

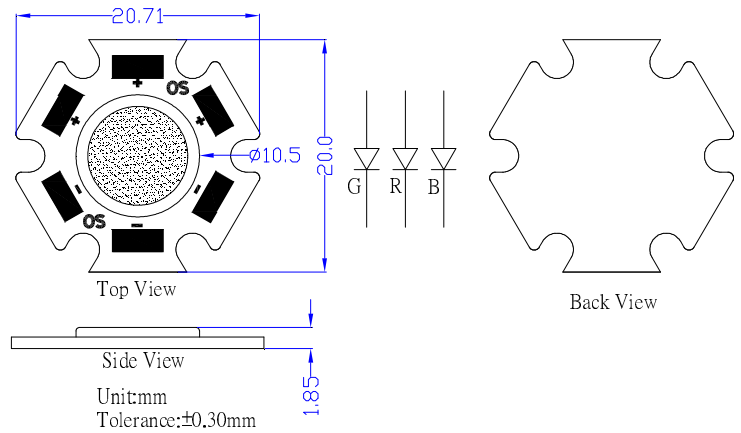
■Features

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

■Applications

- Small Area Illuminations
- Games
- Bollards / Security / Garden
- Audio

■Outline Dimension



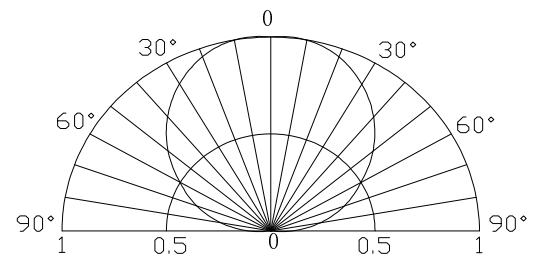
■Absolute Maximum Rating

(Ta=25°C)

Item	Symbol	Value		Unit
		Red	Green/Blue	
DC Forward Current	I_F	600	600	mA
Pulse Forward Current*	I_{FP}	800	800	mA
Reverse Voltage	V_R	5	5	V
Power Dissipation	P_D	2,100	2,700	mW
Operating Temperature	T_{opr}	-30 ~ +85		°C
Storage Temperature	T_{stg}	-40 ~ +100		°C
Lead 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	$V_F(R)$	$I_F=500mA$	2.5	3.0	3.5	V
	$V_F(B/G)$	$I_F=500mA$	3.5	4.0	4.5	V
DC Reverse Current	I_R	$V_R=5V$	-	-	10	μA
Domi. Wavelength	$\lambda_D(Red)$	$I_F=500mA$	619	624	629	nm
	$\lambda_D(Green)$	$I_F=500mA$	520	525	535	nm
	$\lambda_D(Blue)$	$I_F=500mA$	455	460	465	nm
Luminous Flux	$\Phi_v(Red)$	$I_F=500mA$	40	50	60	lm
	$\Phi_v(Green)$	$I_F=500mA$	80	90	100	lm
	$\Phi_v(Blue)$	$I_F=500mA$	20	25	30	lm
50% Power Angle	$2\theta_{1/2}$	$I_F=500mA$	-	120		deg

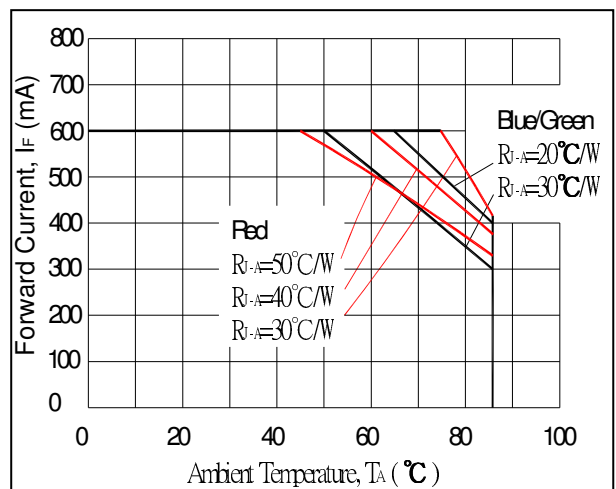
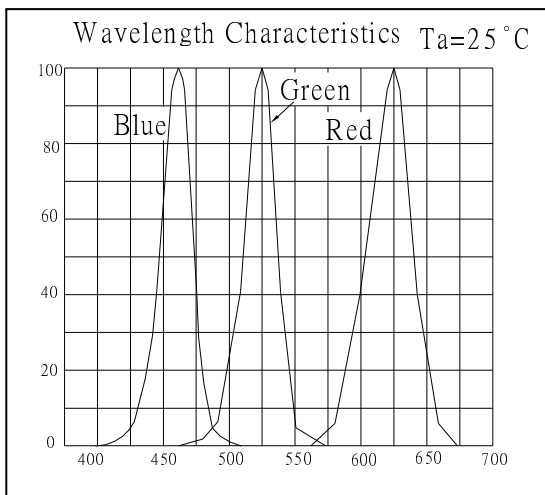
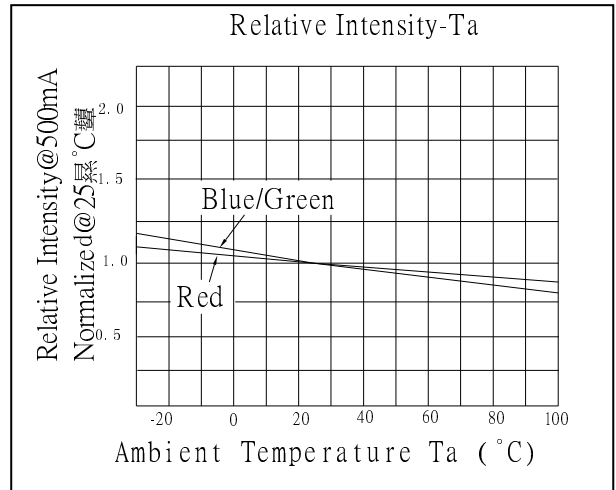
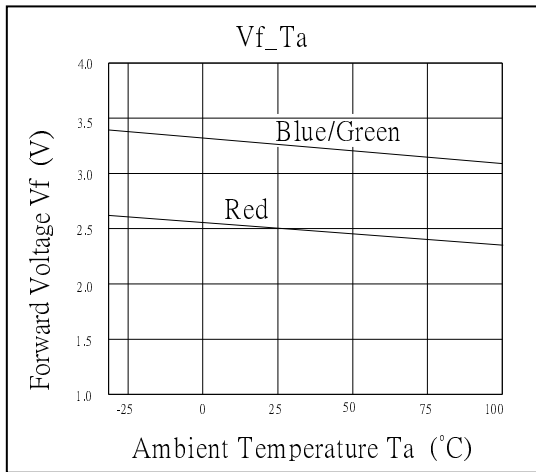
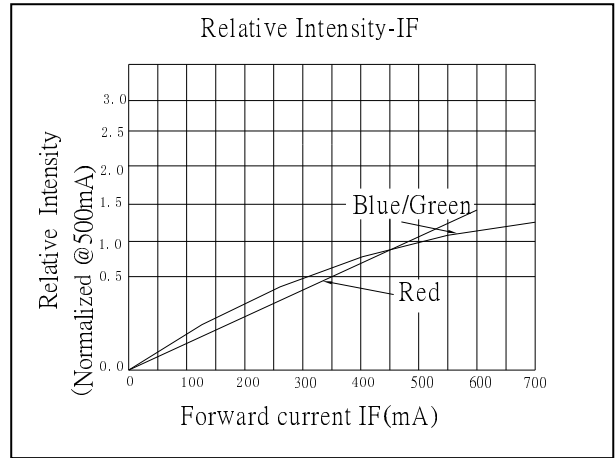
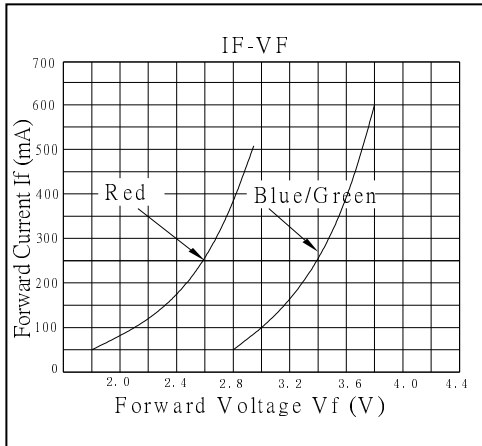
Note: *1. Tolerance of chromaticity coordinates is $\pm 10\%$ *2. Dominant wavelength tolerance: $\pm 1nm$

*3. Tolerance of luminous Flux is $\pm 15\%$

*4 Don't drive at rated current more than 5s without heat sink for Xeon 1 Power emitter series.

InGaN AND AlInGaP LED

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES



■ Heat design

The following pictures show some measurements of mounted 5W Led on the heat sink for each board A and B (See Fig 1) with using thermograph to make an observation about heat distribution. Each boards is tested at various current conditions. As a result, LED needs larger heat sink as much as possible to reduce its own case temperature.

Fig. 1 Configuration pattern examples for board assembly

Board	LED power	Material	Surface area (mm ²)	Min.
A	5W	Al	10,300	
B	10W	Al	20,600	
C	25W	Al	51,500	
D	50W	Al	103,000	
E	100W	Al	206,000	
F	200W	Al	412,000	
G	300W	Al	618,000	

Above tested LED device is attached with adhesive sheet to the heatsink.

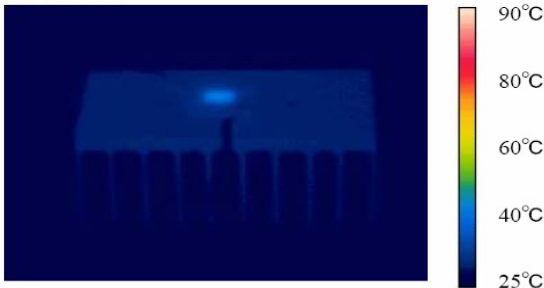
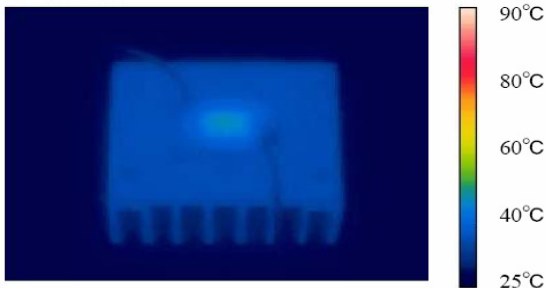
For reference's sake, Tj absolute maximum rating is defined at 115°C as a prerequisite on design process of 5W LED.

<Fig.2> Board A (surface area=10,300mm²)

<Fig.3> Board B (surface area=20,600mm²)

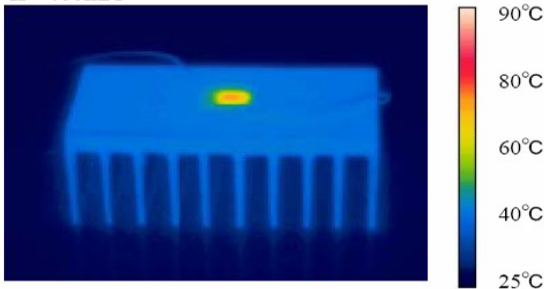
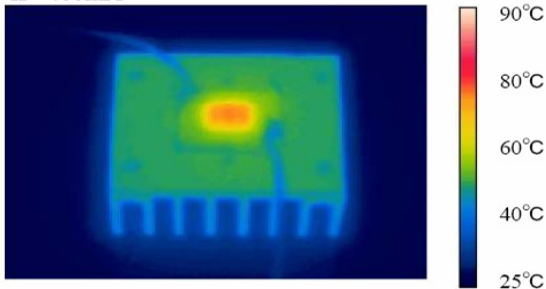
IF=200mA

IF=200mA



IF=400mA

IF=400mA



IF=600mA

IF=600mA

