参考資料

Technical Data Sheet

Features

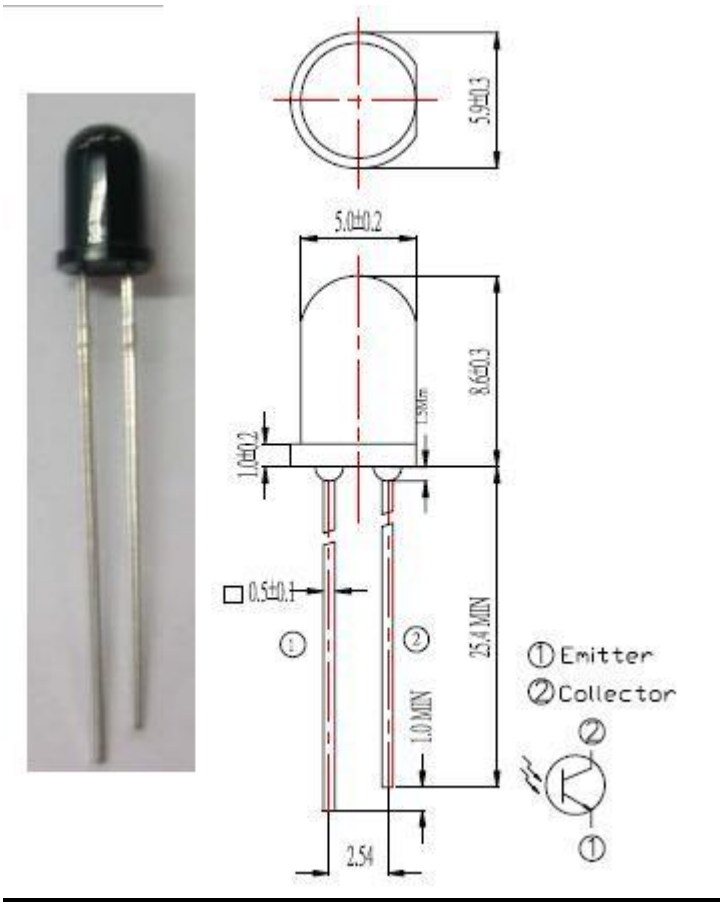
- Fast response tine
- High photo sensitivity
- Pb free
- This product itself will remain within RoHS conpliant version.

Descriptions

- YG1006 is a high speed and high sensitive NPNsiicon phototransistor in a standard5mm package.

Dueto its black epoxy the device is sensitive to infrared radiation.

Package Dimensions



Note : 1. All dimensions are in millimeters

2. Tolerances unless dimensions ±0. 25mm

Absoulute Maximum Ratings (Ta=25℃)

Parameter	Symbol	rating	units
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector-Voltage	V_{ECO}	5	V
Collector Current	Ic	20	mA
Operating Temperature	Topr	-25～+85℃	℃
Storage Temperature	Tstg	-40+85℃	℃
Lead Soldering Temperature	Tsol	260	℃
Power Dissipation at (or below) 25℃ FreeAir Temperature	Pc	75	mW

Electro-Opticai Characteristcs (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Collector-Emitter Breakdown VoItage	BV_{CEO}	Ic=100μA Ee=0mW/C ㎡	30	---	---	V
Emitter-Collector Saturation VoItage	BV_{ECO}	IE=100μA Ee=0mW/C ㎡	5	---	---	V
Collector-Emitter Saturation VoItage	$V_{CE(sat)}$	Ic=2mA Ee=1mW/C ㎡	---	---	0.4	V
Rise Time	tf	V_{CE}=5V Ic=1mA RL=1000Ω	---	15	---	μS
Fall Time	tf		---	15	---	
Collector Dark Current	I_{CEO}	Ee=0mW/C ㎡ V_{CE}=20V	---	----	100	nA
On State Collector Current	Ic(on)	Ee=1mW/ C ㎡ V_{CE}=5V	1.77	----	7.07	mA
Wavelength of Peak Sensitivity	λP	---	---	940	---	nm
Rang of Spectral Bandwidth	λ0.5	---	---	760-1100	---	nm

Rankings

Parameter	Symbol	Min	Max	Unit	Test Condition
	Ic(on)			mA	V_{CE}=5V Ee=1mW/ C ㎡
J		1.77	3.61		
K		2.67	5.07		
L		4.18	7.07		

Typical Electro-Optical Characteristics Curves

Fig.1Collector Power Dissipation vs.
Ambient Temperature

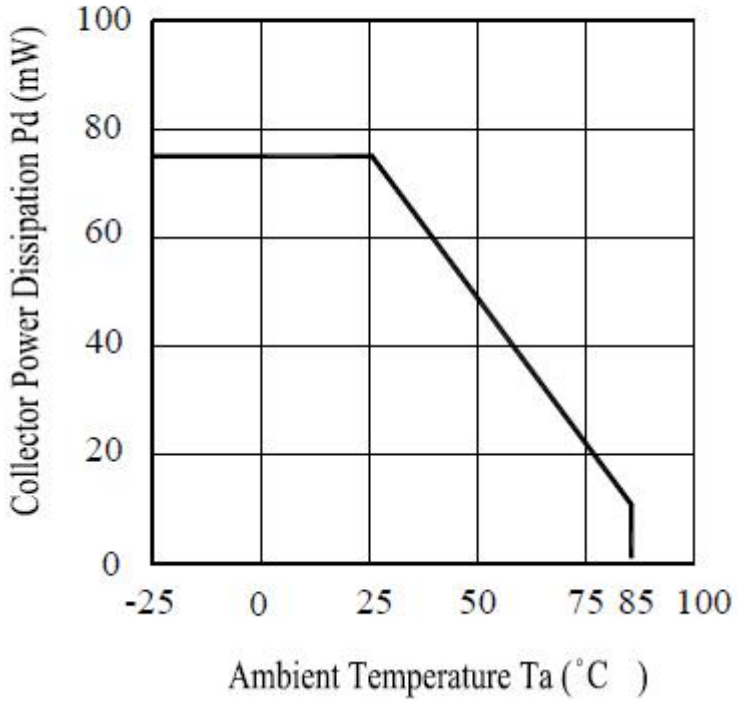


Fig.2 Spectral Sensitivity

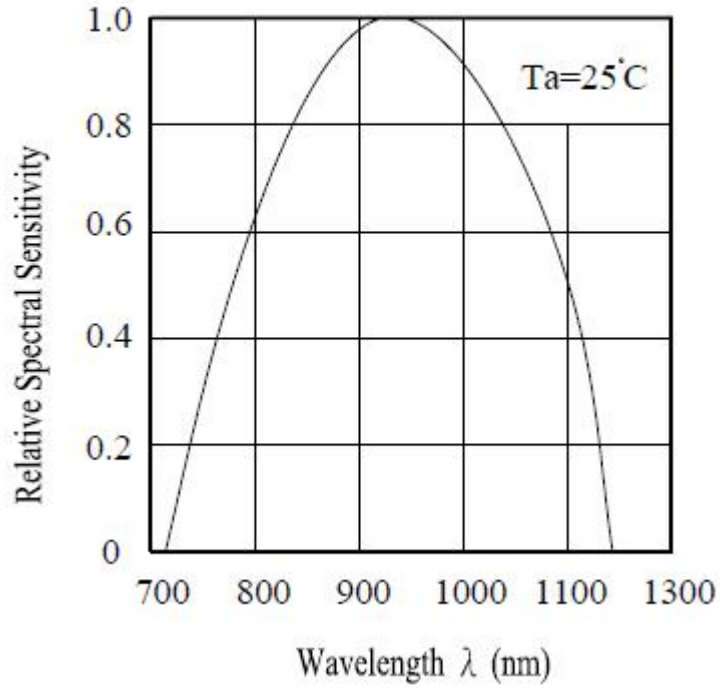


Fig.3 Relative Collector Current vs. Ambient Temperature

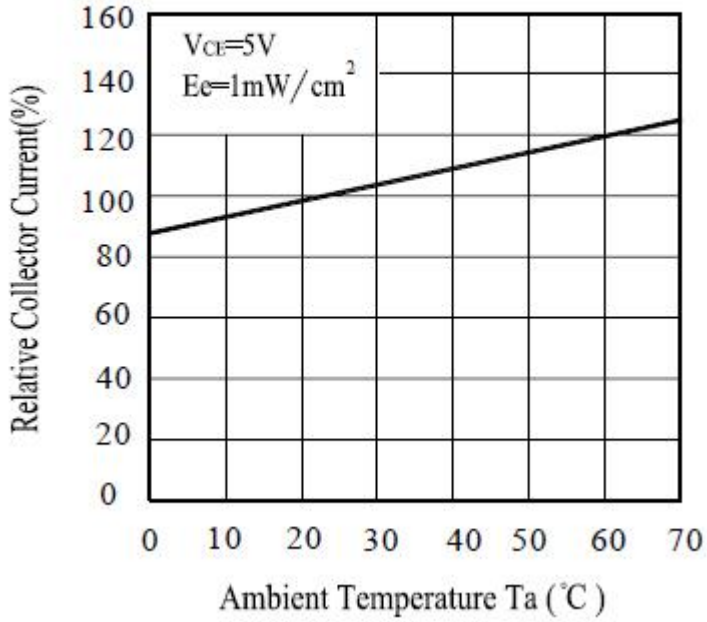
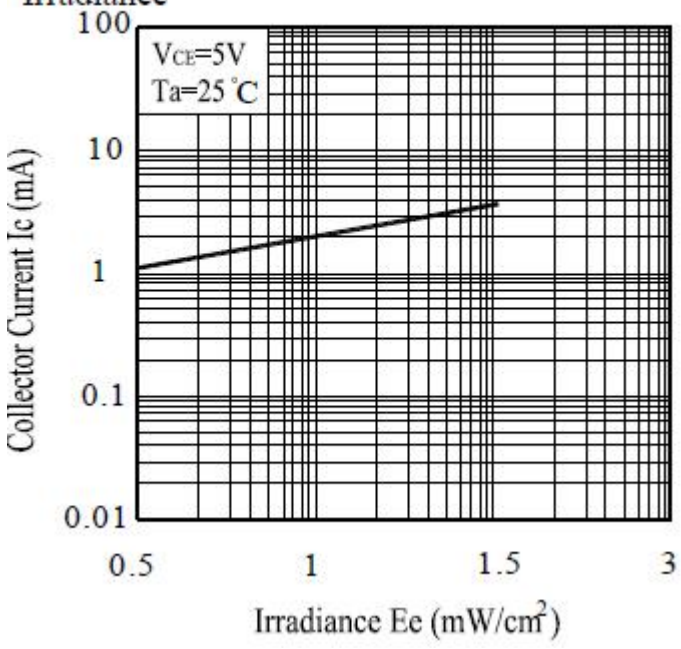


Fig.4 Collector Current vs. Irradiance



Typical Electro-Optical Characteristecs

Fig.5 Collector Dark Current vs.
Ambient Temperature

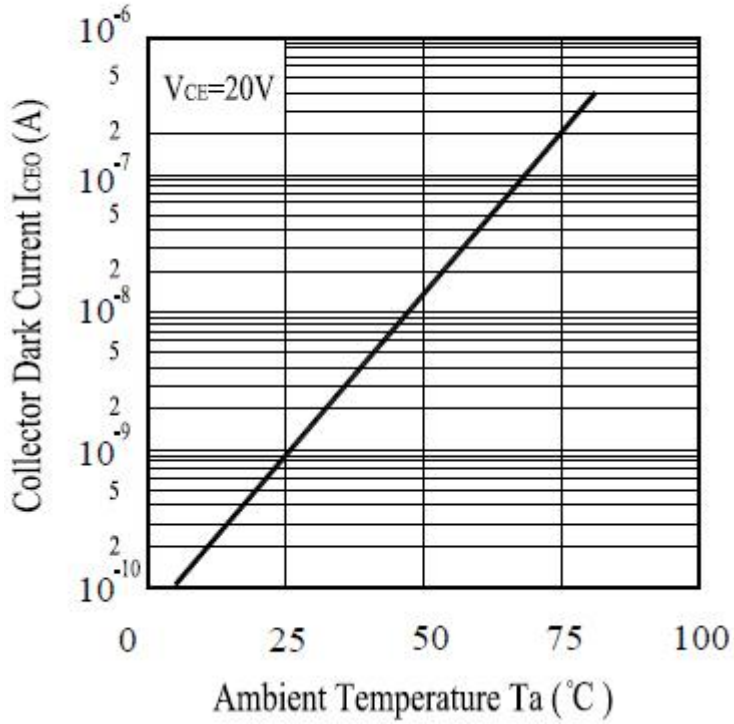
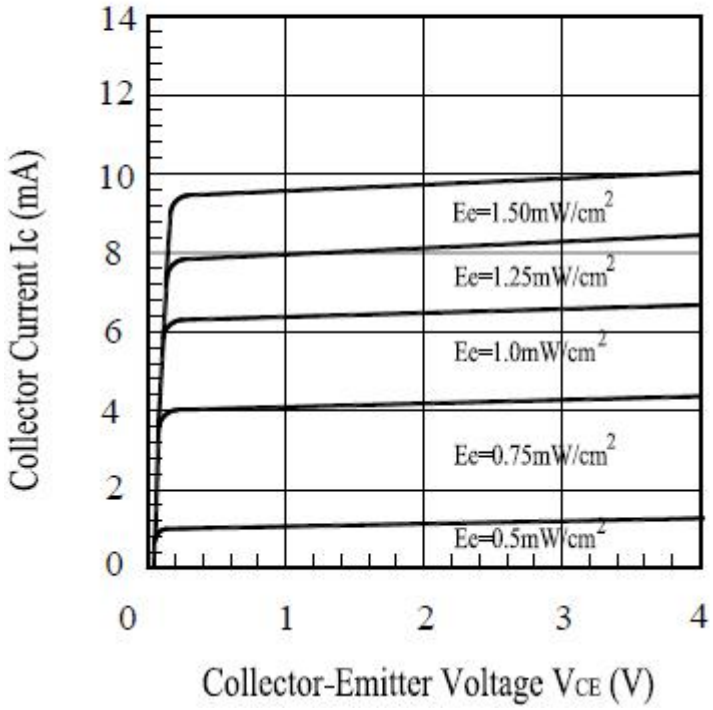


Fig.6 Collector Current vs.
Collector-Emitter Voltage



Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level：90%

LTPD：10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP.：260℃±5℃	10secs	22pcs	$I_{C(ON)} \leqq L \times 0.8$ L：the initial test value	0/1
2	Temperature Cycle	H：+100℃ 15mins ↕ 5mins L：-40℃ 15mins	300Cycles	22pcs		0/1
3	Thermal Shock	H：+100℃ 5mins ↕ 10secs L：-10℃ 5mins	300Cycles	22pcs		0/1
4	High Temperature Storage	TEMP.：+100℃	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP.：-40℃	1000hrs	22pcs		0/1
6	DC Operating Life	V_{CE}=5V	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85℃ / 85% R.H	1000hrs	22pcs		0/1