

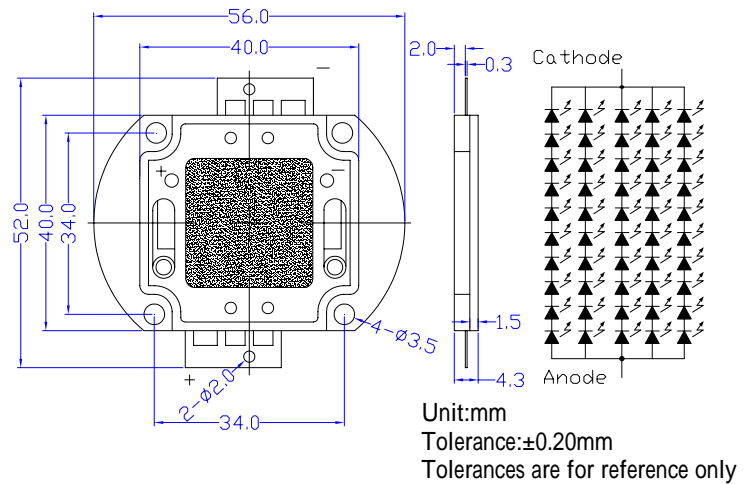
### ■ Features

- 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

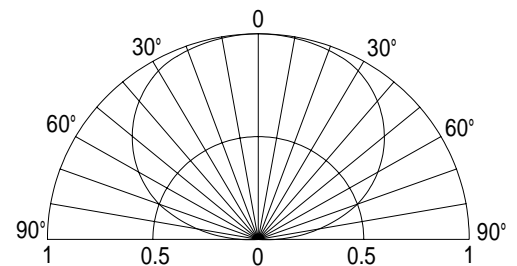


### ■ Absolute Maximum Rating

(Ta=25 °C)

Item	Symbol	Value	Unit
DC Forward Current *1	$I_F$	3,500	mA
Pulse Forward Current*2	$I_{FP}$	4,000	mA
Reverse Voltage	$V_R$	50	V
Power Dissipation*1	$P_D$	133,000	mW
Operating Temperature	$T_{opr}$	-30 ~ +85	
Storage Temperature	$T_{stg}$	-40 ~ +100	
Lead Soldering Temperature	$T_{sol}$	260 /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	$V_F$	$I_F=3000mA$	29	34	38	V
DC Reverse Current	$I_R$	$V_R=50V$	-	-	100	μA
Luminous Flux	$\Phi_v$	$I_F=3000mA$	5500	7200	-	lm
Color Temperature	CCT	$I_F=3000mA$	-	6500	-	K
Chromaticity	x	$I_F=3000mA$	-	0.31	-	
Coordinates*	y	$I_F=3000mA$	-	0.34	-	
50% Power Angle	$2\theta_{1/2}$	$I_F=3000mA$	-	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**

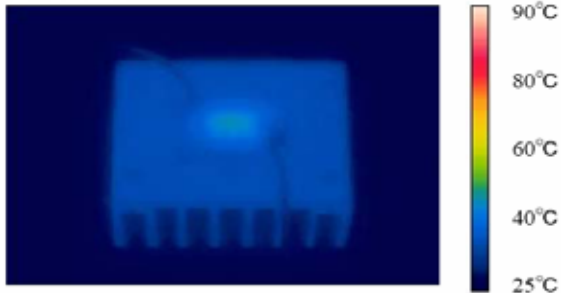
Board	LED power	Material	Surface area (mm <sup>2</sup> ) Min.
A	5W	Al	10,300
B	10W	Al	20,600
C	25W	Al	51,500
D	50W	Al	103,000
E	100W	Al	206,000
F	200W	Al	412,000
G	300W	Al	618,000

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

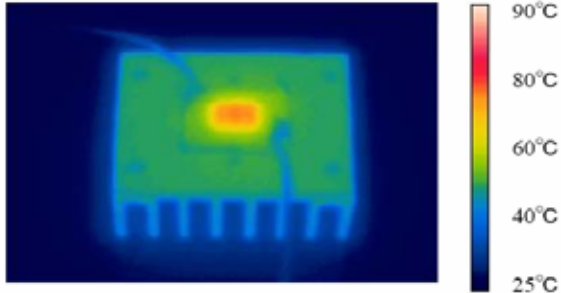
For reference's sake, Tj absolute maximum rating is defined at 115 as a prerequisite on design process of 5W LED.

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

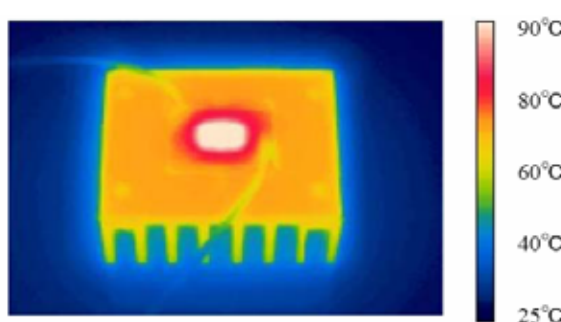
IF=200mA



IF=400mA

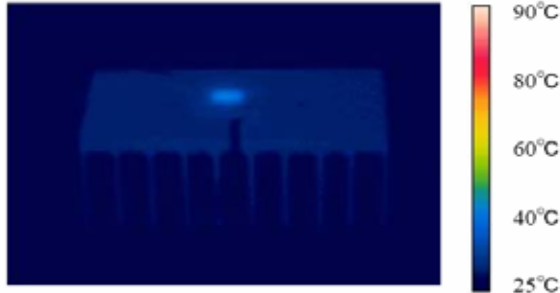


IF=600mA

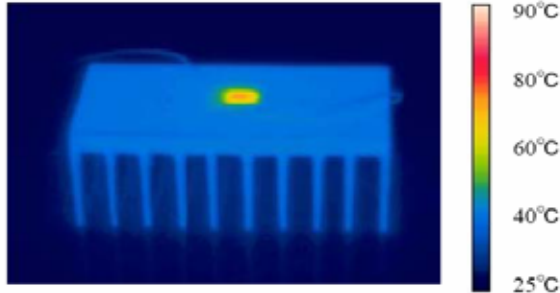


**<Fig.3> Board B (surface area=20,600mm<sup>2</sup>)**

IF=200mA



IF=400mA



IF=600mA

