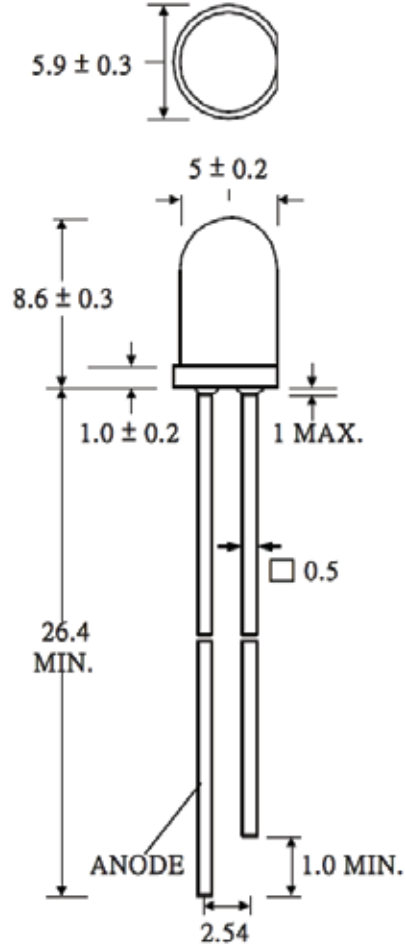


**SPECIFICATIONS** **CL50IR890C-30**
**OUTLINES DIMENSIONS**
**DESCRIPTION**

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

**FEATURES**

- Emitted Color: Infrared
- Technology: GaAIAs
- Peak Wavelength  $\lambda_P = 890\text{nm}$
- Viewing Angle:  $30^\circ$



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

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CL50IR890C-30	AlGaAs	Infrared	Water Clear	$30^\circ$



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**ABSOLUTE MAXIMUM RATINGS**
**(TA=25°C)**

Parameter	Symbol	Max Rating	Unit
Power Dissipation	PD	85	mW
Pulse Current Forward Current	IFP	1	A
Reverse Voltage	VR	5	V
Operating Temperature Range	TOPR	-40~+85	°C
Storage Temperature Range	TSTG	-40~+85	°C
IFP = Pulse Width ≤ 10 ms, Duty Ratio ≤ 1/10. Soldering Condition: 260 °C/ 5sec			

**OPTICAL-ELECTRICAL CHARACTERISTICS**
**(TA=25°C)**

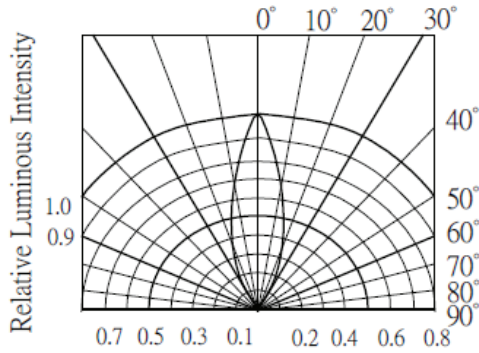
Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Radiant Intensity	IE	IF = 50mA	20	30	-	mW/ Sr
Forward Voltage	VF	IF = 50mA	-	1.5	1.7	V
Reverse Leakage Current	IR	VR = 5V	-	-	100	µA
Viewing Angle	2θ1/2	IF = 20mA	-	30	-	deg
Peak Wavelength	λP	IF = 20mA	-	890	-	nm

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

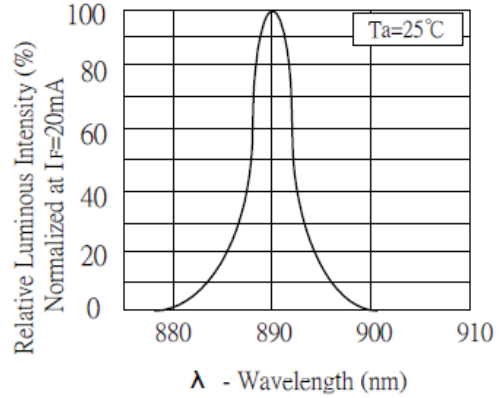


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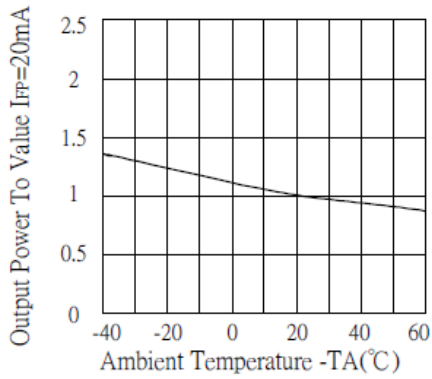
## OPTICAL CHARACTERISTIC CURVES



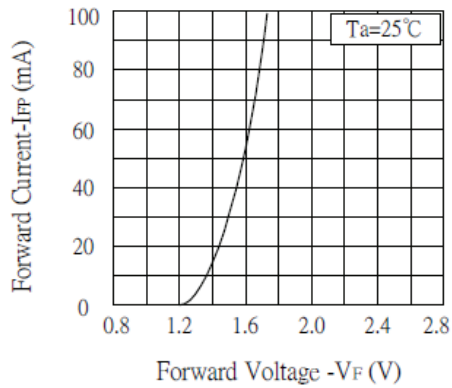
**RADIATION DIAGRAM**



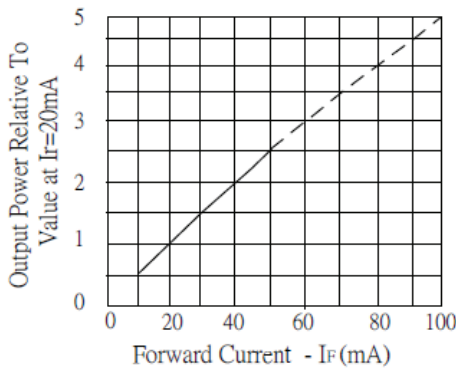
**RELATIVE LUMINOUS INTENSITY Vs. WAVELENGTH**



**LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE**



**MAX FORWARD CURRENT Vs. FORWARD VOLTAGE**



**RELATIVE RADIANT INTENSITY Vs. FORWARD CURRENT**



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## SOLDERING CONDITIONS – LAMP TYPE LED

\* 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	100 °C Max
Pre-Heat Time	60 Second Max
Solder Bath Temperature	260 °C Max
Dipping Time	5 Second Max
Dipping Position	No lower than 3mm from the base of the epoxy

Hand Soldering		
	3mm Series	Others
Temperature Soldering Time Position	300 °C Max 3 Second Max No closer than 3mm from the base of the epoxy	350 °C Max 3 Second Max No closer than 3mm from the base of the epoxy

\* Do not apply any stress to the lead. Particularly when heated.

\* The LED 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 leadframes. 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 leadframes at room temperature. Cutting the leadframes at high temperature may cause LED failure.



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