

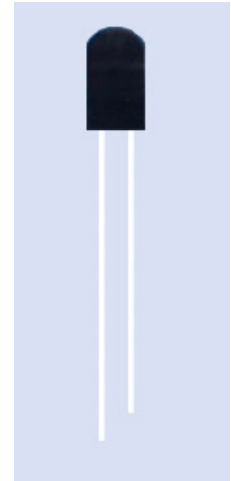
Technical Data Sheet

5mm Silicon Phototransistor

SGPT5031

■ Descriptions

SGPT5031 is a high speed and high sensitive NPN silicon phototransistor molded in a special 5mm package. Due to its black epoxy the device is sensitive to infrared radiation.



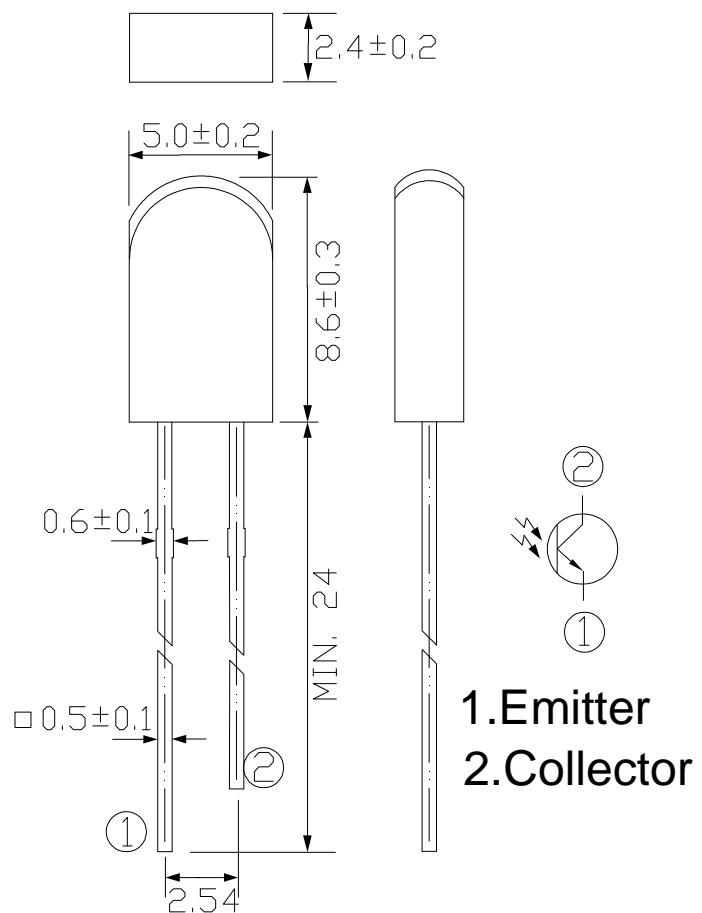
■ Features

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

■ Applications

- Infrared applied system
- Camera
- Printer
- Cockroach catcher

■ Package Dimensions



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

■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector-Voltage	V_{ECO}	5	V
Collector Current	I_c	20	mA
Lead Soldering Temperature	T_{sol}	260	°C
Operating Temperature	T_{opr}	-20~+85	°C
Storage Temperature	T_{stg}	-40~+85	°C

Notes:*1:Soldering time \leq 5 seconds.

■ Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Rang of Spectral Bandwidth	$\lambda_{0.5}$	840	--	1100	nm	
Wavelength of Peak Sensitivity	λ_p	--	940	--	nm	
Collector – Emitter Breakdown Voltage	BV_{CEO}	30	--	--	V	$I_c=100\mu A$, $I_b=0$
Emitter-Collector Breakdown Voltage	BV_{ECO}	5	--	--	V	$I_c=100\mu A$, $I_b=0$
Collector Dark Current	I_{CEO}	--	--	100	nA	$V_{CE}=20V$, $H=0mW/cm^2$
Collector-Emitter Saturation Voltage	$V_{CE(s)}$	-	--	0.2	V	$I_c=2mA$, $I_B=100\mu A$
On State Collector Current	$I_{C(on)}$	0.7	2.0	--	mA	$E_e=1mW/cm^2$, $V_{CE}=5V$
DC Current Amplification Factor	H_{FE}	1000	--	1800		$V_{CE}=5V$, $I_C=2mA$
Rise/Fall Time	t_r/t_f	--	15/15		μS	$V_{CE}=5V$, $I_C=1mA$ $R_L=1000$

■ Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

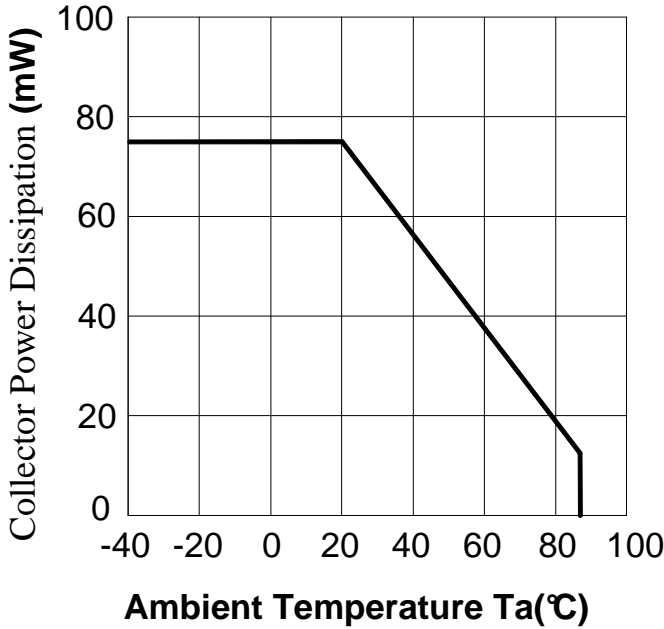


Fig.2 Spectral Sensitivity

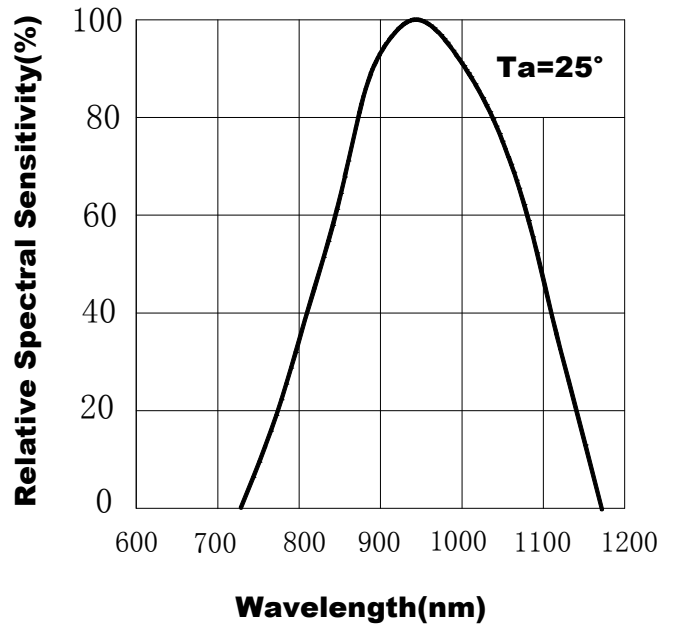


Fig.3 Relativ Collector Current vs. Ambient Temperature

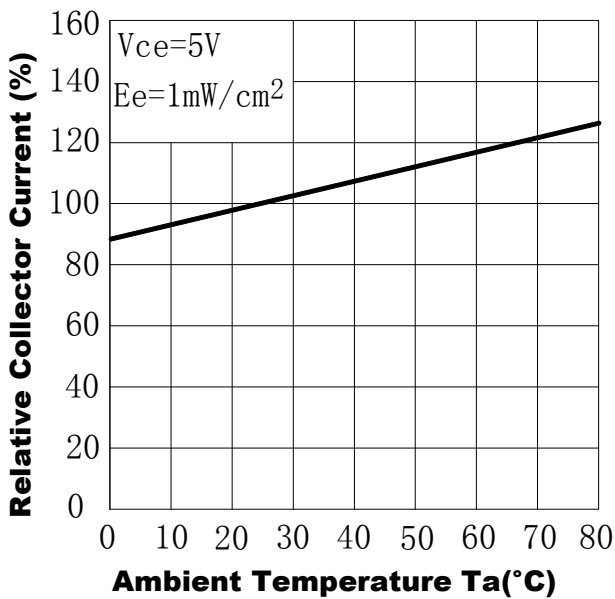


Fig.4 Collector Current vs. Irradiance

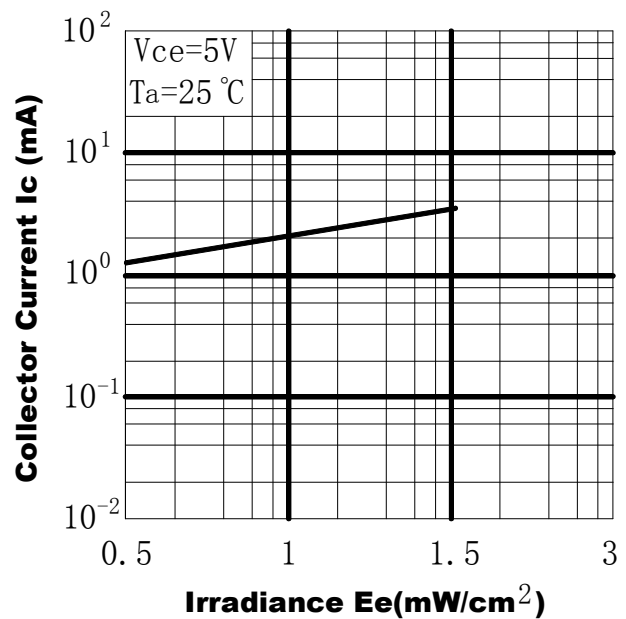


Fig.5 Collector Dark Current vs.
Ambient Temperature

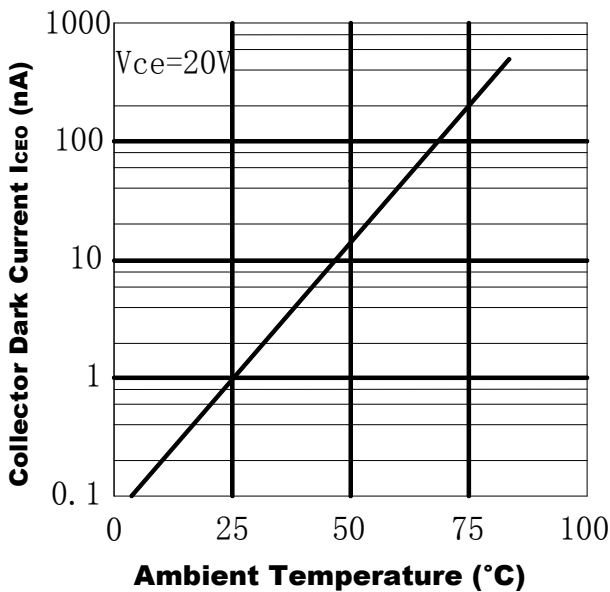
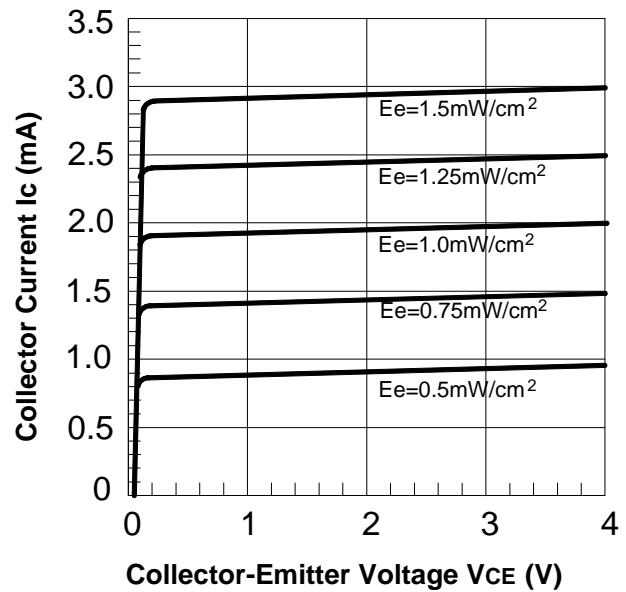


Fig.4 Collector Current vs.
Collector-Emitter Voltage



■ Packing Quantity Specification

1. 1000PCS/1Bag

■ Notes

1. Above specification may be changed without notice. SHUGUAN will reserve authority on material change for above specification.
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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