



SPECIFICATION FOR SMD LED LAMP

PART NO. : LT8B12-UR-150T

1206 SMD LED TYPE

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Features

- * Package in 8mm tape on 7" diameter reels
- * Industry standard footprint
- * For automatic placement equipments
- * For infrared and vapor phase reflow solder processes
- * Long life solid state reliability
- * IC compatible
- * JEDEC Precondition Stress Tested

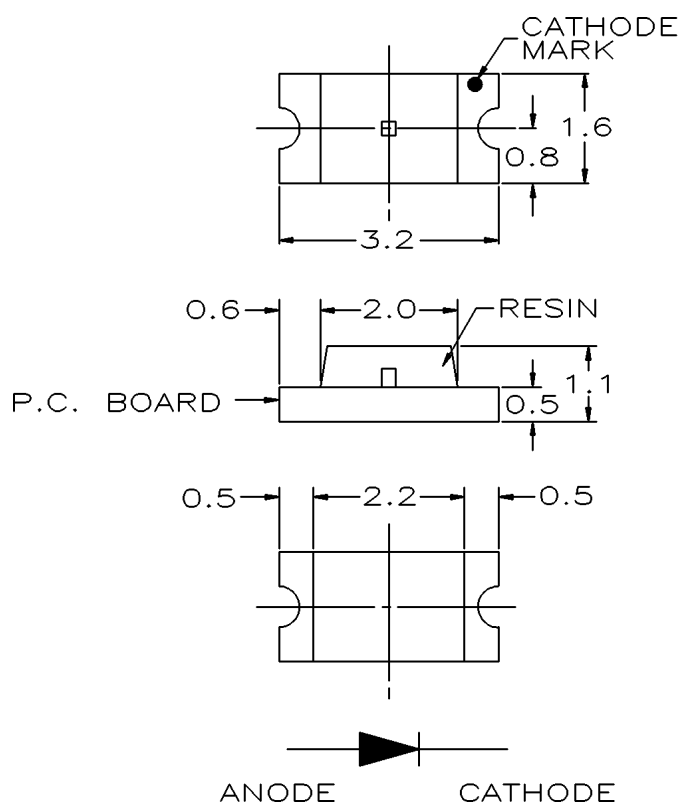
Description

The ur red lamps are made with AlGaInP chips and white diffused epoxy resin.

Applications

- LCD backlighting
- Push-button / Keypad backlighting
- Symbol backlighting
- Strip lighting
- Automobile front panel indicating and backlighting
- Miniature Dot Matrix displays

Package Dimensions



Notes :

1. All dimensions are in millimeters .
2. Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.

Part No.	Led Chip		Lens Color
	Material	Emitting Color	
LT8B12-UR-150T	AlGaInP	UR Red	White Diffused



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Absolute Maximum Ratings at Ta=25°C :

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	78	mW
Reverse Voltage	Vr	5	V
D.C. Forward Current	If	30	mA
Peak Current (1/10 Duty Cycle,0.1ms pulse width)	If (Peak)	100	mA
Operating Temperature Range	Topr	-30 to +80	°C
Storage Temperature Range	Tstg	-40 to +85	°C
Soldering Temperature for 5 seconds		260	°C

Electrical and Optical Characteristics :

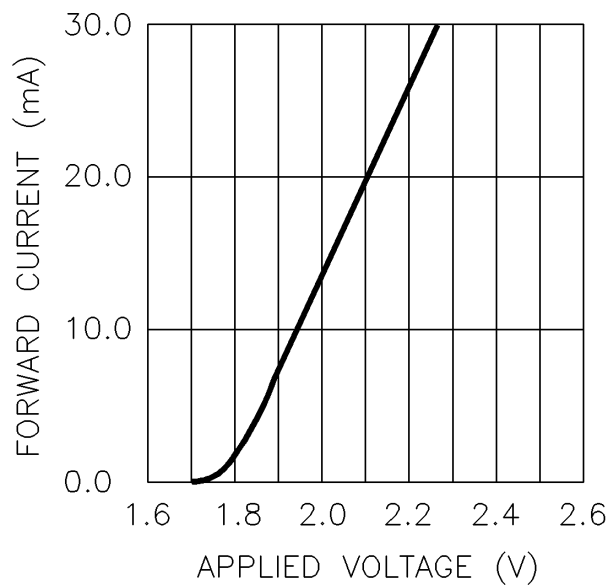
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA		32		mcd
Forward Voltage	Vf	If=20mA		2.1	2.8	V
Peak Wavelength	λ_p	If=20mA		643		nm
Dominant Wavelength	λ_d	If=20mA		632		nm
Reverse Current	Ir	Vr=5V			100	μA
Viewing Angle	$2\theta_{1/2}$	If=20mA		130		deg
Spectrum Line Halfwidth	$\Delta\lambda$	If=20mA		20		nm



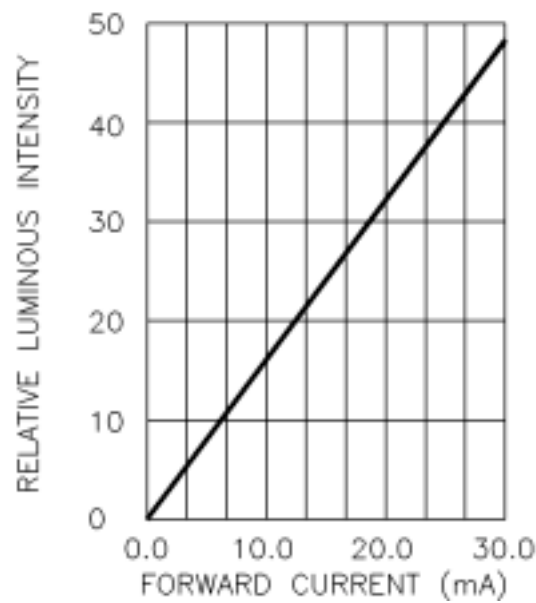
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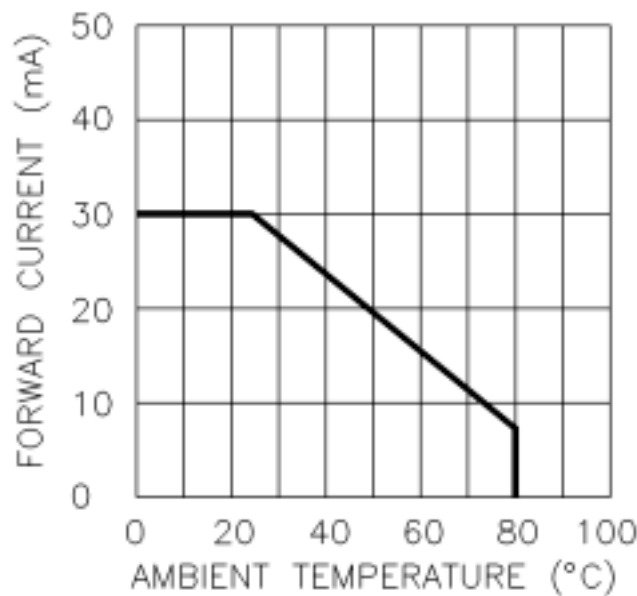
Typical Electrical / Optical Characteristics Curves :



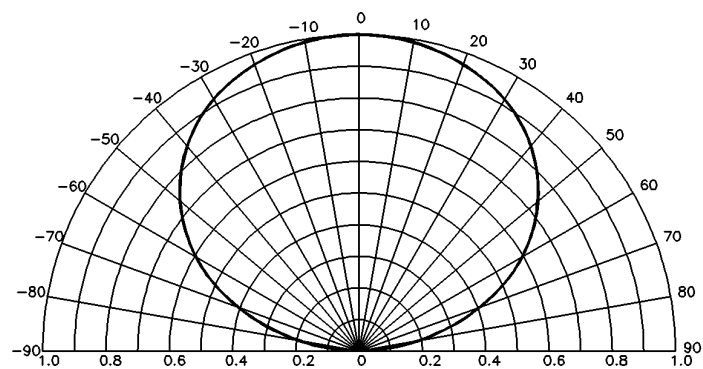
Forward Current vs. Forward Voltage



Forward Current vs.
Relative Luminous Intensity



Ambient Temperature vs. Forward Current



Radiation Diagram



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PRECAUTIONS IN USE

Storage

Recommended storage environment

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Use within 7 days after opening of sealed vapor/ESD barrier bags.

Fold the opened bag firmly and keep in dry environment.

Soldering

Reflow Soldering

Recommend use of upper and lower heater type reflow furnace

260°C Max for up to 5 seconds, one time only.

Pre-heat is 150°C Max for up to 2 minutes Max.

In case of screen-printing, keep metal mask thickness between 0.2mm and 0.3mm.

Manual Iron Soldering (NOT RECOMMENDED)

Use SN60 solder of solder with silver content.

Use 25W soldering iron at 300°C (570°F) Max for 5 seconds or less.

Must not touch top resin portion of SMD LED by heated soldering iron.

Cleaning

Surface condition of this device may change when organic solvents such as trichloroethylene or acetone were applied.

Avoid using organic solvent

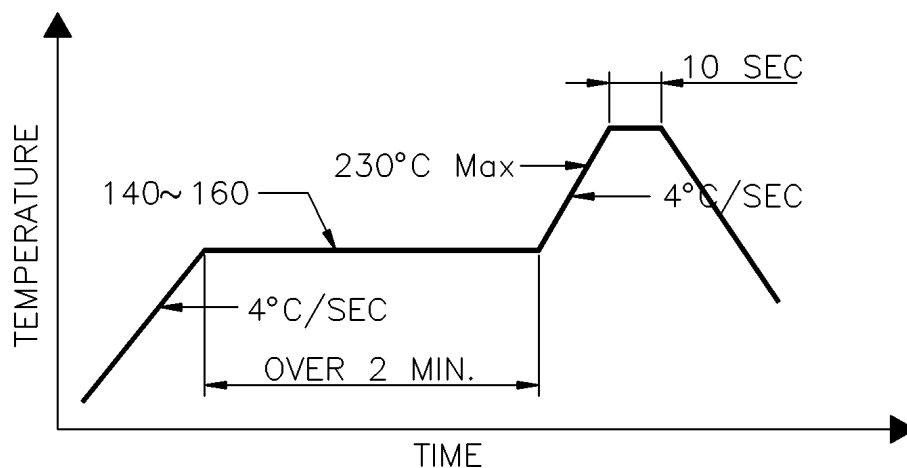
Recommend ultrasonic method 300W Max.

Packaging

EIA-481A standard package

In 8mm tape on 7"/178mm (3,000 pcs) diameter reels sealed in vapor/ESD barrier bags.

Reflow Temp / Time:





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Reliability Test Method :

Test Item	Frequency/lots/samples/ failures	Standards Reference	Conditions
Precondition	For all reliability Monitoring tests according To JEDEC Level 2	J-STD-020	1.)Baking at 85°C for 24hrs 2.)Moisture storage at 85°C/60% R.H. for 168hrs
Solderability	1Q/ 1/ 22/ 0	JESD22-B102-B And CNS-5068	Accelerated aging 155°C/24hrs Tinning speed:2.5±0.5cm/s Tinning:A:215°C/3±1s or B:260°C/10±1s
Resistance to soldering heat		CNS-5067	Dipping soldering terminal only Soldering bath temperature A: 260+/-5°C ;10+/-1s B: 350+/-10°C ;3+/-0.5s
Operating life test	1Q/ 1/ 40/ 0	CNS-11829	1.)Precondition:85°C baking for 24hrs 85°C/60% R.H. for 168hrs 2.)T _{amb} 25°C ;I _F =20mA;duration 1000hrs
High humidity,high temperature bias	1Q/ 1/ 45/ 0	JESD-A101-B	T _{amb} 85°C Humidity:85% R.H., I _F =5mA Duration:1000hrs
High temperature bias	1Q/ 1/ 20	HT specs.	T _{amb} 55°C I _F =20mA Duration:1000hrs
Pulse life test	1Q/ 1/ 40/ 0		T _{amb} 25°C ,I _F =20mA,,I _p =100mA,Duty cycle=0.125 (tp=125 μs,T=1sec) Duration:500hrs
Temperature cycle	1Q/ 1/ 76/ 0	JESD-A104-A IEC 68-2-14,Nb	A cycle:-40 degree C 15min;+85 degree C 15min Thermal steady within 5 min.. 300 cycles 2 chamber/ Air-to-air type
High humidity Storage test	1Q/ 1/ 40/ 0	CNS-6117	60±3°C 90+5/-10% R.H. for 500hrs
High temperature storage test	1Q/ 1/ 40/ 0	CNS-554	100±10°C for 500hrs
Low temperature storage test	1Q/ 1/ 40/ 0	CNS-6118	-40±5°C for 500hrs