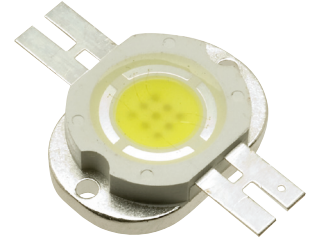


## Features:

- 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

## Absolute maximum rating (Ta=25°C)

Item	Symbol	Value	Unit
DC forward current*1	$I_F$	600	mA
Pulse forward current*2	$I_{FP}$	1,000	mA
Reverse voltage	$V_R$	15	V
Power dissipation*1	$P_D$	6,840	mW
Operating temperature	$T_{opr}$	-30 to +85	°C
Storage temperature	$T_{stg}$	-40 to +100	°C
Lead soldering temperature	$T_{sol}$	260°C/5sec	-

\*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)

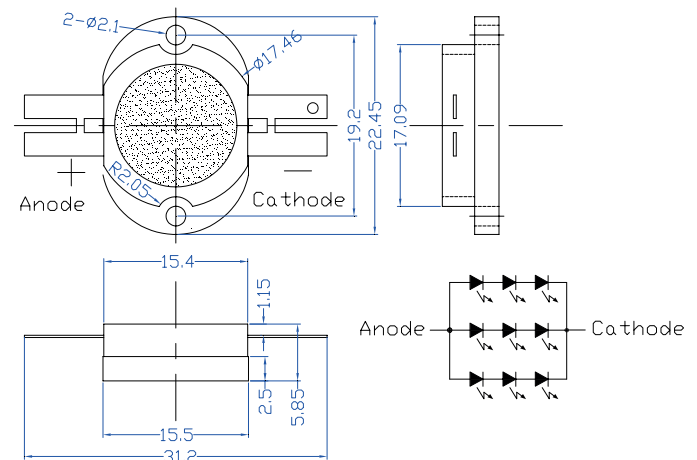
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC forward voltage	$V_F$	$I_F = 500\text{mA}$	8.7	10	11.4	V
DC reverse current	$I_R$	$V_R = 15\text{V}$	-	-	30	$\mu\text{A}$
Luminous flux	$\Phi_V$	$I_F = 500\text{mA}$	300	370	-	lm
Colour temperature	CCT	$I_F = 500\text{mA}$	-	3000	-	K
Chromaticity coordinates*	x	$I_F = 500\text{mA}$	-	0.45	-	
	y	$I_F = 500\text{mA}$	-	0.41	-	
50% Power angle	$2\theta_{1/2}$	$I_F = 500\text{mA}$	-	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%

## Outline dimensions:

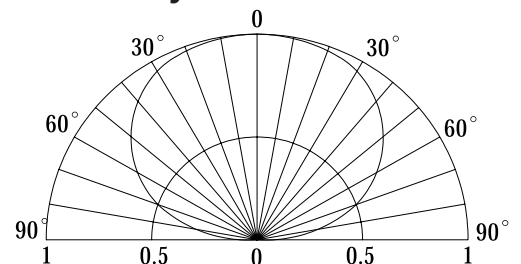


Unit: mm

Tolerance:  $\pm 0.30\text{mm}$

Tolerances are for reference only

## Directivity:



## 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**

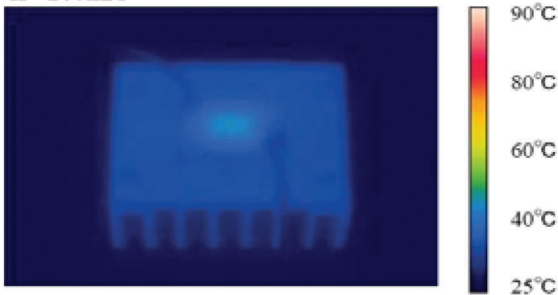
Board	LED power	Material	Surface area (mm <sup>2</sup> ) minimum
A	5W	A1	10,300
B	10W	A1	20,600
C	25W	A1	51,500
D	50W	A1	103,000
E	100W	A1	206,000
F	200W	A1	412,000
G	300W	A1	618,000

Tested LED device is attached with adhesive sheet to the heatsink.

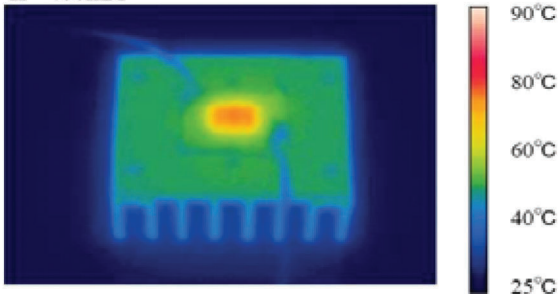
For reference's sake, T<sub>j</sub> absolute maximum rating is defined at 115°C as a prerequisite on design process of 5W LED.

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

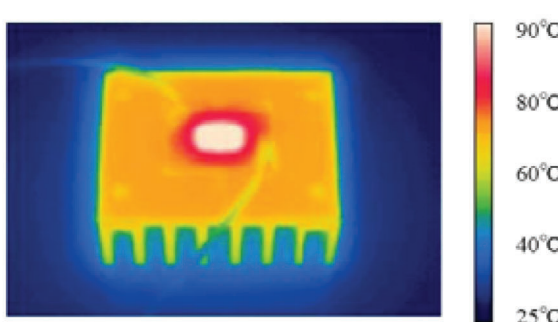
IF=200mA



IF=400mA

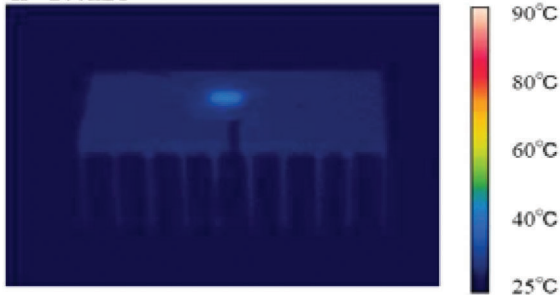


IF=600mA

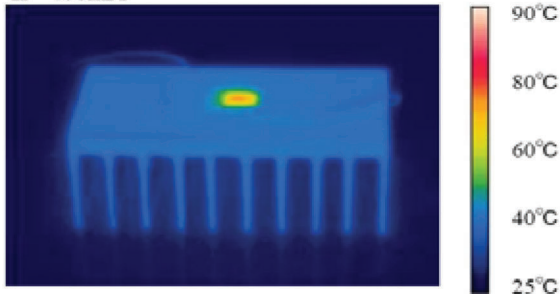


**<Fig.3> Board B (surface area=20,600mm<sup>2</sup>)**

IF=200mA



IF=400mA



IF=600mA

