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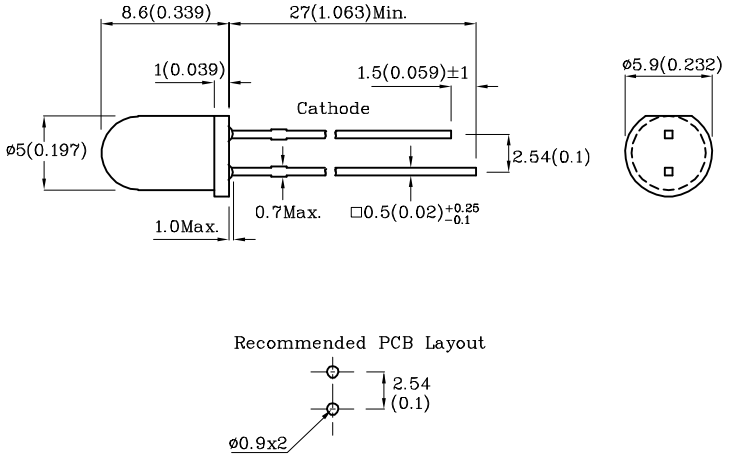
Part Number: XTNI12W

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

Features

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

Package Schematics



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

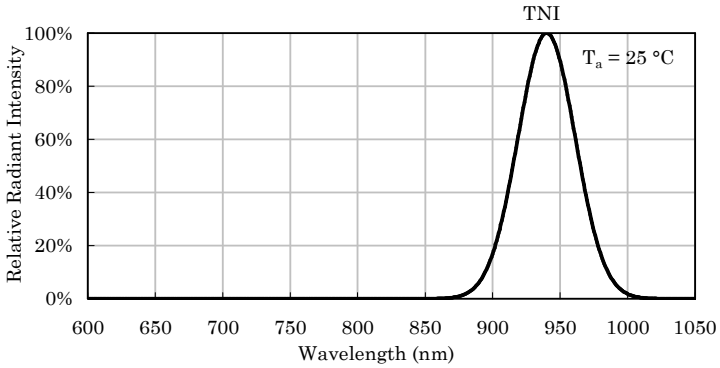
Absolute Maximum Ratings (T_A=25°C)		**TNI (GaAs)**	**Unit**
Reverse Voltage	V_R	5	V
Forward Current	I_F	50	mA
Forward Current (Peak) 1/100 Duty Cycle 10us Pulse Width	iFS	1200	mA
Power Dissipation	P_D	90	mW
Operating Temperature	T_A	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	
Lead Solder Temperature [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)

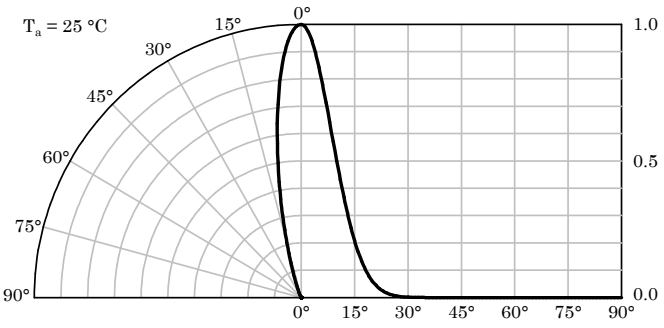
Operating Characteristics (T_A=25°C)		**TNI (GaAs)**	**Unit**
Forward Voltage (Typ.) (I_F=20mA)	V_F	1.2	V
Forward Voltage (Max.) (I_F=20mA)	V_F	1.6	V
Reverse Current (Max.) (V_R=5V)	I_R	10	μA
Wavelength of Peak Emission CIE127-2007* (Typ.) (I_F=20mA)	λP	940*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I_F=20mA)	△λ	50	nm
Capacitance (Typ.) (V_F=0V, f=1MHz)	C	90	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 2θ 1/2
			min.	typ.	min.	typ.		
XTNI12W	GaAs	Water Clear	15	29	55	98	940*	20°
			8*	19*	25*	49*		

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

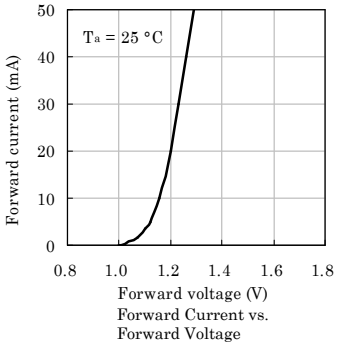


Relative Intensity Vs. CIE Wavelength

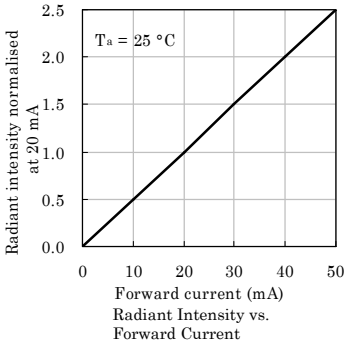


Spatial Distribution

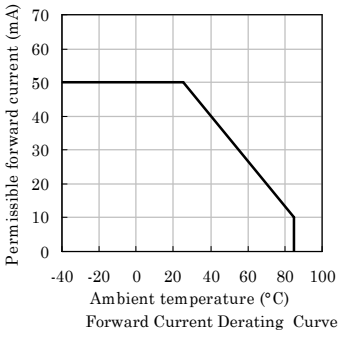
❖ TNI



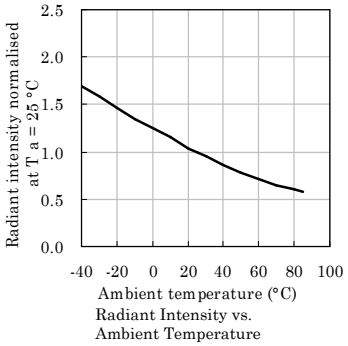
Forward Current vs.
Forward Voltage



Radiant Intensity vs.
Forward Current

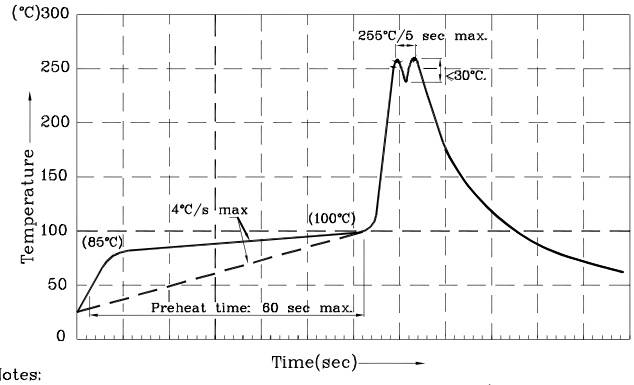


Forward Current Derating Curve



Radiant Intensity vs.
Ambient Temperature

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

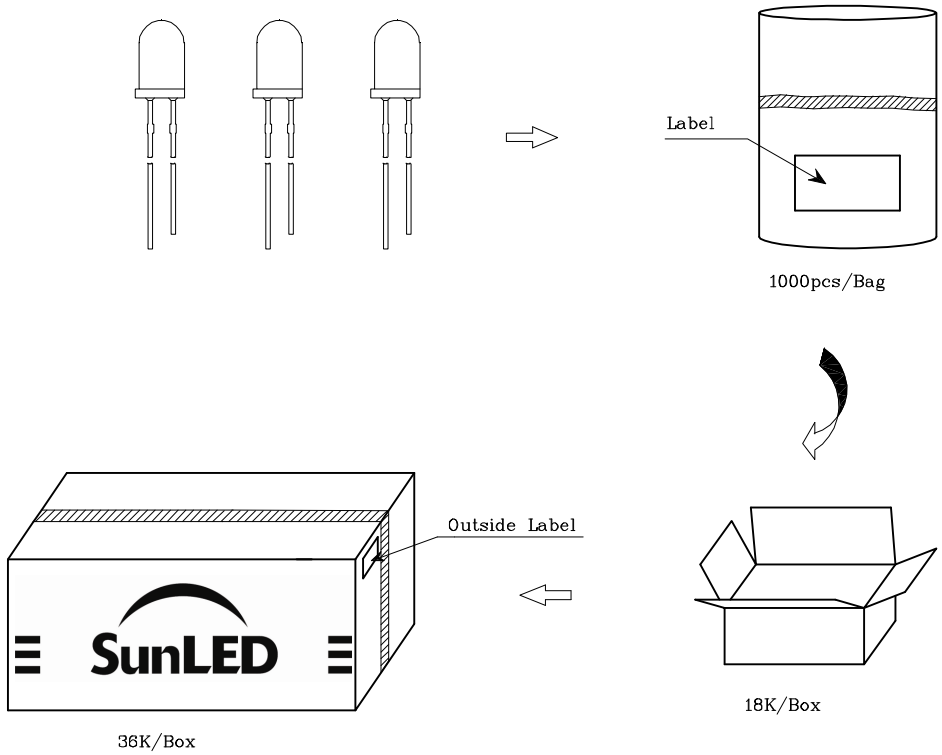


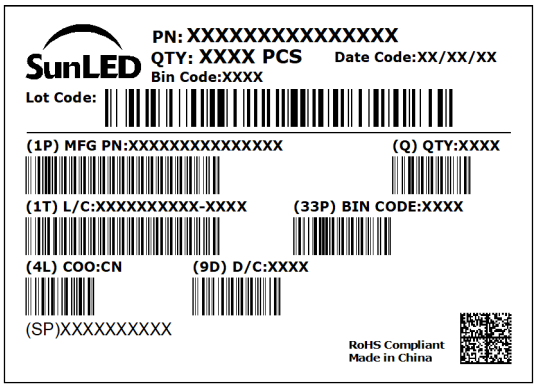
Notes:
1. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
2. Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
3. Do not apply stress 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.

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





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