

# LED SPECIFICATION

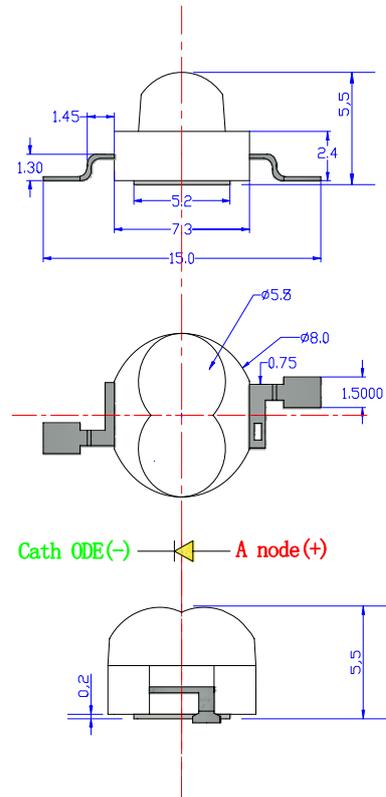
Part No.: E12LY9C-O

## Features:

- High est Flux
- High reliability and Very long operating life (up to 100K hrs)
- Low voltage DC operated
- More Energy Efficient than Incandescent and most Halogen lamps
- NO UV
- Superior ESD protection
- RoHS Compliant

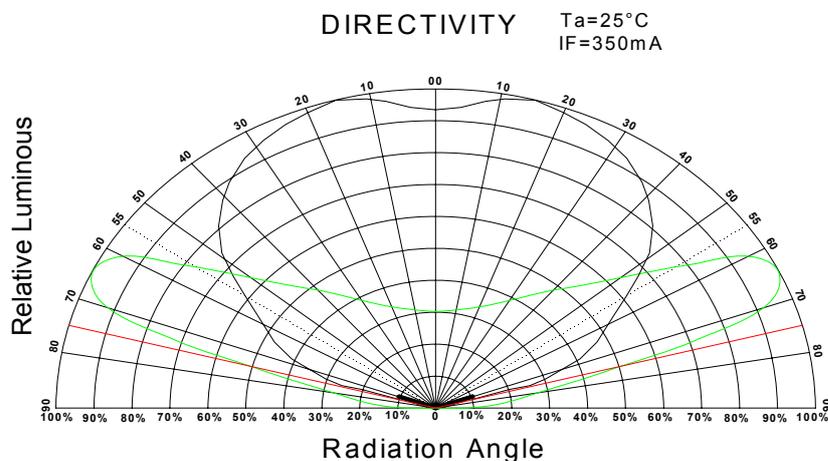
## Typical Applications:

- Reading lights (car, bus, aircraft)
- Portable (flashlight, bicycle)
- Automotive Exterior (Stop-Tail-Turn, CHMSL, Mirror Side Repeat)
- Decorative



### NOTE:

- All dimensions are millimeters.
- Tolerance is  $\pm 0.1\text{mm}$  unless noted



**Part No.:** E12LY9C-O

**Absolute maximum ratings (Ta = 25°C)**

Parameter	Symbol	Test Condition	Value		Unit
			Min.	Max.	
DC Forward Current	IF	----	----	350	mA
Peak Pulse Current	Ipeak	Duty=0.1mS, 1kHz	----	500	mA
Power Dissipation	Pd	----	----	1.20	W
LED Junction Temperature	Tj	----	----	120	°C
Operating Temperature	Topr	----	-25	+100	°C
Storage Temperature	Tstr	----	-40	+120	°C
ESD Sensitivity	---	HBM	8000	---	V
Soldering Temperature	---	----	240°C for 5 Seconds max		

**Electrical and optical characteristics (Ta = 25°C)**

Parameter	Symbol	Test Condition	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	VF	IF = 350mA	----	2.6	3.5	V
Luminous Flux	Φv		30	40	----	lm
Viewing Angle	2 θ 1/2-X		----	110	----	Deg.
Viewing Angle	2 θ 1/2-Y		----	160	----	Deg.
Dominant Wavelength	λ d		585	----	595	nm

**Luminous Flux Bins (Ta = 25°C) Unit: lm**

Bin	G	H
Min	30	40
Max	40	50

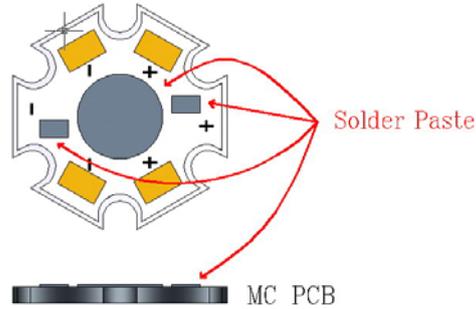
**Note**

1. Flux is measured with an accuracy of ±15%
2. CCT is measured with an accuracy of ± 200K
3. Forward Voltage is measured with an accuracy of ± 0.15V

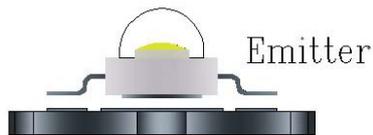


## Heat Plate Soldering Condition

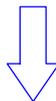
### 1. Soldering Process for Solder Paste



Use Solder Mask to print Solder Paste on MCPCB.



Place Emitter on MCPCB.

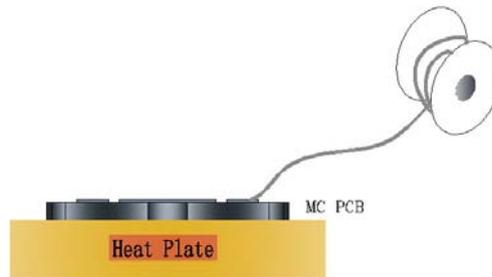
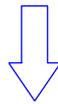


Put MCPCB on Heat Plate until Solder Paste melt. Put Emitter on MCPCB. Take the MCPCB out  
The Solder Paste could be melted within 10 seconds. from Heat Plate within 10 seconds.  
Take out MCPCB out from Heat Plate within 10 seconds.

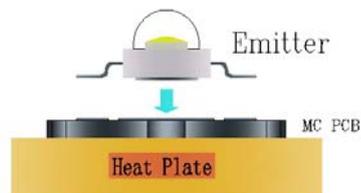
## 2. Soldering Process for Solder Wire



Put MCPCB on Heat Plate.



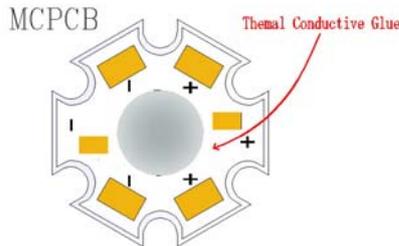
Place Solder Wire to the solder pad of MCPCB.



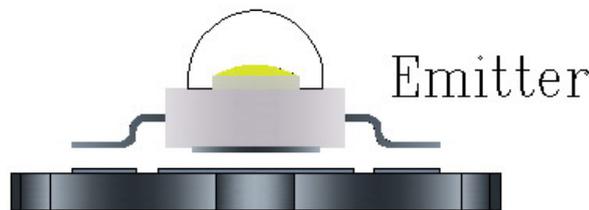
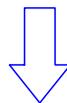
Put Emitter on MCPCB. Take the MCPCB out from Heat Plate within 10 seconds.

- . • Heat plate temperature: 230°C max for Lead Solder and 260°C max for Lead-Free Solder.
- . • When soldering, do not put stress on the LEDs during heating.
- . • After soldering, do not warp the circuit board.

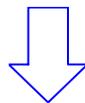
**3. Manual Hand Soldering**



**Place Thermal Conductive Glue on the MCPCB**



**Place Emitter on the MCPCB**



**Use Soldering Iron to solder the leads of Emitter within 5 seconds**

- For prototype builds or small series production runs it possible to place and solder the emitters by hand.
- Solder tip temperature: 230°C max for Lead Solder and 260°C max for Lead-Free Solder.
- Avoiding damage to the emitter or to the MCPCB dielectric layer. Damage to the epoxy layer can cause a short circuit in the array.
- Do not let the solder contact from solder pad to back-side of MCPCB. This one will cause a short circuit and damage emitter.