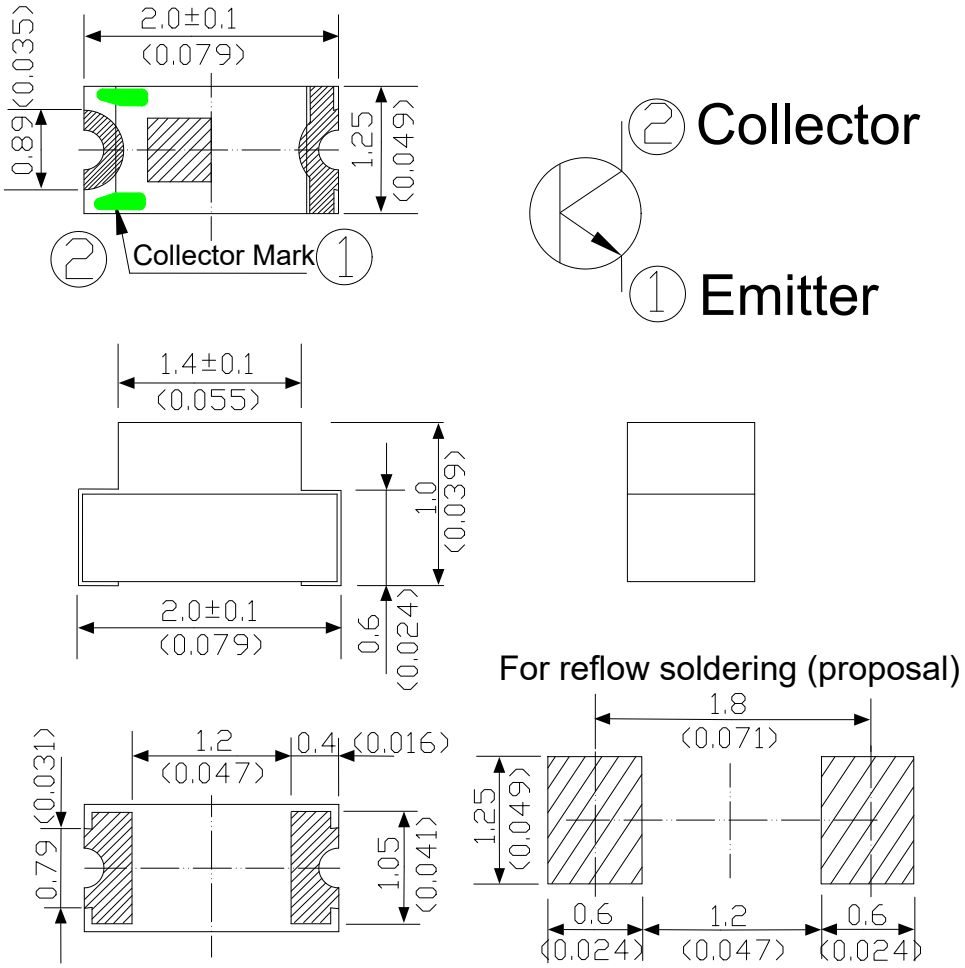
■ Descriptions

PT0805CS is a high speed and high sensitive NPN silicon planar phototransistor in a miniature flat top view lens SMD package. The device is spectrally matched to visible and infrared emitting diode.

■ Applications

. Infrared applied system
. Miniature switch
. Position sensor
. Encoder
. Counters and sorter

■ Package Dimensions



Note: 1. All dimensions are in millimeters(inches)
2. Tolerances unless dimensions ± 0.1mm(.004")
3. Suggested pad dimension is just for reference only
Please modify the pad dimension based on need

■ 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
Power Dissipation at (or below) 25℃ Free Air Temperature	Pc	75	mW
Lead Soldering Temperature	Tsol	260	℃
Operating Temperature	Topr	-20 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +85	℃

■ Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Range of Spectral Bandwidth	$\lambda_{0.5}$	---	400	--	1100	nm
Wavelength of Peak Sensitivity	λp	---	--	940	--	nm
Collector – Emitter Breakdown Voltage	BV_{CEO}	I_C=100μA Ee=0mW/cm²	30	--	--	V
Emitter-Collector Breakdown Voltage	BV_{ECO}	I_E=100μA Ee=0mW/cm²	5	--	--	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2mA Ee=1mW/cm²	--	--	0.4	V
Rise Time	tr	V_{CE}=5V I_C=1mA RL=1000Ω	--	15	--	μS
Fall Time	t_f		--	15	--	μS
DC Current Amplification Factor	H_{FE}	V_{CE}=5V, IC=2mA	1000	--	1800	
Collector Dark Current	I_{CEO}	Ee=0mW/cm² V_{CE}=20V	--	--	100	nA
On State Collector Current	$I_{C(on)}$	Ee=1mW/cm² V_{CE}=5V	0.3	1.0	--	mA

■ Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

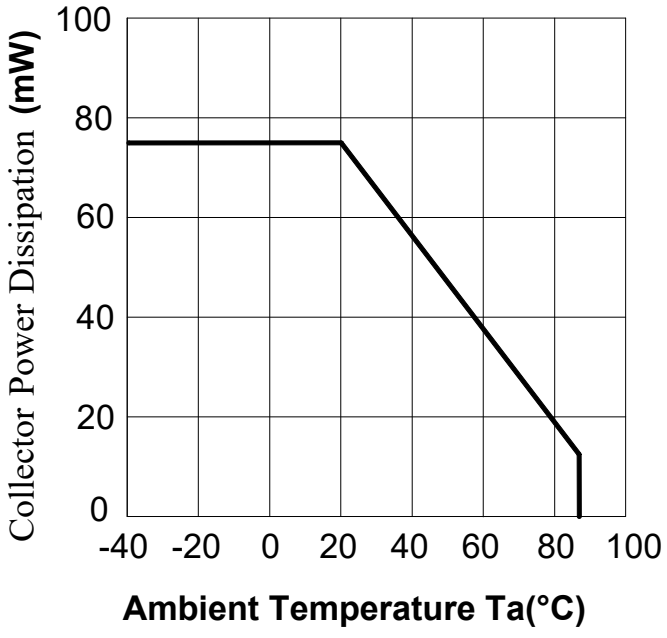


Fig.2 Spectral Sensitivity

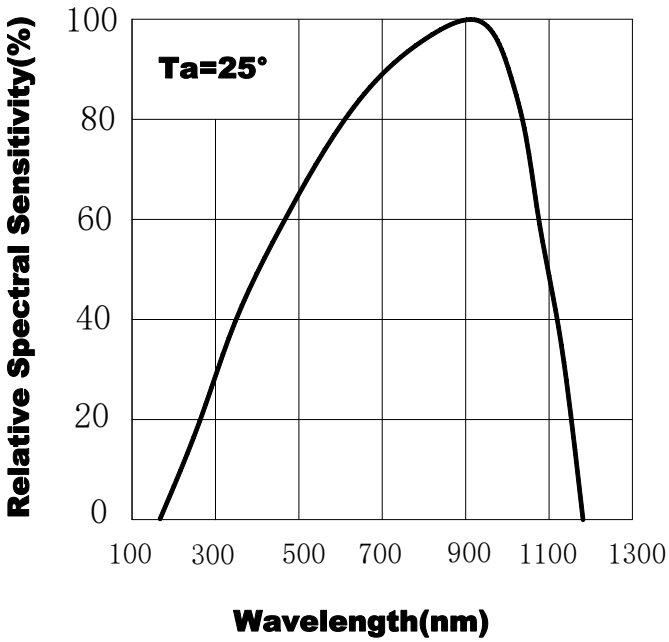


Fig.3 Relativ Collector Current vs. Ambient Temperature

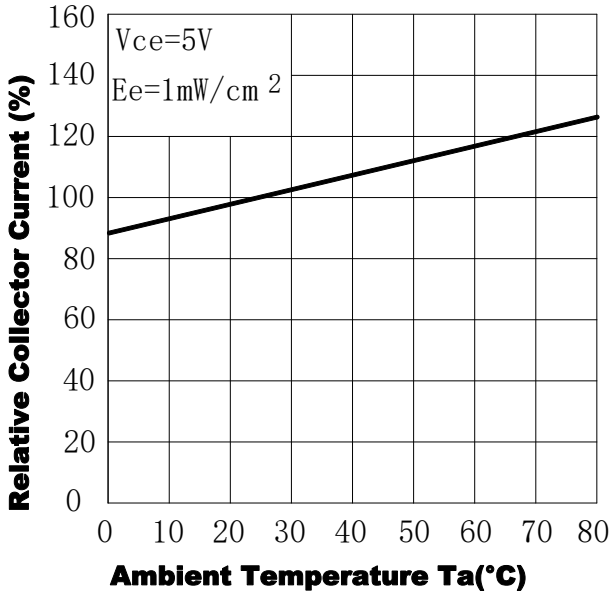


Fig.4 Collector Current vs. Irradiance

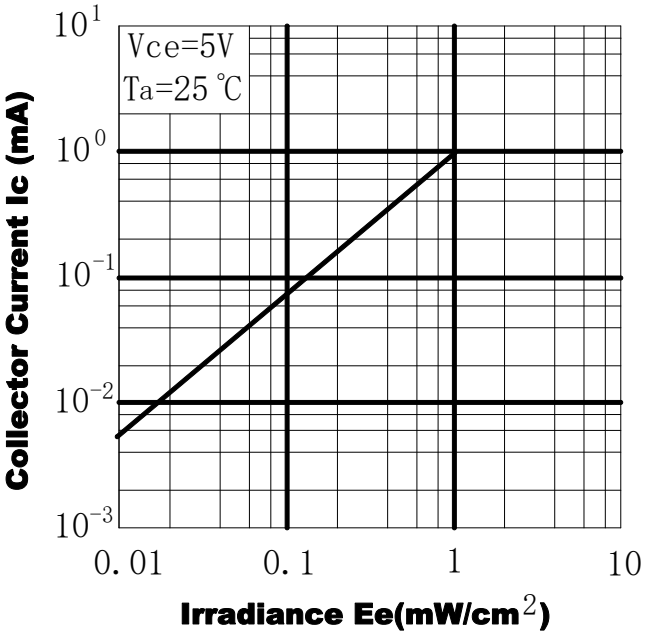


Fig.5 Collector Dark Current vs. Ambient Temperature

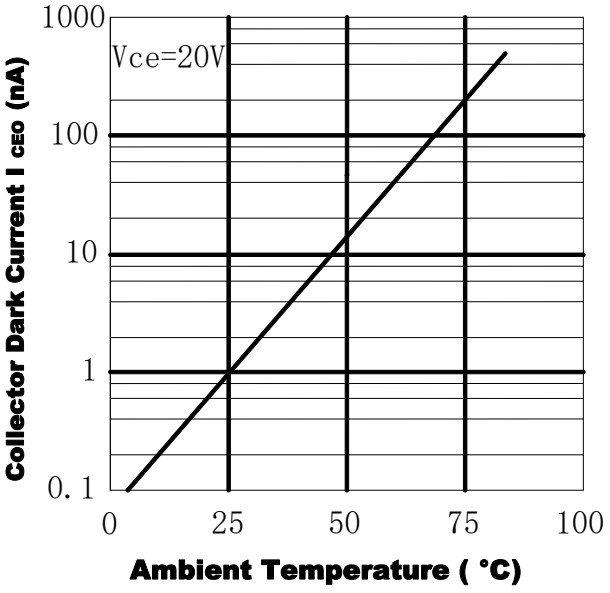
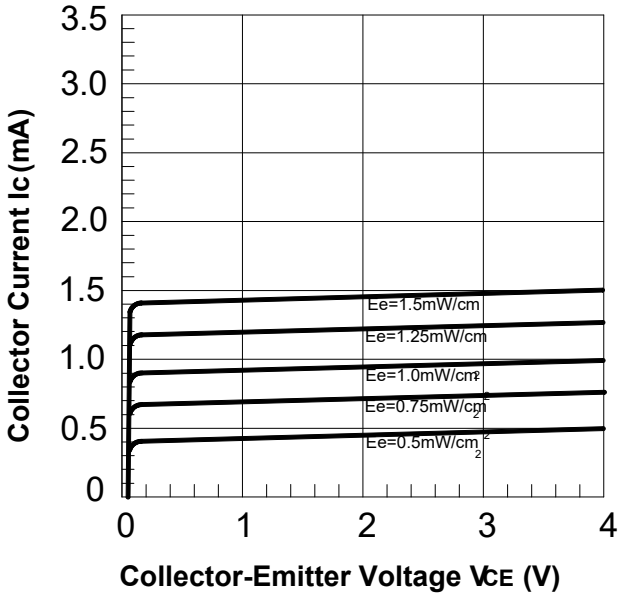
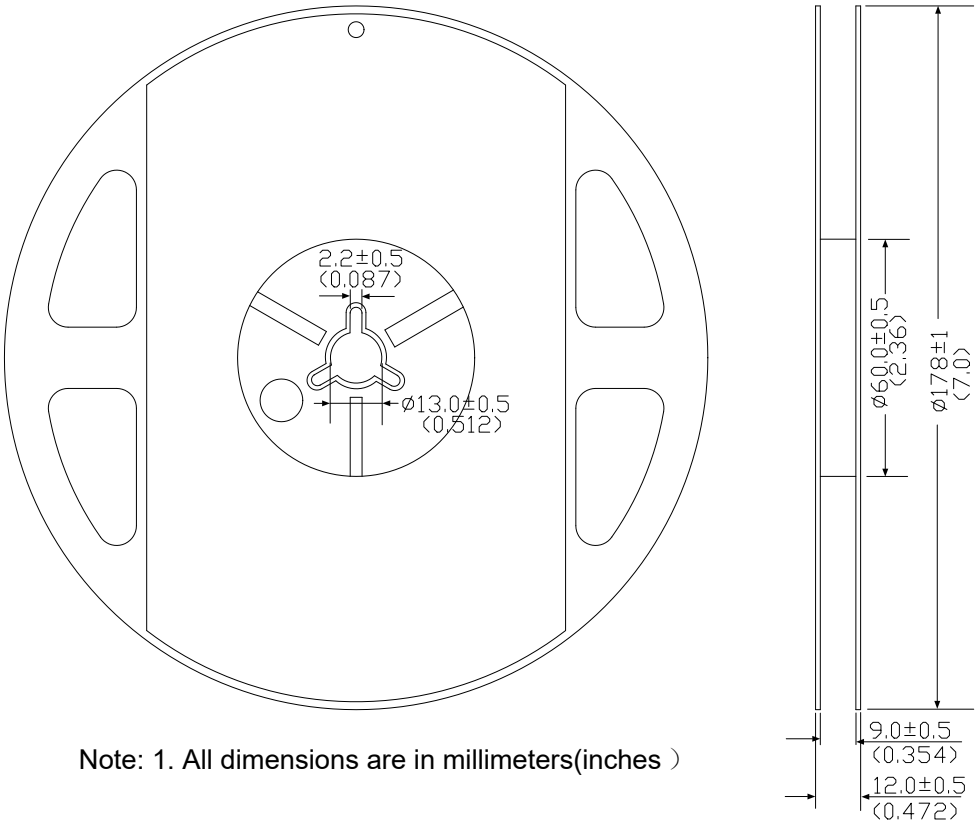


Fig.6 Collector Current vs. Collector-Emitter Voltage

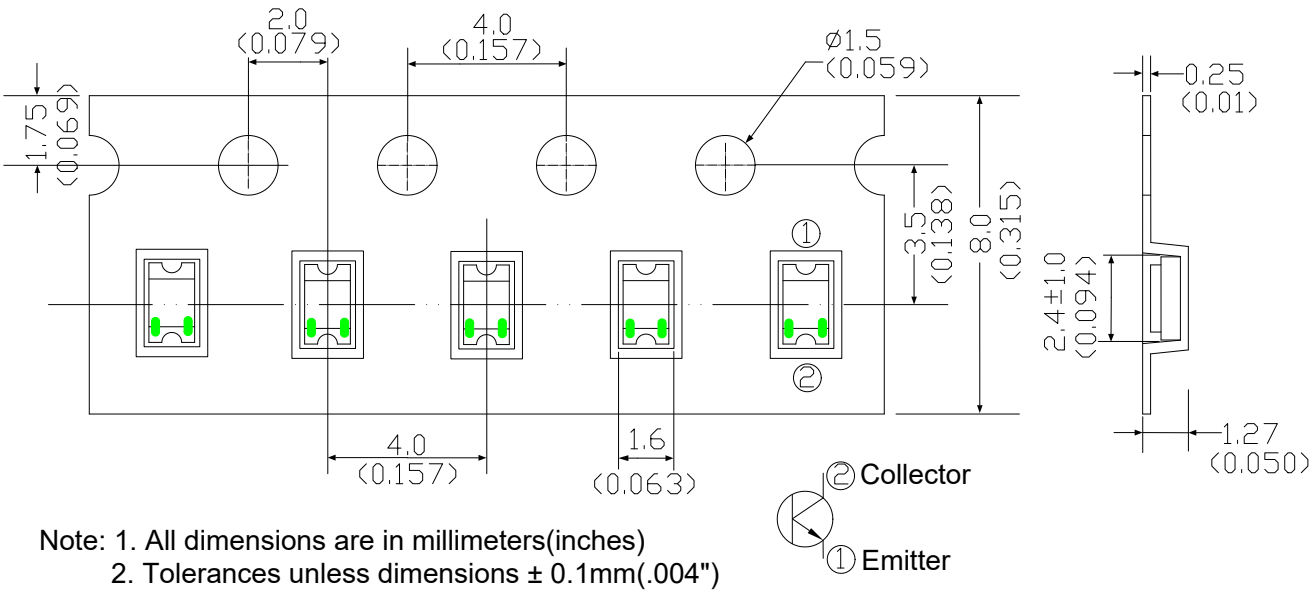


■ Packing Dimensions



Note: 1. All dimensions are in millimeters(inches）

■ Carrier Tape Dimensions (Quantity: 3000 pcs/reel)



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■ Notes

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2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. SHUGUAN assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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