SPECIFICATION FOR LED LAMP

MODEL No : WCN-501HR1-30N-28-1
DOC. No : LED-501HR1-30N-28-1

Description:

30 Degree 5mm LED Lamp in Red Color without Stopper and Water Clear Lens

Dice Material: AlInGaP

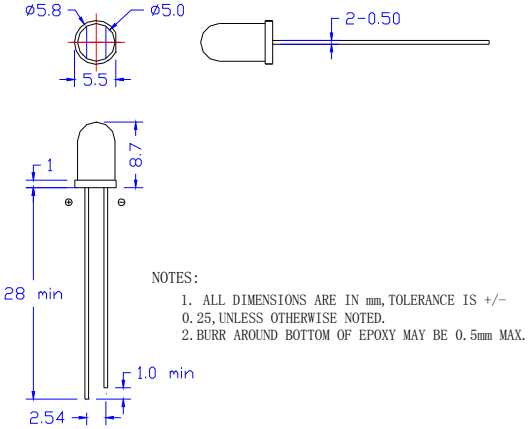
Confirmed by Customer: _____

Date: _____

Applications:

- Advertising Signs
- Indicators
- Traffic Light
- Illuminations

Dimension Drawing



Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	30	mA
Peak Forward Current*	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	72	mW
Operation Temperature	T_{opr}	-30 ~ + 85	°C
Storage Temperature	T_{stg}	-40 ~ + 100	°C
Lead Soldering Temperature	T_{sol}	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	

pulse width <=0.1msec duty <=1/10

Typical Electrical & Optical Characteristics (Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 20mA	1.8	2.0	2.4	V
Reverse Current	I_R	V_R = 5V	---	---	10	μA
Luminous Intensity	I_V	I_F = 20mA	2000	2400	---	mcd
Dominant Wavelength	λd	I_F = 20mA	620	625	630	nm
Spectral Line Half-Width	Δλ	I_F = 20mA	---	25	---	nm
50% Power Angle	2θ½	I_F = 20mA	---	30	---	deg

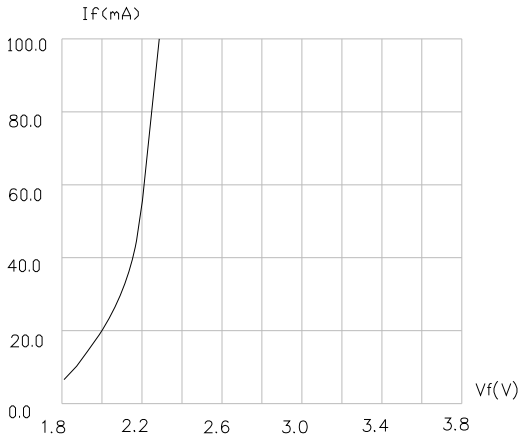
Important Notes:

1) All ranks will be included per delivery, rank ratio will be determined by WCN.

2) Tolerance of measurement of luminous intensity is ±15%.

3) Tolerance of measurement of Vf is ±0.05 V.

Graphs



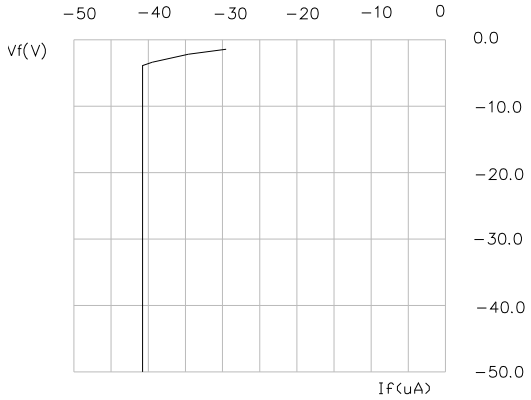


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

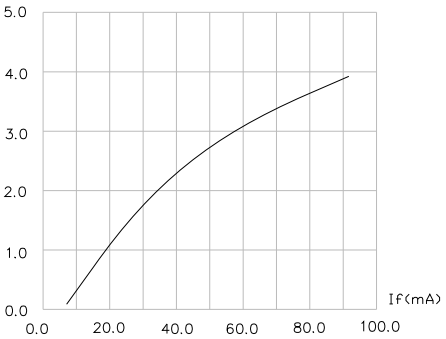


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

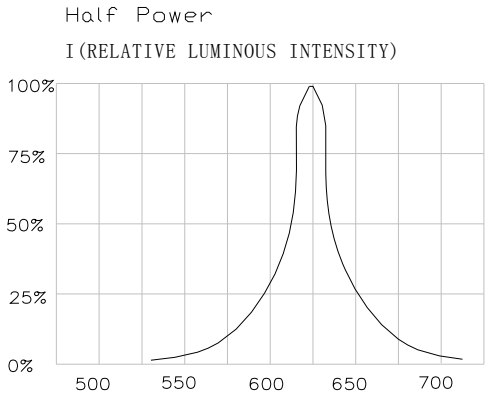


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

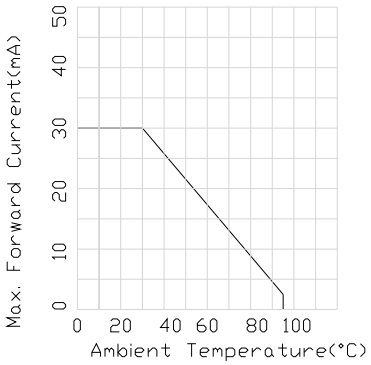
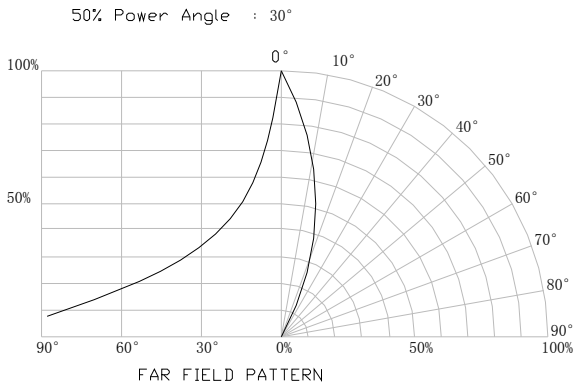


FIG.5 Maximun forward DC Current vs. Ambient Temperature



PRECAUTIONS

1. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component. Lead-forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.(Fig. 1)

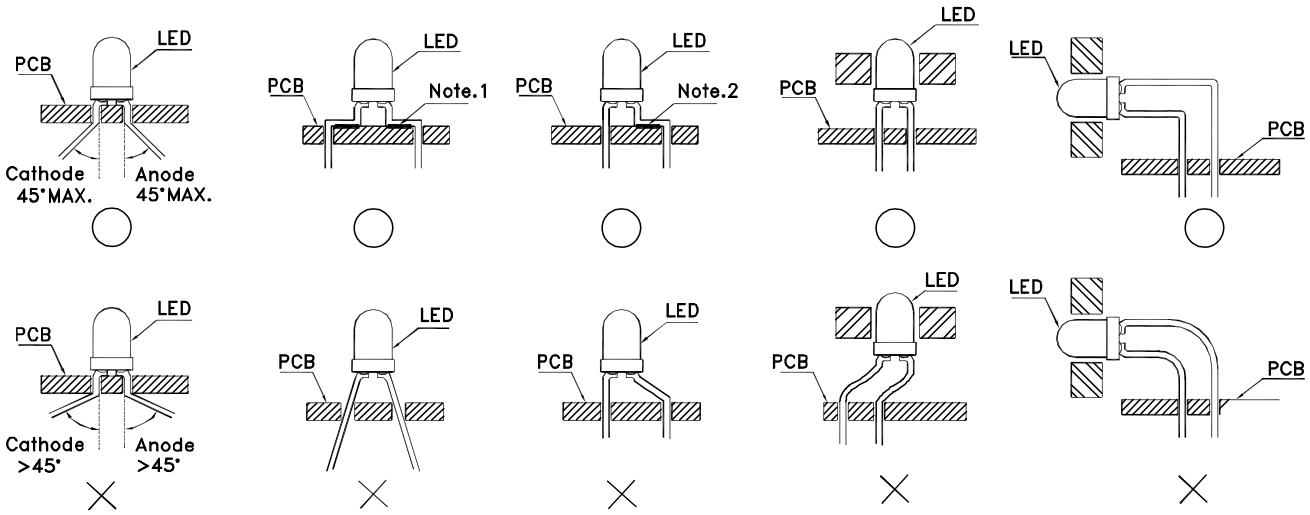


Fig.1

"O" Correct mounting method "×" Incorrect mounting method

2. When soldering wire to the LED, use individual heat-shrink tubing to insulate the exposed leads to prevent accidental contact short-circuit.(Fig. 2)

3. Use stand-offs (Fig. 3) or spacers (Fig. 4) to securely position the LED above the PCB.

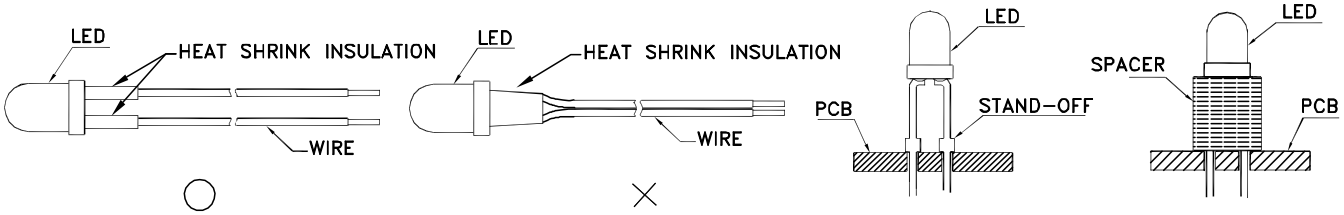


Fig. 2 Fig. 3 Fig. 4

4. Maintain a minimum of 3mm clearance between the base of the LED lens and the first lead bend.(Fig. 5 and 6)

5. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming once the component has been mounted onto the PCB.(Fig. 7)

6. Do not bend the leads more than twice.(Fig. 8)

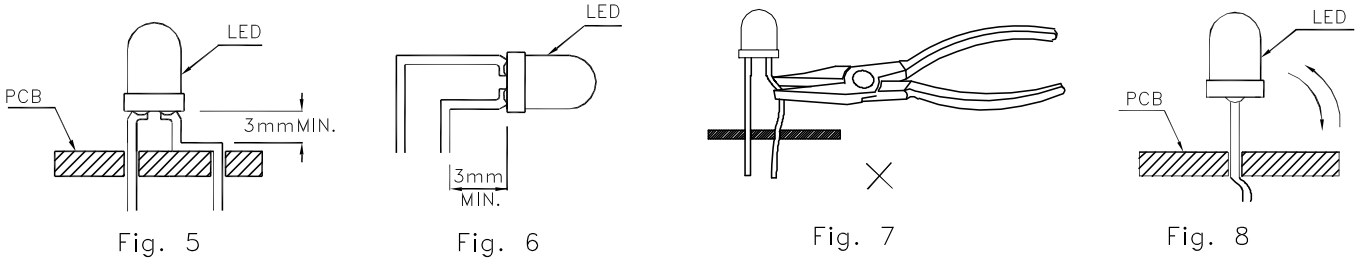
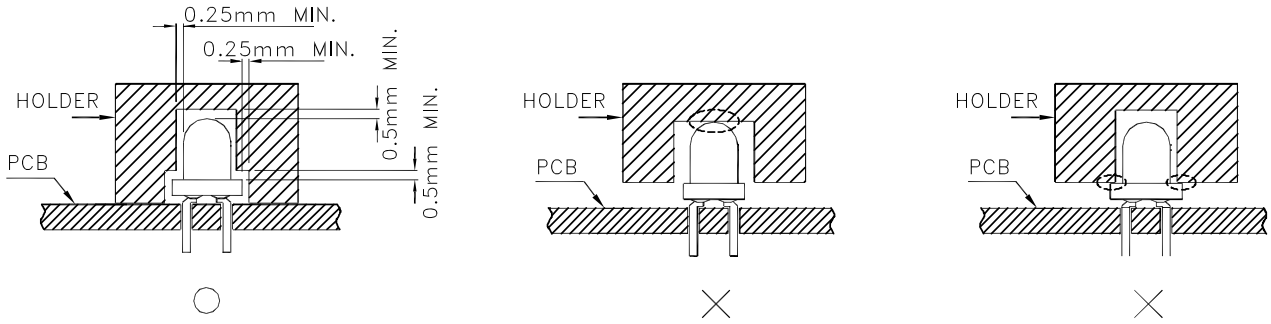


Fig. 5 Fig. 6 Fig. 7 Fig. 8

7. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.

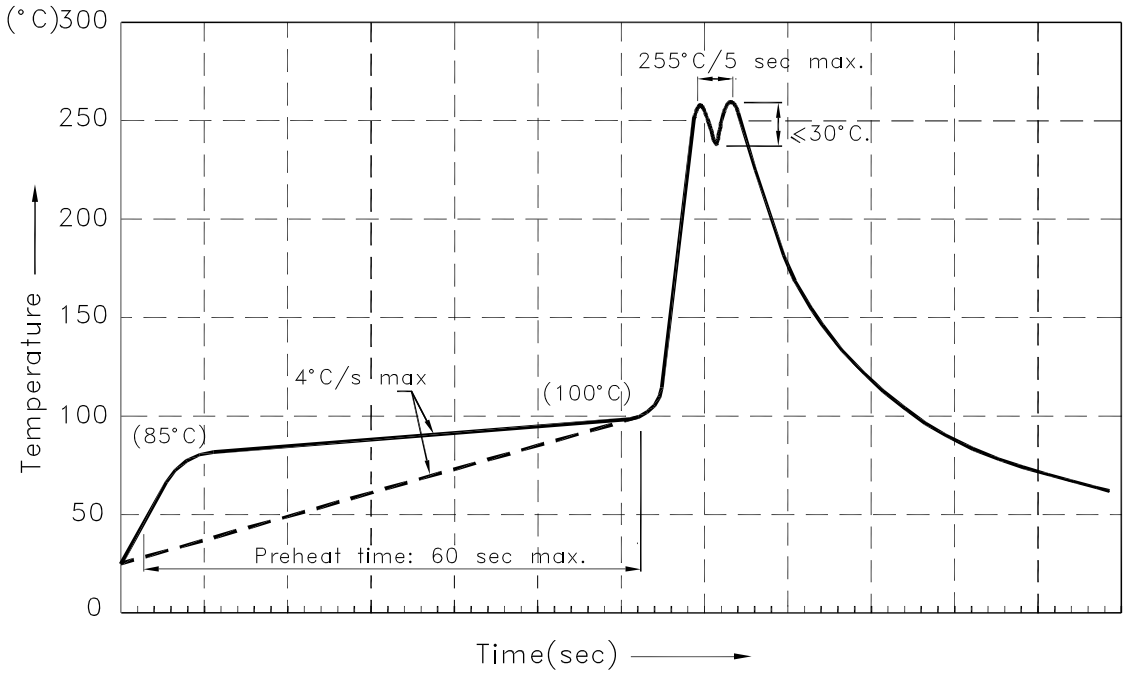


8. The tip of the soldering iron should never touch the lens epoxy.

9. Through-hole LEDs are incompatible with reflow soldering.

10. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with WCN for compatibility.

11. Recommended Wave Soldering Profiles:



Notes:

1.Recommend pre-heat temperature of 105℃ 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℃.

2.Peak wave soldering temperature between 245℃ ~ 255℃ for 3 sec (5 sec max).

3.Do not apply stress to the epoxy resin while the temperature is above 85℃.

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.

Items	Signatures	Date	Revision History	
Prepared by	zhangchun	2016.6.18	DOC. No.	CHANGE DESCRIPTION
Checked by				
Approved by	xuye	2016.6.18		
ECN#				

Data is subject to change without prior notice.