

3mm Round Lamp LED

Features

- Stand T-1 diameter package
- High brightness LED
- UV resistant epoxy
- RoHS compliance



T-1



Descriptions

- The series is specially designed for applications require higher brightness than that achievable with standard lamp.
- The LED lamps are available with different colors, intensities, and epoxy colors, etc.

Applications

- Indoor/outdoor applications
- Indicator applications
- Back lighting

Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
TLH-B1R3-32EG	InGaN	Super Blue	Water Clear

Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	5	V
Average Forward Current (Note 1&3)	I_F	25	mA
Peak Forward Current (Note 2)	I_{FP}	100	mA
Power Dissipation	P_d	100	mW
Operating Temperature (Note 3)	T_{opr}	-40 ~ +100	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^{\circ}\text{C}$
LED Junction Temperature	T_J	125	$^{\circ}\text{C}$
Soldering Temperature (Note 4)	T_{sol}	260 / 5 seconds $^{\circ}\text{C}$	

Notes:

- Design of heat dissipation should be considered.
- Duty ratio=1/10, pulse width=0.1ms
- The allowable operating current at different operation temperature, please take reference from Fig. 5 on page 3.
- 3mm(0.118") away from the epoxy.

Electro-Optical Characteristics ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_v	1135	1750	-----	mcd	IF =20mA
Viewing Angle	2θ_{1/2}	-----	45	-----	deg	
Dominant wavelength	λ_D	460	470	475	nm	
Spectrum Radiation Bandwidth	Δλ	-----	25	-----	nm	
Forward Voltage	V_F	2.6	3.2	4.0	V	
Reverse Current	I_R	-----	-----	10	μA	VR=5V

Notes:

- Tolerance of Luminous Intensity: $\pm 15\%$
- Tolerance of Dominant Wavelength: $\pm 1\text{nm}$
- Tolerance of Forward Voltage: $\pm 0.1\text{V}$

Typical Electro-Optical Characteristics Curves ($T_a=25^\circ\text{C}$)

Fig. 1 Spectrum Distribution

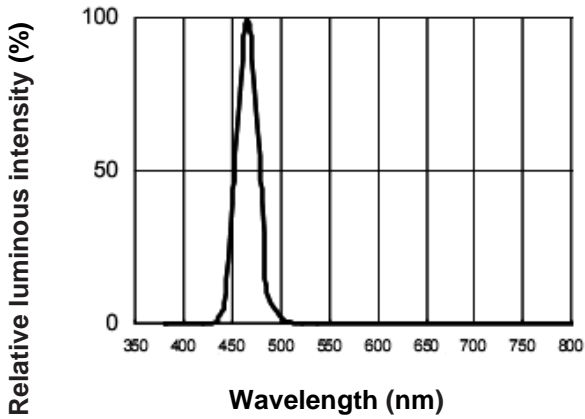


Fig.2 Forward Current vs. Forward Voltage

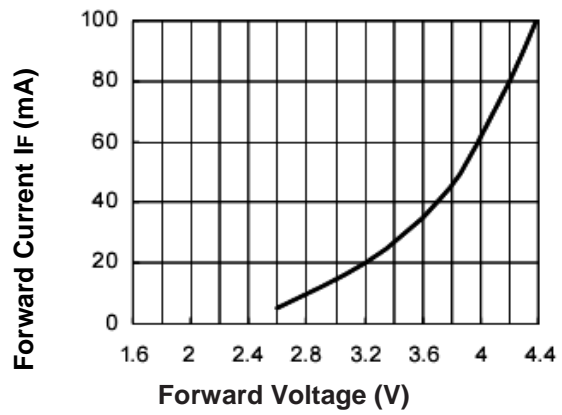


Fig.3 Luminous Intensity vs. Ambient Temperature

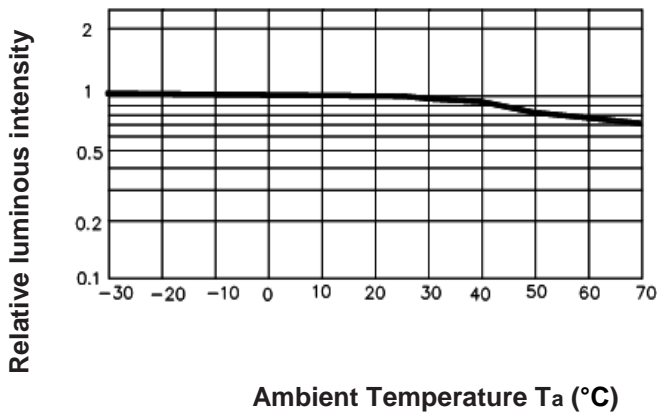


Fig.4 Luminous Intensity vs. Forward Current

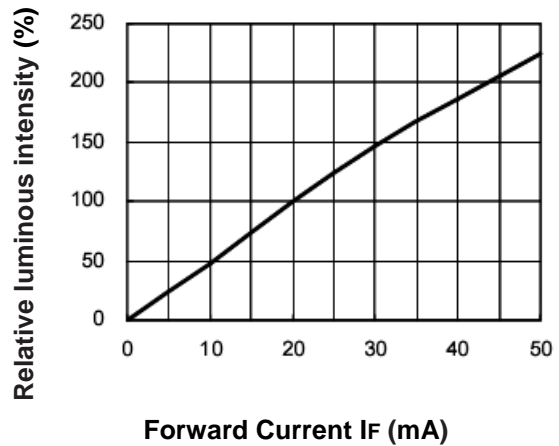


Fig.5 Forward Current Derating Curve

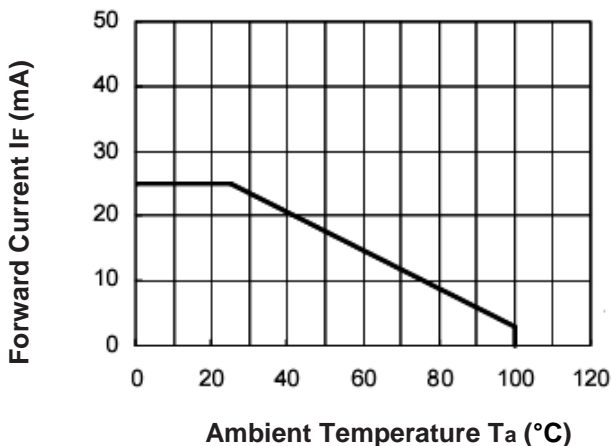
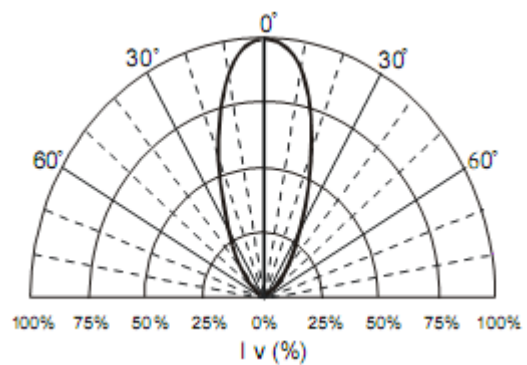
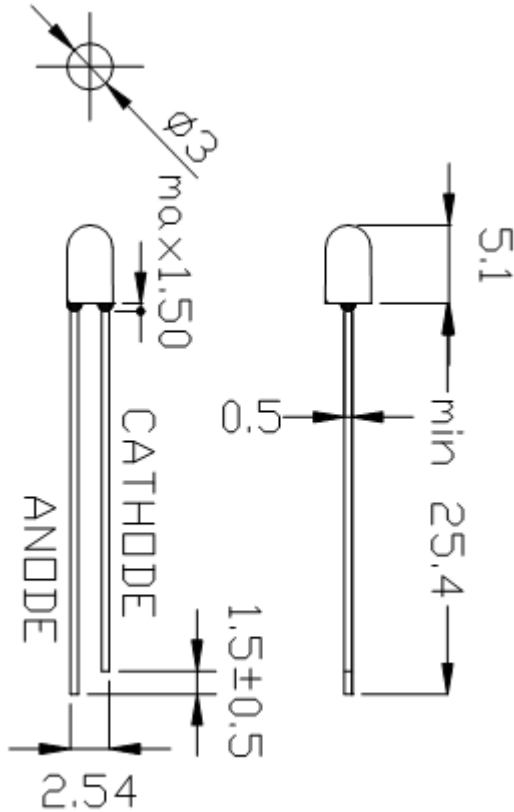


Fig.6 Radiation Diagram



Package Dimensions (In mm)



Note:

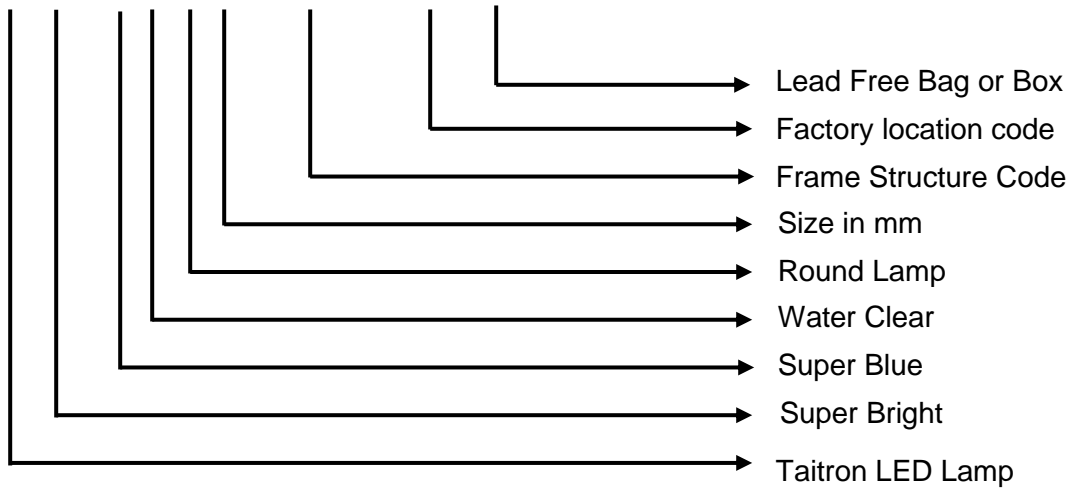
1. All dimensions are in millimeter, tolerance: ± 0.20 mm.
2. Protruded resin under bottom surface of epoxy is 1.5mm max.
3. Lead spacing is measured where the leads emerge from the package.

Packing Quantity Specification

Packing Type	PCS per Bag	PCS Per Inner Box	PCS Per Carton
Bulk	500	10,000	20,000

Ordering Information

TL H - B 1 R 3 - 32EG - 88 - BL



Rank Combination**Bin Range of Luminous Intensity**

Bin	Min.	Max.	Unit	Condition
0S	1135	1590	mcd	IF =20mA
0T	1590	2225		
0U*	2225	3115		
0V*	3115	4360		

Bin Range of Dominant Wavelength

Bin	Min.	Max.	Unit	Condition
BC	460	465	nm	IF =20mA
BD	465	470		
BE	470	475		

Bin Range of Forward Voltage

Bin	Min.	Max.	Unit	Condition
A	2.6	2.8	V	IF =20mA
B	2.8	3.0		
C	3.0	3.2		
D	3.2	3.4		
E	3.4	3.6		
F	3.6	3.8		
G	3.8	4.0		

Notes:

1. Tolerance of Luminous Intensity: $\pm 15\%$
2. Tolerance of Dominant Wavelength: $\pm 1\text{nm}$
3. Tolerance of Forward Voltage: $\pm 0.1\text{V}$
4. *Bin with less distribution

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