



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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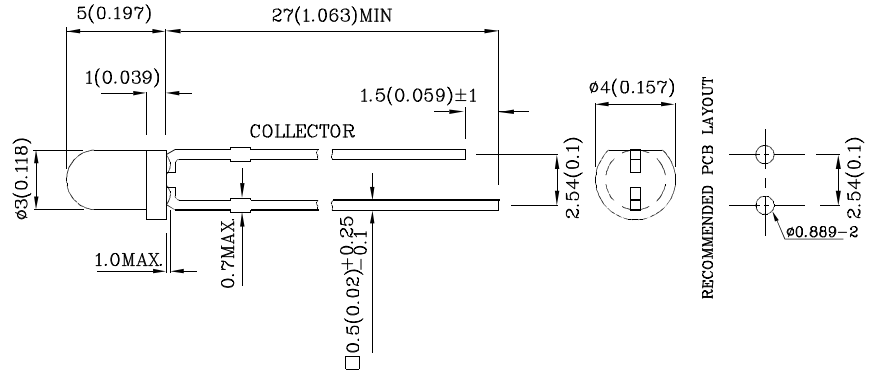


### Features

- Radial / Through hole package
- Reliable & robust
- Low power consumption
- RoHS Compliant



### Package Schematics



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$ " unless otherwise noted.
3. Specifications are subject to change without notice.

### Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
V <sub>BR CEO</sub>	Collector-to-Emitter Breakdown Voltage	30			V	I <sub>C</sub> =100μA E <sub>e</sub> =0mW/cm <sup>2</sup>
V <sub>BR ECO</sub>	Emitter-to-Collector Breakdown Voltage	5			V	I <sub>E</sub> =100μA E <sub>e</sub> =0mW/cm <sup>2</sup>
V <sub>CE(SAT)</sub>	Collector-to-Emitter Saturation Voltage			0.8	V	I <sub>C</sub> =2mA E <sub>e</sub> =20mW/cm <sup>2</sup>
I <sub>CEO</sub>	Collector Dark Current			100	nA	V <sub>CE</sub> =10V E <sub>e</sub> =0mW/cm <sup>2</sup>
T <sub>R</sub>	Rise Time (10% to 90%)		15		μs	V <sub>CE</sub> =5V I <sub>C</sub> =1mA R <sub>L</sub> =1KΩ
T <sub>F</sub>	Fall Time (90% to 10%)		15		μs	
I <sub>(ON)</sub>	On State Collector Current	0.3	0.8		mA	V <sub>CE</sub> =5V E <sub>e</sub> =1mW/cm <sup>2</sup> λ=940nm

### Absolute Maximum Ratings at TA=25°C

Parameter	Maximum Ratings
Collector-to-Emitter Voltage	30V
Emitter-to-Collector Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating / Storage Temperature Range	-40°C To +85°C
Lead Solder Temperature (>5mm for 5sec)	260°C

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

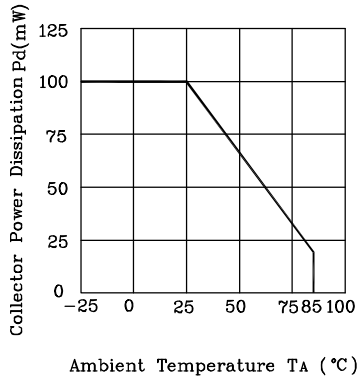


Fig.2 Spectral Sensitivity

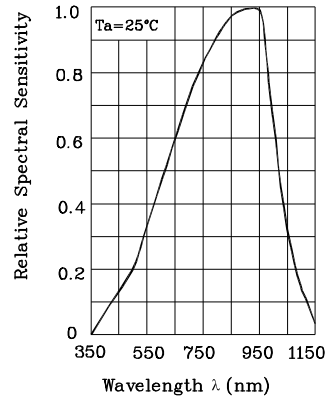


Fig.3 Relative Collector Current vs. Ambient Temperature

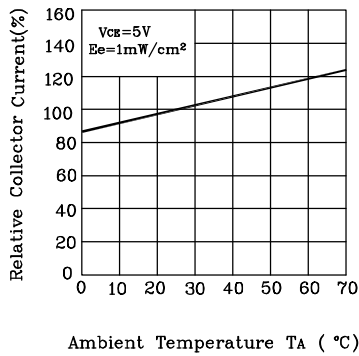


Fig.4 Collector Current vs. Irradiance

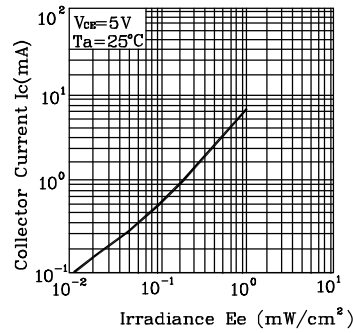


Fig.5 Collector Dark Current vs. Ambient Temperature

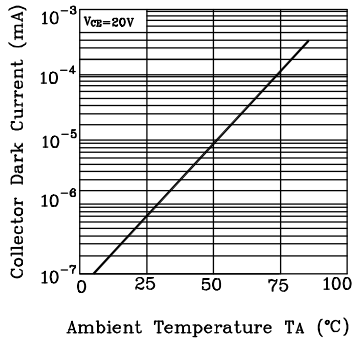


Fig.6 Collector Current vs. Collector-Emitter Voltage

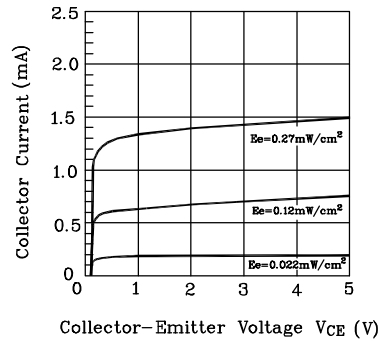
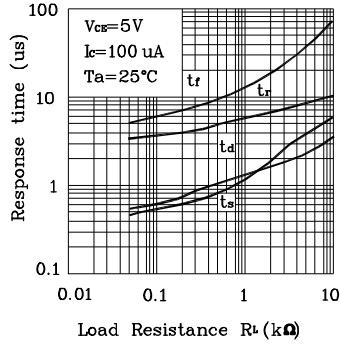
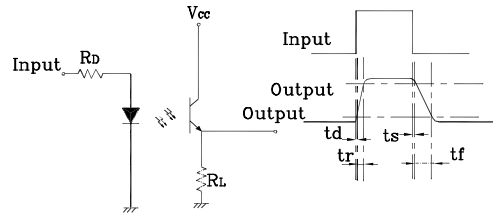


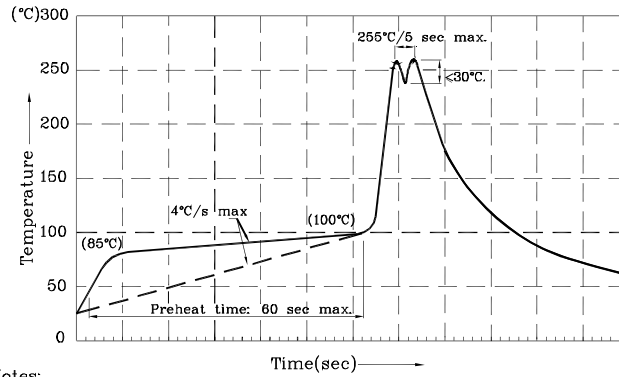
Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time



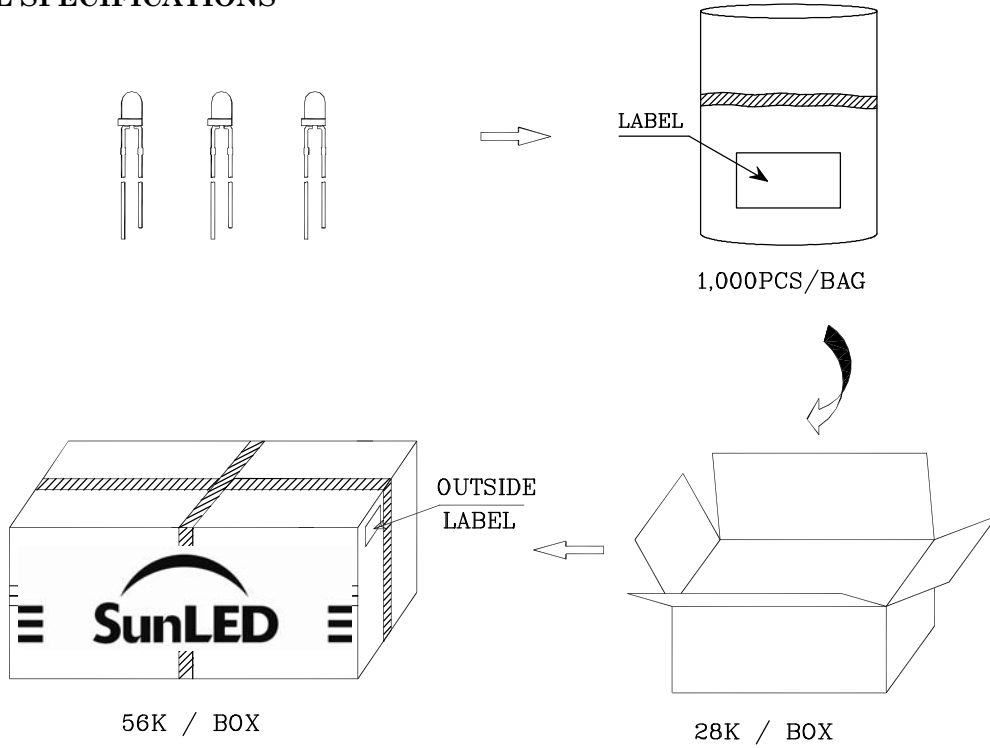
Wave Soldering Profile For Thru-Hole Products (Pb-Free Components)





Notes:

1. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
2. Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max)
3. Do not apply stress to the epoxy resin while the temperature is above 85°C.
4. Fixtures should not incur stress on the component when mounting and during soldering process.
5. SAC 305 solder alloy is recommended.
6. No more than one wave soldering pass.

PACKING & LABEL SPECIFICATIONS



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Q.C.						
Q C						
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PASSED						
P/NO : XRNI30x-1						
QTY : 1,000 pcs		CODE: XXX				
S/N : XX						
LOT NO:						
 xxxxxxxxxxxxxxxxxxxxxxxx						
RoHS Compliant						

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2. Contents within this document are subject to improvement and enhancement changes without notice.
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