

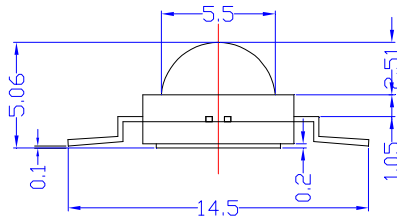
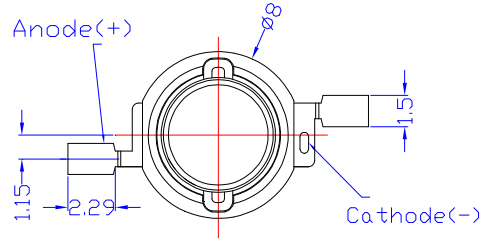
■Features


- Highest luminous flux
- Super energy efficiency
- Very long operating life
- Superior ESD protection

■Applications

- Night Vision
- Camera
- Outdoor./Indoor applications

■Outline Dimension



Anode  Cathode
Unit:mm
Tolerance:±0.20mm
unless otherwise noted

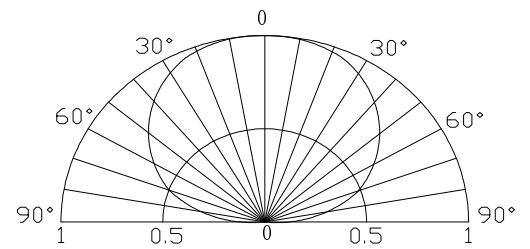
■Absolute Maximum Rating

(Ta=25°C)

Item	Symbol	Value	Unit
DC Forward Current	I _F	1000	mA
Pulse Forward Current*	I _{FP}	2000	mA
Reverse Voltage	V _R	5	V
Power Dissipation	P _D	2000	mW
Operating Temperature	T _{opr}	-30 ~ +85	°C
Storage Temperature	T _{stg}	-40~ +100	°C
Manual Soldering Temperature	T _{sol}	260°C/5sec	-

*Pulse width Max.10ms Duty ratio max 1/10

■Directivity



■Electrical -Optical Characteristics

(Ta=25°C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage	V _F	I _F =700mA	-	1.7	2.0	V
DC Reverse Current	I _R	V _R =5V	-	-	10	μA
Peak Wavelength	λ _P	I _F =700mA	-	850	-	nm
Radiant Power	P _O	I _F =700mA	200	250	-	mW
50% Power Angle	2θ _{1/2}	I _F =700mA	-	140	-	deg

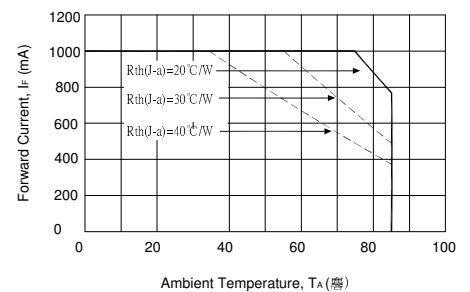
*1 Tolerance of measurements of Peak wavelength is ±1nm

*2 Tolerance of measurements of Radiant Power is ±15%

*3 Tolerance of measurements of forward voltage is ±0.1V

Note: Don't drive at rated current more than 5s without heat sink for Xeon 2 emitter series.

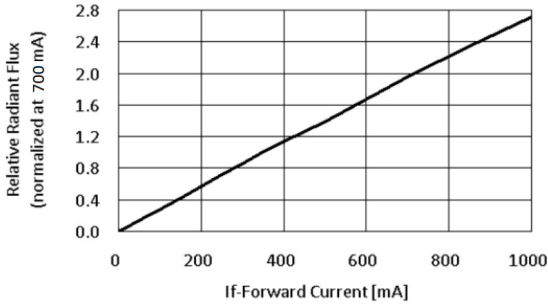
■Forward Operating Current (DC)



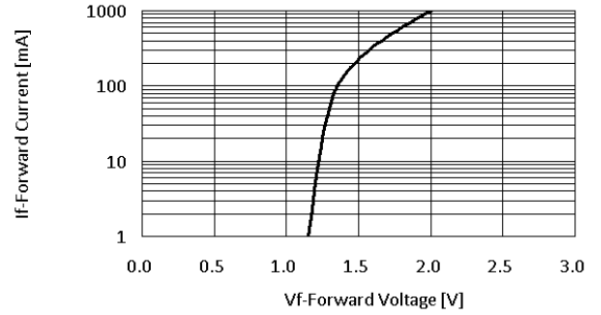
AlGaInP LED

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

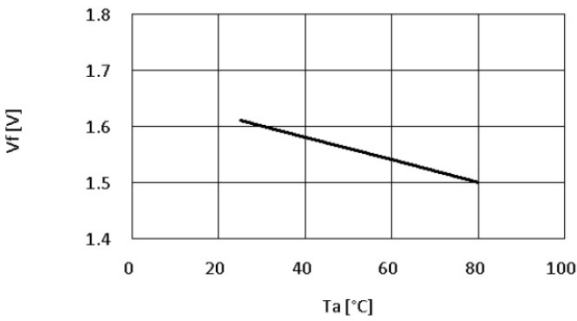
Relative luminous Intensity vs. Forward Current



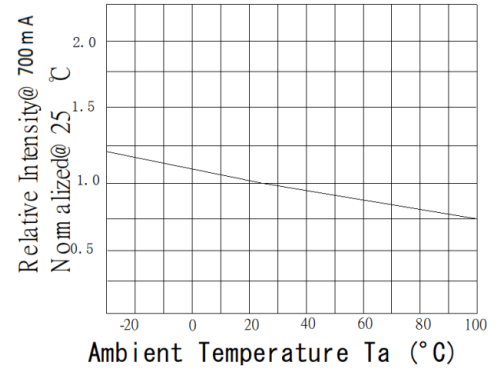
Forward Current vs. Forward Voltage



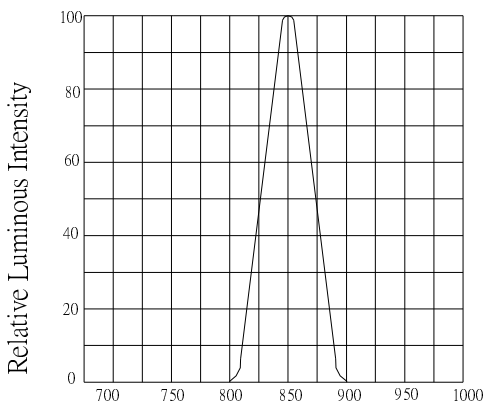
Forward Voltage (@ 700 mA) vs. Ambient Temperature



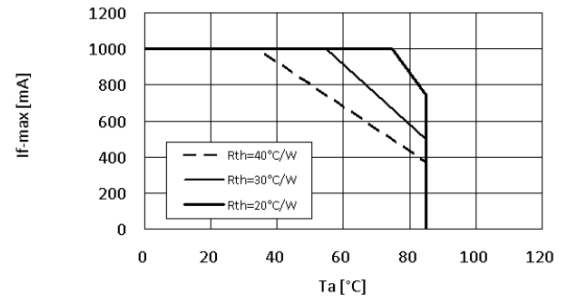
Relative Intensity-Ta



Wavelength Characteristics Ta=25 °C



Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)



RELIABILITY TEST REPORT

CLASSIFICATION	TEST ITEM	TEST CONDITION
ENDURANCE TEST	ROOM TEMPERATURE OPERATION LIFE	If: 700mA Ta:25±5 °C TEST TIME=1000HRS
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	R.H:90~95% Ta:65±5°C TEST TIME=240HRS(+2HRS)
	HIGH TEMPERATURE STORAGE	Ta:100°C TEST TIME=500HRS(-24HRS,+48HRS)
	LOW TEMPERATURE STORAGE	Ta:-40°C TEST TIME=500HRS(-24HRS,+48HRS)
	TEMPERATURE CYCLING	-40°C ~25°C ~100°C ~25°C 30min 5min 30min 5min 20cycles
ENVIRONMENTAL TEST	RESISTANCE TO SOLDERING HEAT	Ta:260±5°C TEST TIME=10±1sec
	SOLDERABILITY	Ta:245±5°C TEST TIME=5±1sec

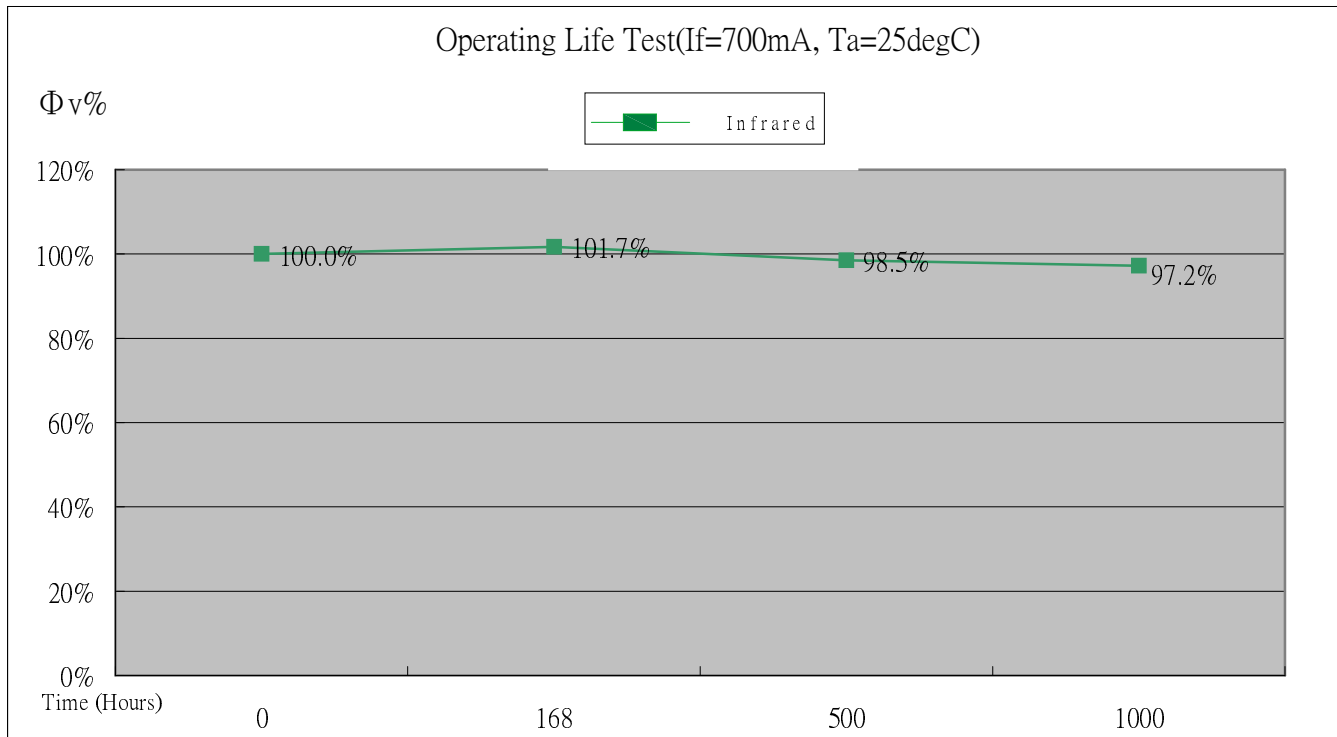
JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

MEASURING ITME	SYMBOL	CONDITIONS	FAILURE CRITERIA
LUMINOUS INTENSITY	IV	IF=700mA	IV<0.5*L.S.L
FORWARD VOLTAGE	VF	IF=700mA	VF>1.2*U.S.L
REVERSE CURRENT	IR	Vr=5V	IR>2*U.S.L
SOLDERABILITY	-	-	LESS THAN 95% SOLDER COVERAGE

U.S.L : Upper Specification Limit

L.S.L : Lower Specification Limit

OPERATION LIFE TEST LUMINANCE RATE CURVE



*Burn-in condition: 700mA With Heatsink

*Projection of Statistical Average Light Output Degradation Performance for LED Technology
Extrapolated from OptoSupply QA Dept. Test Data.

*According to OptoSupply outgoing Packaged Products Specification

*MTBF:50,000hrs, 90% Confidence (A Failure is Any LED Which is Open, shorted or fails to Emit Light)

*The Projected Data is Base on The Feature of LED Itself Under Normal Operation Conditions.

*Any Improper Circuit Design or External Factors Might Cause a Different Result.

■Storage

· Storage Conditions

Before opening the package:

The LEDs should be kept at 30°C or less and 60%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

· After opening the package:

Soldering should be done right after opening the package (within 24hrs).

Keeping of a fraction, sealing and Temperature: 5~40°C Humidity: Less than 30%.

If the package has been opened more than 1 week or the color of desiccant changes, components should be dried for 10-12hrs, at 60±3°C.

· Optosupply LED electrode sections are comprised of a silver plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the User use the LEDs as soon as possible.

· Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

■Soldering Heat Reliability :

Reflow soldering Profile

- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.
- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the

characteristics of the LEDs will or will not be damaged by repairing.

Solder=Lead Free
Average ramp-up rate = 3°C/sec. max.
Preheat temperature: 140°~180°C
Preheat time = 120 sec. max.
Ramp-down rate = 6°C/sec. max.
Peak temperature = 245°C max.
Time within 3°C of actual peak temperature = 25 sec. max.
Duration above 210°C is 40 sec. max.

