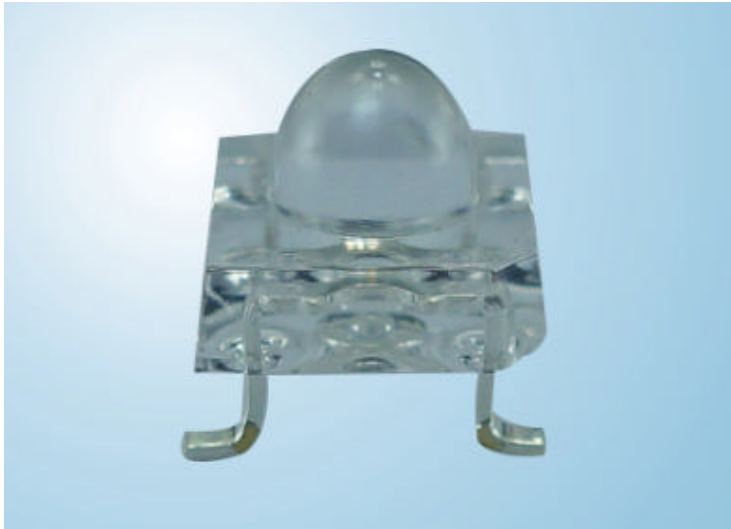




## High-power Infrared LED



### Features

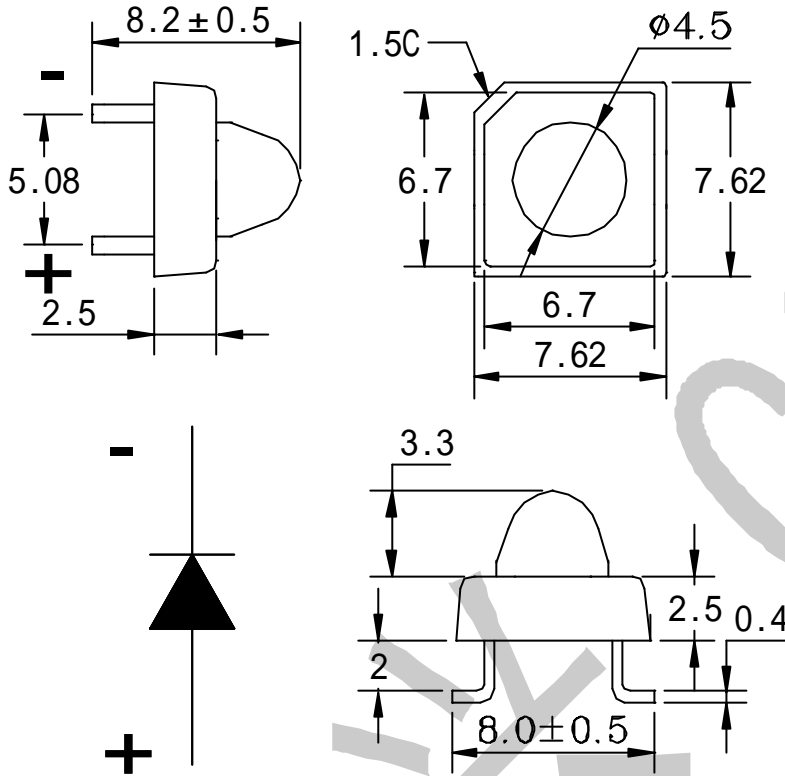
- ◆ High reliability
- ◆ 5.08mm Lead spacing
- ◆ Pb Free
- ◆ High emission power, far from the launch distance, clear image
- ◆ Peak wavelength:  $\lambda=850\text{nm}$
- ◆ The batch consistency, 0.1V file voltage, 5nm wavelength grade
- ◆ The long service life, low driving voltage
- ◆ This product itself will remain within RoHS compliant version.

### Applications

- ◆ Applicable to security surveillance camera
- ◆ Free air transmission system
- ◆ Infrared remote control units with high power requirement
- ◆ Smoke detector
- ◆ Infrared applied system
- ◆ That is suitable for various sizes of touch screen



## Package Dimension



- Notes : 1、 All dimensions are in millimeters.  
2、 Tolerance is  $\pm 0.25$ mm unless otherwise noted.

## Device Selection Guide

Chip Materials	Lens Color
GaAlAs	Water clear

## Absolute Maximum Ratings at Ta=25



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CGX-1194GIRPC0/D16

Parameter	Symbol	MAX	Unit
Power Dissipation at(or below) 25 free air temperature	$P_d$	150	mW
Peak Forward Current (1/10 Duty Cycle,0.1ms Pulse Width)	$I_{FP}$	400	mA
Continuous Forward Current	$I_F$	100	mA
Reverse Voltage	$V_R$	5	V
Operating Temperature Range	$T_{opr}$	-40 to +85	
Storage Temperature Range	$T_{stg}$	-40 to +100	
Lead Soldering Temperature	$T_{sol}$	200 for 5 seconds	

## Electrical Optical Characteristics at $T_a=25$

Parameter	Symbol	Min	Typ	Max	Uni	Test Condition
Radiant Intensity	$I_e$	40.0	6.0	-----	Mw/sr	$I_F=20mA$
Viewing Angle	$2_{1/2}$	----	30	-----	Deg	
Peak Emission Wavelength	$\lambda_p$	830	845	855	nm	$I_F=100mA$
Spectral Line Half-Width		----	40	----	nm	$I_F=100mA$
Forward Voltage	$V_F$	1.40	1.55	1.65	V	$I_F=100mA$
Reverse Current	$I_R$	----	----	10	$\mu A$	$V_R=5V$

## Typical Electro-Optical Characteristics Curve

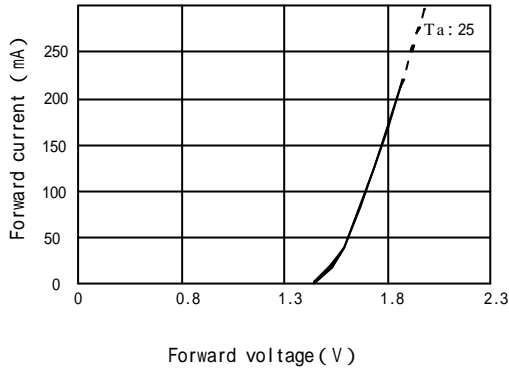


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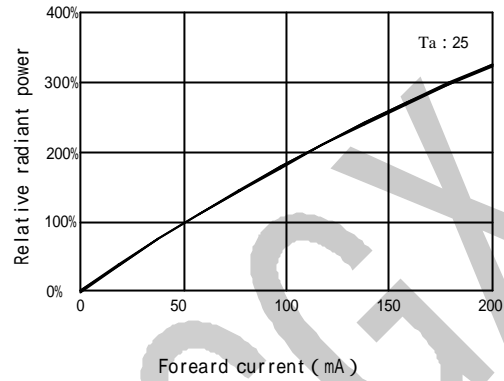
SHENZHEN CGX OPTOELECTRONIC TECHNOLOGY, INC.

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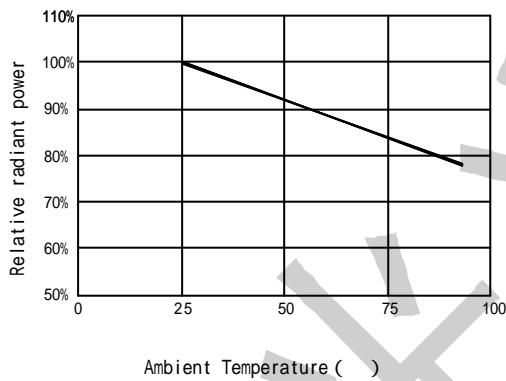
Forward current Vs.  
Forward voltage



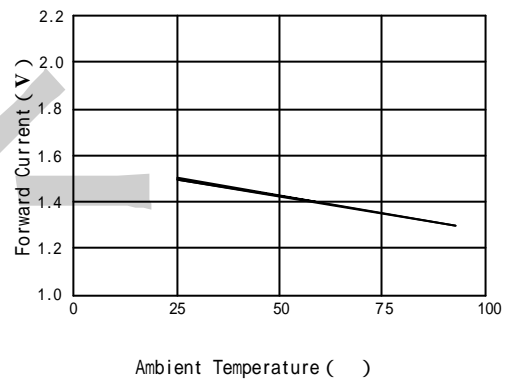
Relative Radiant power  
vs. Forward Current



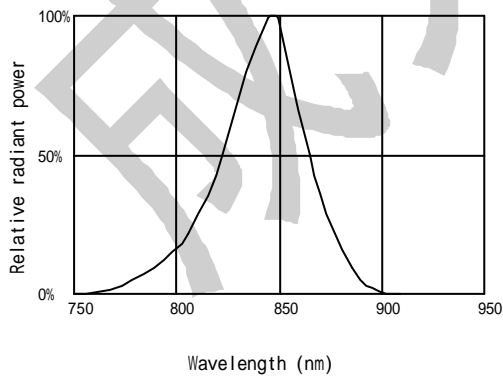
Relative Radiant power  
vs. Ambient Temperature



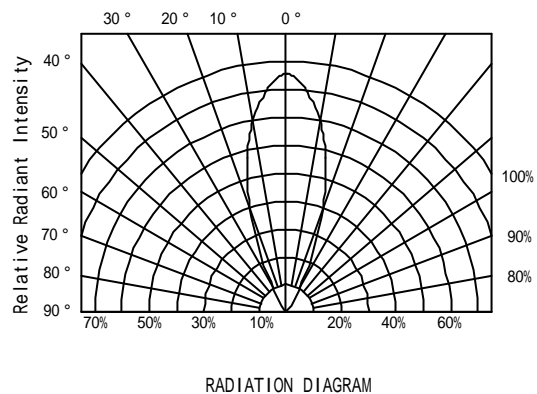
Forward Current vs.  
Ambient Temperature



Spectral Distribution



Relative Radiant Intensity  
vs. Angular Displacement



## Reliability test items and test conditions

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CGX-1194GIRPC0/D16

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD (group of permitted defect rate): 10%

No.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Ac/Re	Reference Standard
1	REFLOW Soldering	Temp. : 200 ±5	5secs	22PCS	0/1	JEITA ED-4701 300 302
2	Temperature Cycle	H : +100 15min ~ 5 min L : -40 15min	100Cycles	22PCS	0/1	JEITA ED-4701 100 305
3	Thermal Shock	H : +100 5min ~ 10 sec L : -10 5min	100Cycles	22PCS	0/1	MIL-STD-202G
4	High Temperature Storage	Temp. : 100	1000Hrs	22PCS	0/1	JEITA ED-4701 200 201
5	Low Temperature Storage	Temp. : -40	1000Hrs	22PCS	0/1	JEITA ED-4701 200 202
6	DC Operating Life	IF = 100 mA	1000Hrs	22PCS	0/1	Tested with CGX standard
7	High Temperature/ High Humidity	85 /RH85%	1000Hrs	22PCS	0/1	JEITA ED-4701 100 103

Notes : Failure Judgement Criteria : IR U×2 Ie L×0.8 VF U×1.2

U : Upper Specification Limit L : Lower Specification Limit