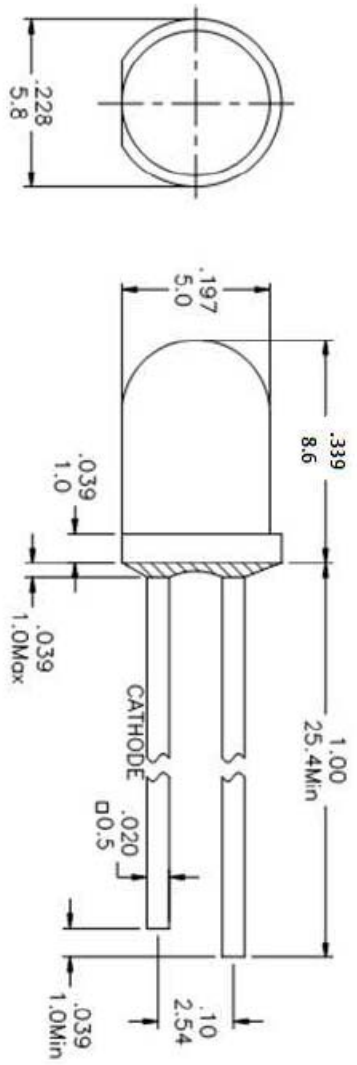
SPECIFICATIONS CL50W4C-45D

OUTLINES DIMENSIONS



DESCRIPTION

- Round Type
- 5mm Diameter
- Lens Color: Water Clear
- With Flange
- Solder leads without standoff

FEATURES

- Epoxy Resin
- Emitted Color: White
- Technology: InGaN
- Viewing Angle: 45°

Notes:
1. All Dimensions are in millimeters (inches).
2. Tolerance is ± 0.25mm (0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CL50W4C-45D	InGaN	White	Water Clear	45°

RoHS Compliant Lead Free

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ABSOLUTE MAXIMUM RATINGS (TA=25°C)

Parameter	Symbol	Max Rating	Unit
Power Dissipation	P_D	114	mW
Pulse Current Forward Current	I_{FP}	100	mA
Continuous Forward Current	I_F	30	mA
Reverse Voltage	V_R	5	V
Operating Temperature Range	T_{OPR}	-30~+80	°C
Storage Temperature Range	T_{STG}	-40~+100	°C
I_{FP} = Pulse Width ≤ 10 ms, Duty Ratio ≤1/10. Soldering Condition: 260 °C/ 5sec			

OPTICAL-ELECTRICAL CHARACTERISTICS (TA=25°C)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	Iv	I_F = 20mA	5100	8600	-	mcd
Forward Voltage	V_F	I_F = 20mA	-	3.2	3.8	V
Reverse Leakage Current	I_R	V_R = 5V	-	-	50	μA
Viewing Angle	2θ1/2	I_F = 20mA	-	45	-	deg
Chromaticity Coordinate	X	I_F = 20mA	-	0.31	-	-
Chromaticity Coordinate	Y	I_F = 20mA	-	0.32	-	-

*Tolerance of viewing angle: -10 / +5 deg.

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OPTICAL CHARACTERISTIC CURVES

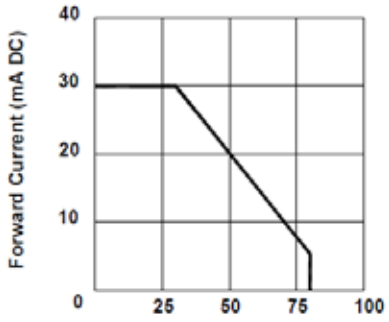

Fig 1. Forward Current Vs. Ambient Temperature

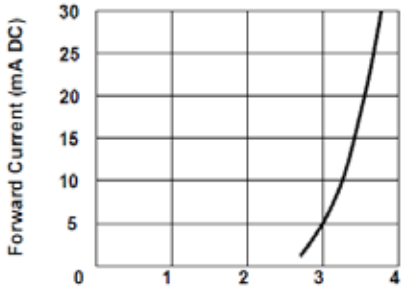

Fig 2. Forward Current Vs. Forward Voltage

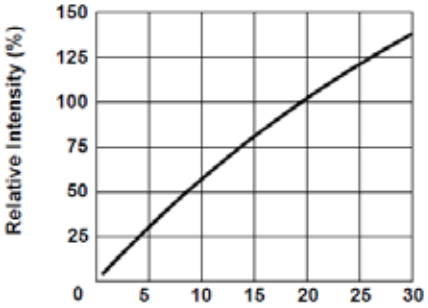

Fig 3. Relative Intensity Vs. Forward Current

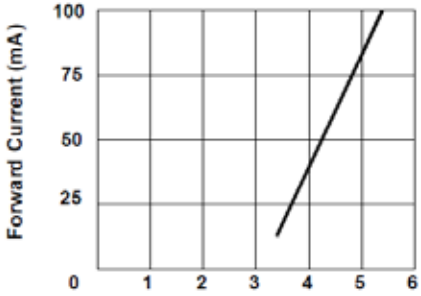

Fig 4. Peark Forward Voltage Vs.Forward Current (100us test pulse,1% duty cycle)

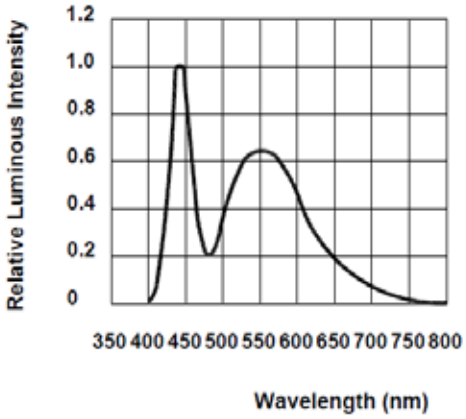

Fig 5. Relative Intensity Vs. Wavelength

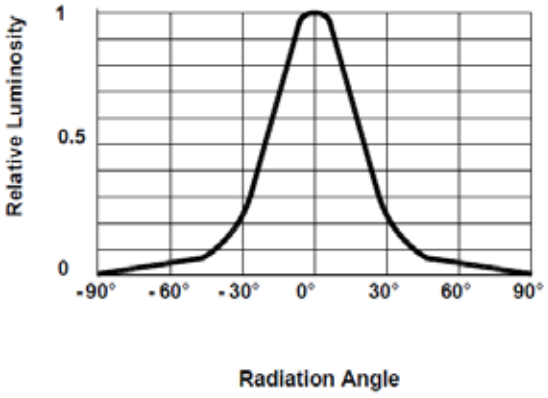

Fig 6. Relative Luminous Intensity vs.Radiation Angle

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SOLDERING CONDITIONS – LAMP TYPE LED

RECOMMENDED SOLDERING CONDITIONS

- Solder the LED no closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended.
- Recommended soldering conditions:

Dip Soldering	
Pre-Heat	100ºC Max.
Pre-Heat Time	60 sec. Max.
Solder Bath Temperature	260ºC Max.
Dipping Time	5 sec. Max.
Dipping Position	No lower than 3mm from the base of the epoxy bulb.

Hand Soldering		
	Current Series	**Others (Including Lead-Free Solder)**
Temperature	300 ºC Max.	350 ºC Max.
Soldering time	3 sec. Max.	3 sec. Max.
Position	No closer than 3mm from the base of the epoxy bulb.	No closer than 3mm from the base of the epoxy bulb.

- Do not apply any stress to the lead, particularly when heated.
- The LEDs must not be repositioned after soldering.
- After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- Direct soldering onto a PC board should be avoided. Mechanical stress to the resin may be caused by the PC board warping or from the clinching and cutting of the lead frames. When it is absolutely necessary, the LEDs may be mounted in this fashion, but, the User will assume responsibility for any problems. Direct soldering should only be done after testing has confirmed that no damage, such as wire bond failure or resin deterioration, will occur. LEDs should not be soldered directly to double sided PC boards because the heat will deteriorate the epoxy resin.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- Cut the LED lead frames at room temperature. Cutting the lead frames at high temperatures may cause LED failure.