

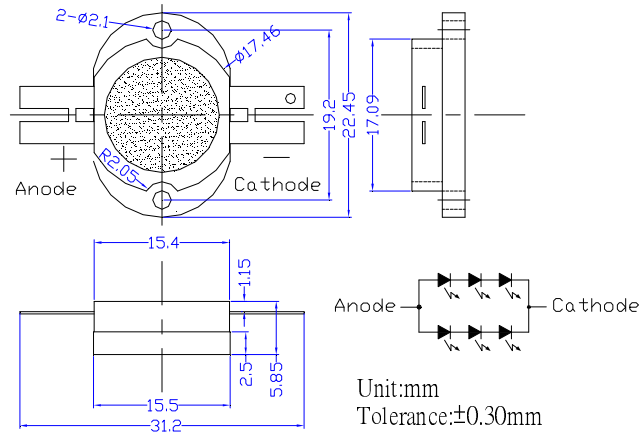
■ **Features**

- High-power LED
- Long lifetime operation
- Typical viewing angle : 140deg
- RoHS compliant
- Possible to attach to heat sink directly without using print circuit board.

■ **Applications**

- Indoor & outdoor lighting
- Stage lighting
- Reading lamps
- Display cases, furniture illumination, marker
- Architectural illumination
- Spotlights

■ **Outline Dimension**

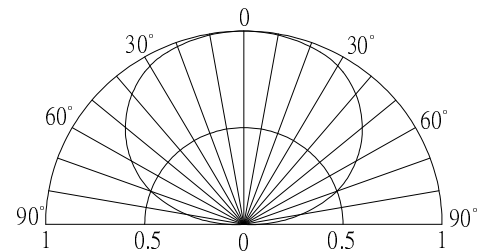


Unit:mm  
Tolerance:±0.30mm  
Tolerances are for reference only

■ **Absolute Maximum Rating (Ta=25°C)**

Item	Symbol	Value	Unit
DC Forward Current *1	$I_F$	1,400	mA
Pulse Forward Current*2	$I_{FP}$	2,000	mA
Reverse Voltage	$V_R$	15	V
Power Dissipation*1	$P_D$	15,960	mW
Operating Temperature	$T_{opr}$	-30 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Lead Soldering Temperature	$T_{sol}$	260°C/5sec	-

■ **Directivity**



\*1, Power dissipation and forward current are the value when the module temperature is set lower than the rating by using an adequate heat sink.

\*2, Pulse width Max.10ms Duty ratio max 1/10

■ **Electrical -Optical Characteristics (Ta=25°C)**

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage	$V_F$	$I_F=1000mA$	8.7	10	11.4	V
DC Reverse Current	$I_R$	$V_R=15V$	-	-	20	$\mu A$
Luminous Flux	$\Phi_v$	$I_F=1000mA$	670	765	-	lm
Color Temperature	CCT	$I_F=1000mA$	-	3000	-	K
Chromaticity Coordinates*	x	$I_F=1000mA$	-	0.45	-	
	y	$I_F=1000mA$	-	0.41	-	
50% Power Angle	$2\theta_{1/2}$	$I_F=1000mA$	-	140	-	deg

Note: Don't drive at rated current more than 5s without heat sink for High Power series.

\* Tolerance of chromaticity coordinates is ±10% , \* Tolerance of Luminous Flux is ±20%

■ **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.

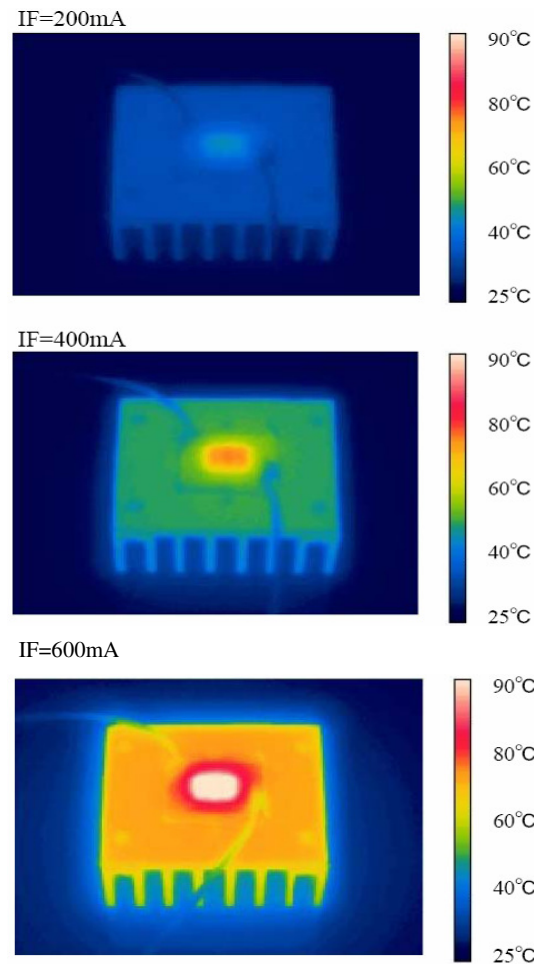
**Fig. 1 Configuration pattern examples for board assembly**

Board	LED power	Material	Surface area (mm <sup>2</sup> )	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, T<sub>j</sub> absolute maximum rating is defined at 115°C as a prerequisite on design process of 5W LED.

**<Fig.2> Board A (surface area=10,300mm<sup>2</sup>)**



**<Fig.3> Board B (surface area=20,600mm<sup>2</sup>)**

