

Specification No.	
Date	

SPECIFICATIONS

5 White LED LAMP

MODEL : HLWW- L51A

Designed by	Checked by	Approved by

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1. Features

- 1-1. InGaN Blue Chip
- 1-2. 5mm all epoxy resin mold type
- 1-3. Colorless Cylinder type LED lamp
- 1-4. Ultra luminous intensity

2. Application

- 2-1. LED Display / Traffic Guiding Signal
- 2-2. Illumination device
- 2-3. Back Light for Signboard
- 1-4. Ultra luminous intensity

3. Absolute maximum ratings and Characteristics

3 - 1 Absolute maximum ratings

Ta=25

Items	Symbols	Ratings	Units
Forward Current	I _F	30	mA
Pulse Forward Current *1	I _{FP}	50	mA
Power Dissipation	P _D	75	mW
Reverse Voltage	V _R	5	Vr
Operating Temperature	T _{opr}	-20 ~ +75	
Storage Temperature	T _{stg}	-30 ~ +100	
Soldering Temperature *2	T _{SOL}	260±5	

*1) Pulse Width = 100 μsec, Duty 10%

*2) 5sec at location 3.0mm away from the base of the epoxy bulb

3 - 2 Optical and Electrical Characteristics

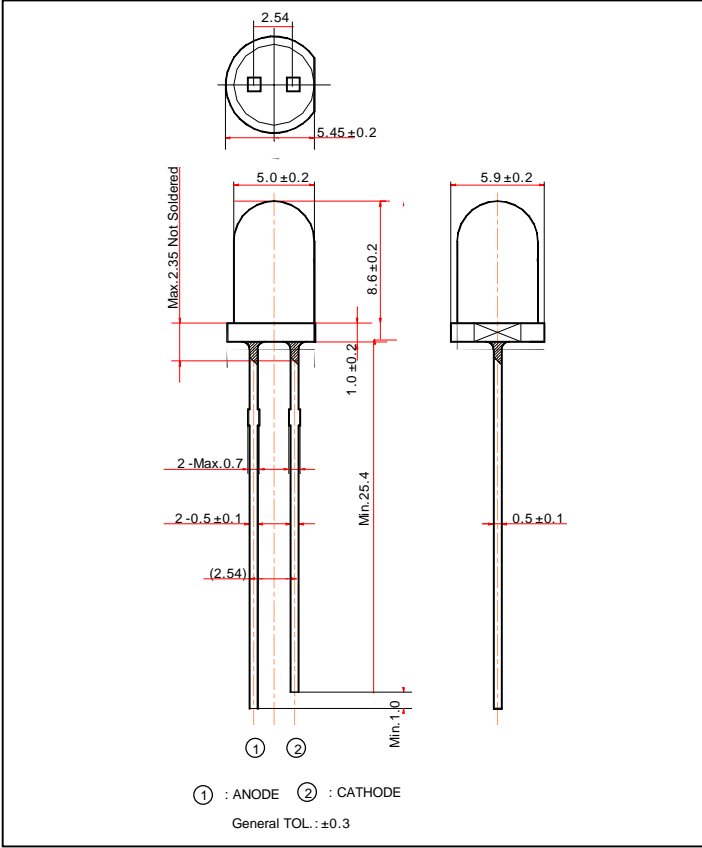
Ta=25

Item	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V _F	I _F =20[mA]	-	3.4	4.0	V
Reverse Current	I _R	V _R =5[V]	-	-	10	μA
Luminous Intensity	I _V	I _F =20[mA]	3600	4200	-	mcd
Chromaticity Coordinates	λd	I _F =20[mA]		X=0.30 Y=0.31		
Spectral Linewidth	λ	I _F =20[mA]	-	17	-	nm
Viewing Angle	2 1/2	I _F =20[mA]		15		deg

Data subject to change.

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4. Dimension



5. Bin Grading for Chromaticity Coordinates

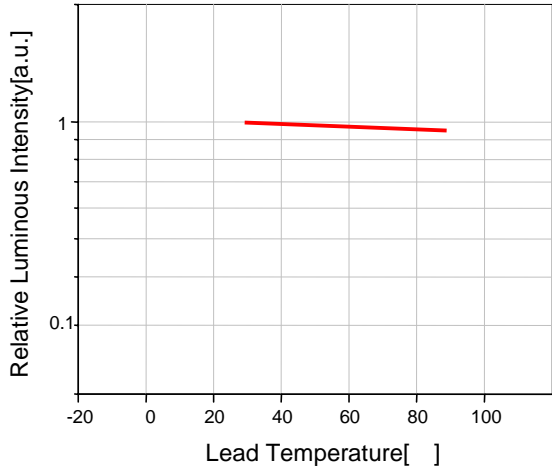
RANK	Chromaticity Coordinates				
A	X	0.220	0.220	0.260	0.260
	Y	0.220	0.280	0.310	0.250
B	X	0.260	0.260	0.290	0.290
	Y	0.250	0.310	0.330	0.270
C	X	0.290	0.290	0.320	0.320
	Y	0.270	0.330	0.350	0.290
D	X	0.320	0.320	0.360	0.360
	Y	0.290	0.350	0.380	0.320
*Tolerance		X ± 0.02		Y ± 0.02	

Data subject to change.

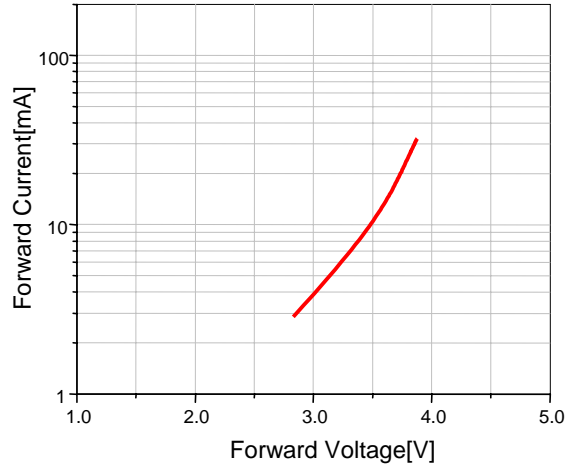
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6. Typical Electro-optical characteristics curve

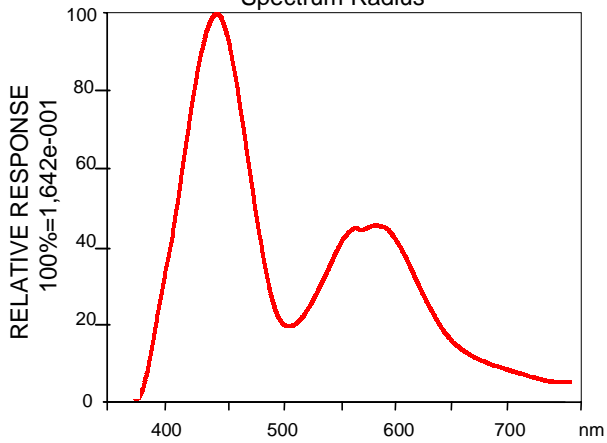
Lead Temperature vs. Relative Luminosity



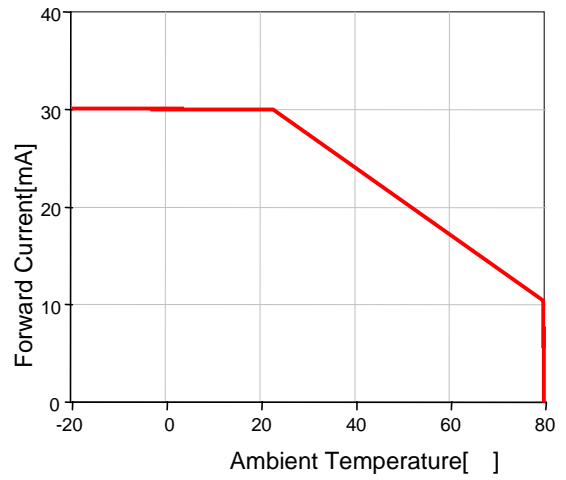
Forward Voltage vs. Forward Current



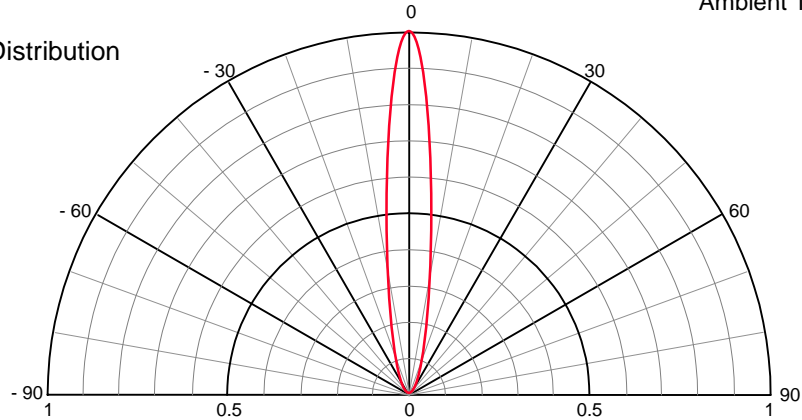
Luminous Spectrum
Spectrum Radius



Ambient Temperature vs. Forward Current



Spatial Distribution



Data subject to change.

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7. Inspection Standards

7 - 1 In production line, 100% inspection for electro-optical characteristics should be done on following 3 items.

- VF , IR , Iv

7 - 2 Outgoing inspection be done to the standards as below.

- MIL-STD-104D, S-3, AQL 1.0%
- Items: VF, IR, Iv, p

8. Packing Standards

In one vinyl pack, 200 LEDs are inserted. Or user's request.

In one small box, 10 packs(total 2000 LEDs) are inserted. Or user's request.

9. Caution on usage

9 - 1 Be careful never to exceed , even momentarily, the absolute maximum ratings specified in the data sheet.

9 - 2 We will not be held responsible for any damage to the user that may result from accidents or any other reasons during operation of the user such as use in excess of the absolute maximum ratings, or not keeping the matters that demand special attention.

9 - 3 Store and use where there is no corrosive gas.

9 - 4 The bending or cutting of the lead should be done in room temperature and no force applied on the package.