

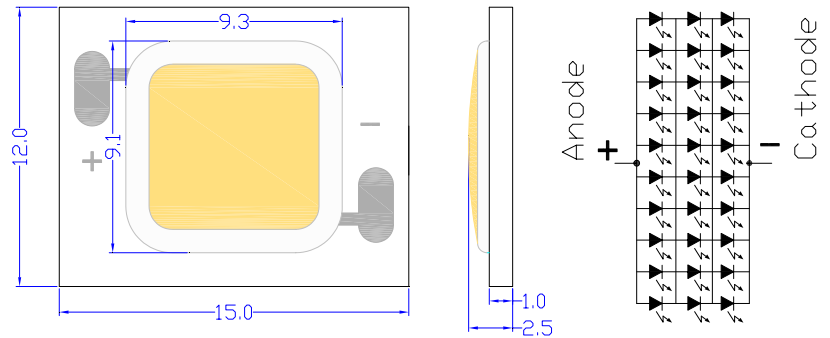
■ **Features**

- High-power LED
- Long lifetime operation
- Typical viewing angle : 120deg
- 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

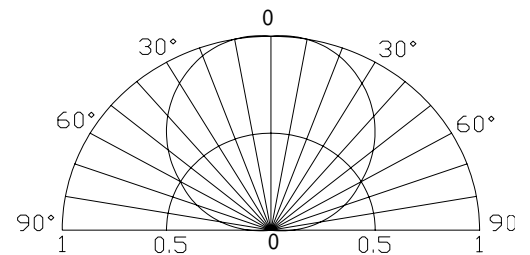
Tolerances are for reference only

■ **Absolute Maximum Rating**

(Ta=25 )

Item	Symbol	Value	Unit
DC Forward Current *1	$I_F$	700	mA
Pulse Forward Current*2	$I_{FP}$	1400	mA
Reverse Voltage	$V_R$	15	V
Power Dissipation*1	$P_D$	6,720	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.

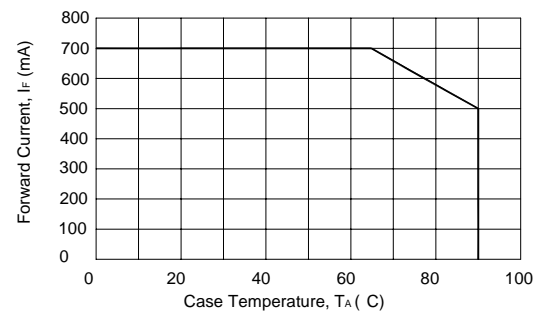
\*2, Pulse width Max.10ms Duty ratio max 1/10

**Electrical -Optical Characteristics**

(Ta=25 )

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage	$V_F$	$I_F=600mA$	9.0	9.6	10.8	V
DC Reverse Current	$I_R$	$V_R=15V$	-	-	100	$\mu A$
Luminous Flux	$\nu$	$I_F=600mA$	580	600	-	lm
Color Temperature	CCT	$I_F=600mA$	-	3000	-	K
Chromaticity Coordinates*	x	$I_F=600mA$	-	0.44	-	
	y	$I_F=600mA$	-	0.41	-	
50% Power Angle	$2\theta_{1/2}$	$I_F=600mA$	-	120	-	deg

<Fig.a> Forward Current Derating Curve



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.

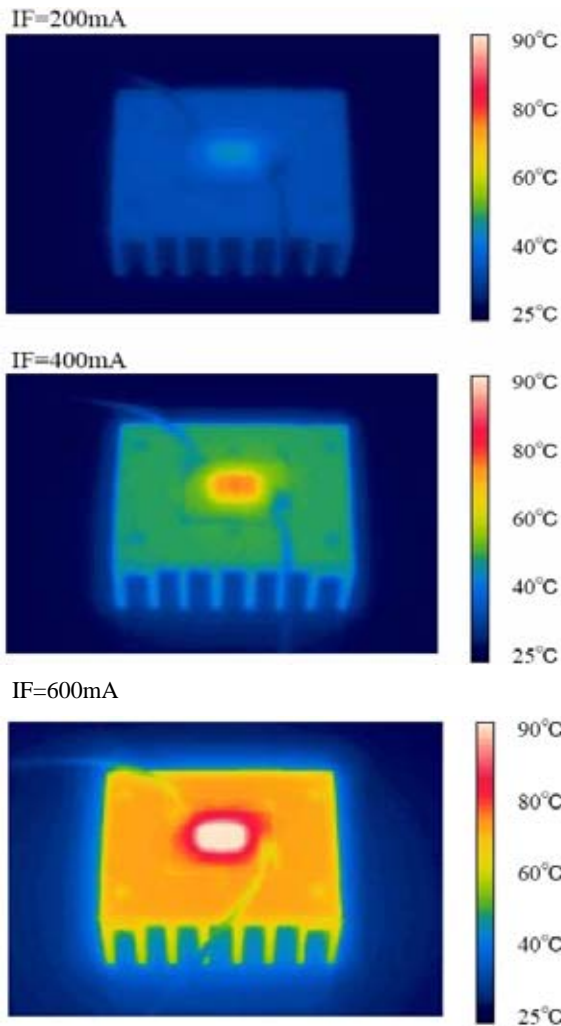
**Fig. 1 Configuration pattern examples for board assembly**

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

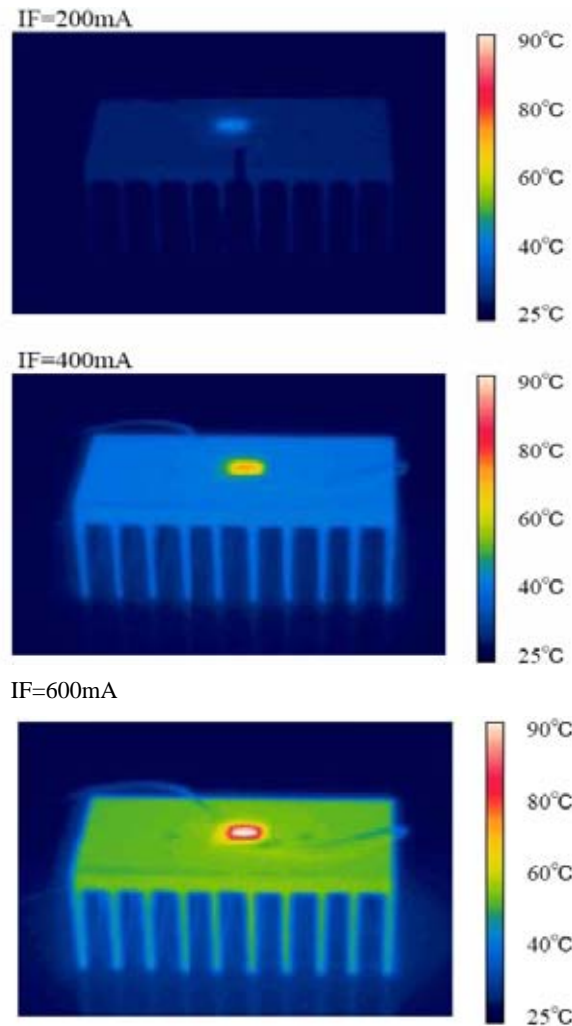
Above tested LED device is attached with adhesive sheet to the heatsink.

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

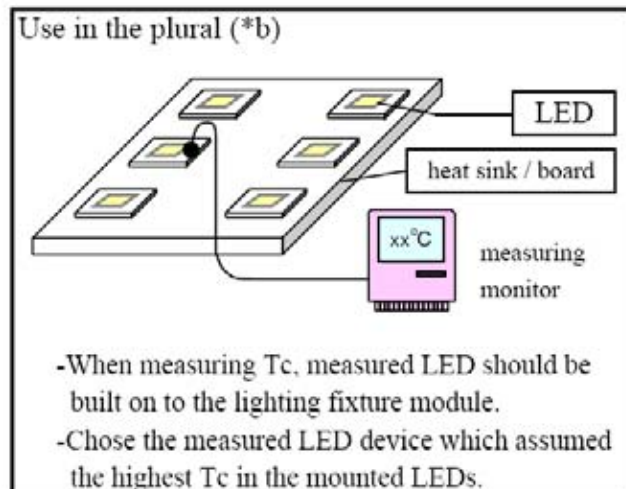
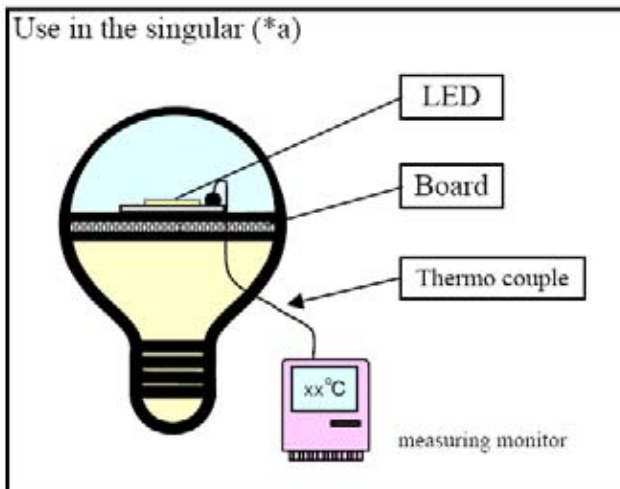
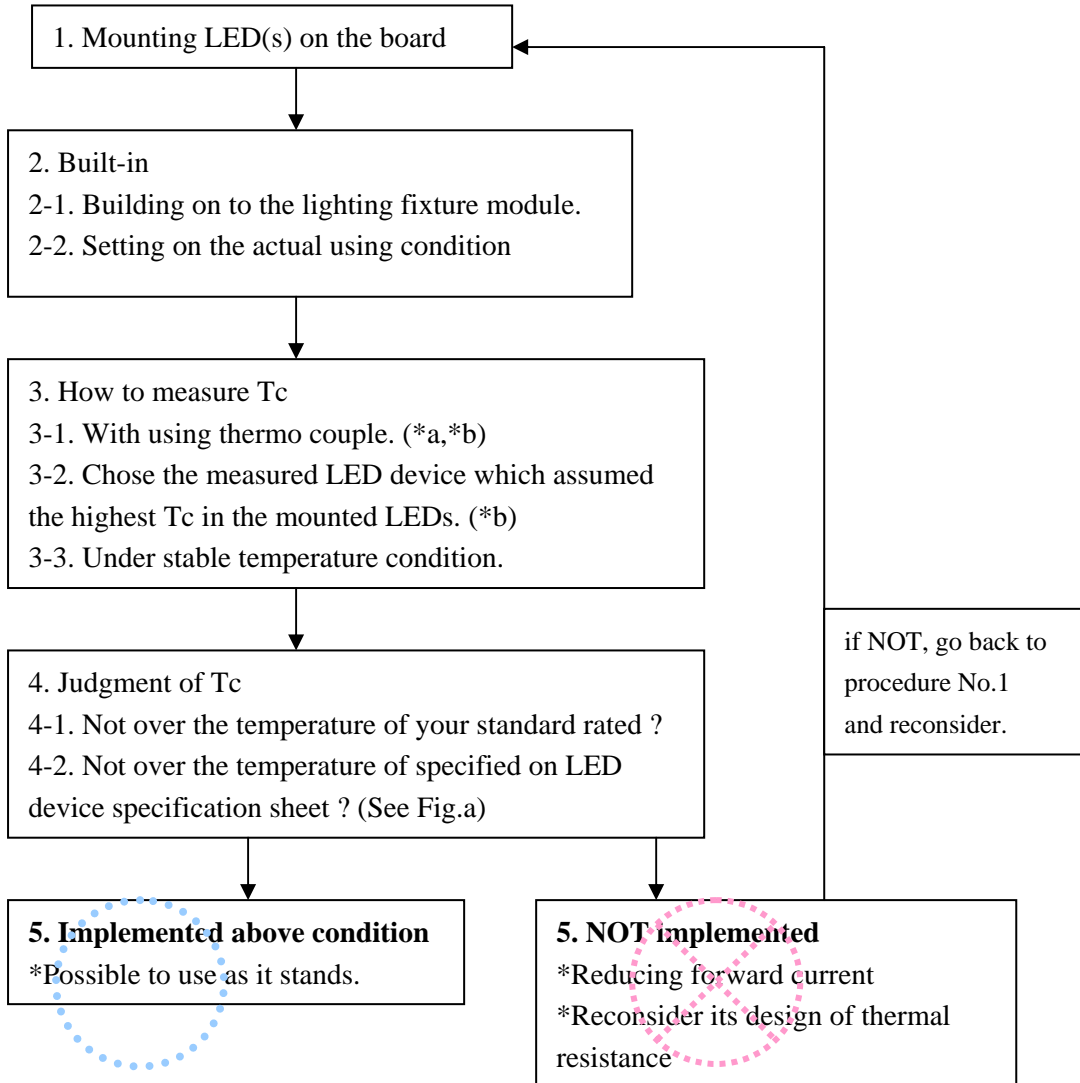
**<Fig.2> Board A (surface area=10,300mm<sup>2</sup>)**



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



**Heat design → Design flow chart**



**Handling → Manually handling**

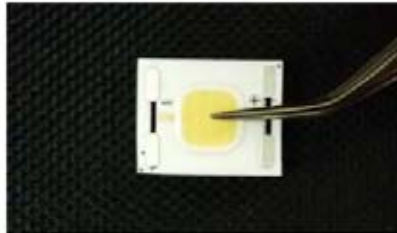
Use tweezers to catch hold of LEDs at the base substrate part. Do not touch the lens with the tweezers and fingers. Do not press on the lens.



Correct



Wrong



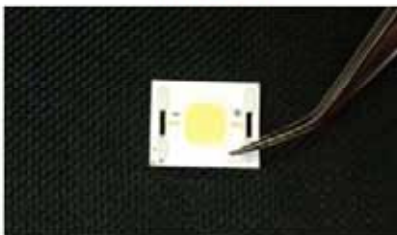
Do not touch the yellow emission resin part.



Correct



Wrong



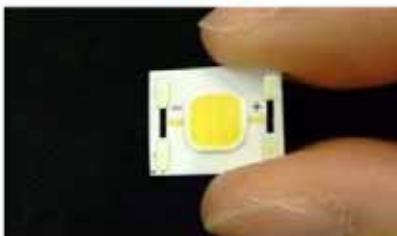
Do not touch both electrodes.



Correct



Wrong



Do not touch with naked finger. Strongly recommended to use a fingertip.