

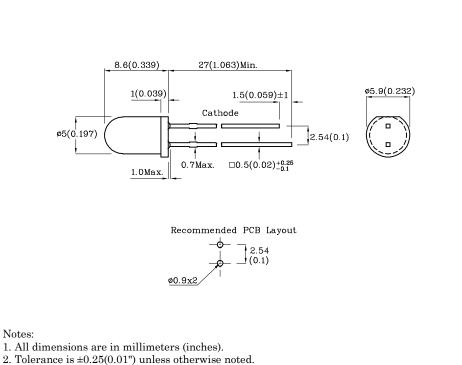
## Part Number: XTHI12W850

T-1 3/4 (5mm) Infrared Emitting Diode

### Features

- Radial / Through hole package
- $\bullet$  Reliable & robust
- Low power consumption
- Available on tape and reel
- RoHS Compliant





3. Specifications are subject to change without notice.

**Package Schematics** 

Absolute Maximum Ratings (T <sub>A</sub> =25°C)		THI/850 (GaAlAs)	Unit		
Reverse Voltage	$V_{R}$	5	V		
Forward Current	$\mathbf{I}_{\mathbf{F}}$	50	mA		
Forward Current (Peak) 1/100 Duty Cycle 10us Pulse Width	iFS	1000	mA		
Power Dissipation	$\mathbf{P}_{\mathrm{D}}$	95	mW		
Operating Temperature	$T_{\rm A}$	$-40 \sim +85$	°C		
Storage Temperature	Tstg	$-40 \sim +85$			
Lead Solder Temperature [2mm Below Package Base]	260°C For 3 Seconds				
Lead Solder Temperature [5mm Below Package Base]	260°C For 5 Seconds				

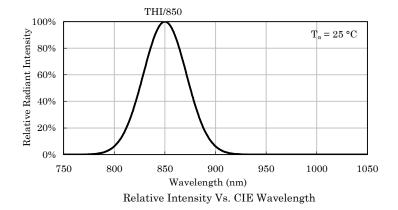
A Relative Humidity between 40% and 60% is recommended in ESD-protected work areas to reduce static build up during assembly process (Reference JEDEC/JESD625-A and JEDEC/J-STD-033)

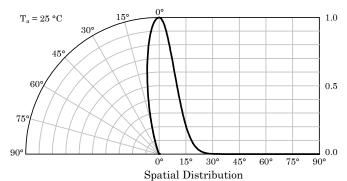
Operating Characteristics (T <sub>A</sub> =25°C)	THI/850 (GaAlAs)	Unit	
Forward Voltage (Typ.) (I <sub>F</sub> =20mA)	$V_{\mathrm{F}}$	1.4	V
Forward Voltage (Max.) (I <sub>F</sub> =20mA)	$V_{\mathrm{F}}$	1.6	V
Reverse Current (Max.) (V <sub>R</sub> =5V)	$I_R$	10	μΑ
Wavelength of Peak Emission CIE127-2007* (Typ.) (I <sub>F</sub> =20mA)	λP	850*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I <sub>F</sub> =20mA)	$ riangle\lambda$	50	nm
Capacitance (Typ.) (V <sub>F</sub> =0V, f=1MHz)	С	30	$\mathrm{pF}$

Part Number	Emitting Material	Lens-color	Radiant Intensity CIE127-2007* (Po=mW/sr) @20mA		Radiant Intensity CIE127-2007* (Po=mW/sr) @50mA		Wavelength CIE127-2007* nm λP	Viewing Angle 20 1/2
			min.	typ.	min.	typ.		
XTHI12W850	GaAlAs	Water Clear	12*	29*	40*	89*	850*	20°

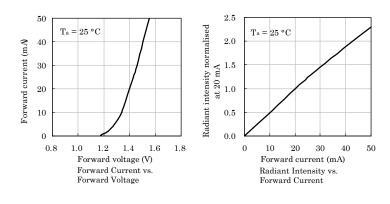
\*Radiant intensity value and wavelength are in accordance with CIE127-2007 standards.

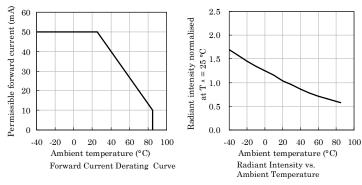




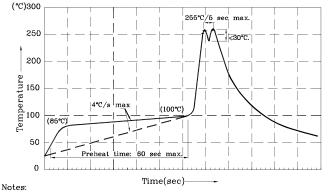


**\*** THI/850





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



I.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  $85^{\circ}$ 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

#### Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity / luminous flux),

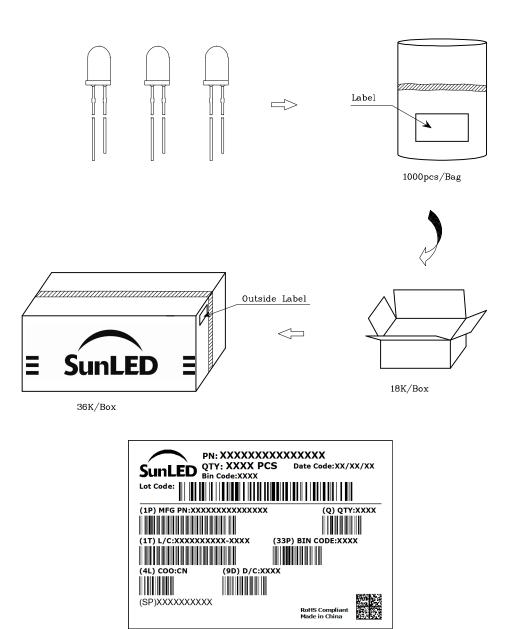
the typical accuracy of the sorting process is as follows:

- 1. Radiant Intensity / Luminous Flux: +/-15%
- 2. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.



# PACKING & LABEL SPECIFICATIONS



#### TERMS OF USE

- 1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
- 2. Contents within this document are subject to improvement and enhancement changes without notice.
- 3. The product(s) in this document are designed to be operated within the electrical and environmental specifications indicated on the datasheet.
- User accepts full risk and responsibility when operating the product(s) beyond their intended specifications.
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- 6. Additional technical notes are available at <u>https://www.SunLEDusa.com/TechnicalNotes.asp</u>

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