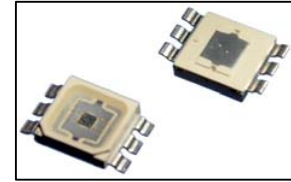




SMB1W-470



TECHNICAL DATA

High Power LED, SMD **InGaN**

SMB1W-470 are InGaN High Power LEDs mounted on a copper heat sink with a 5x5 mm SMD package and molded with epoxy resin. On forward bias, it emits a radiation of typical 110 mW at a peak wavelength of 470 nm.

Specifications

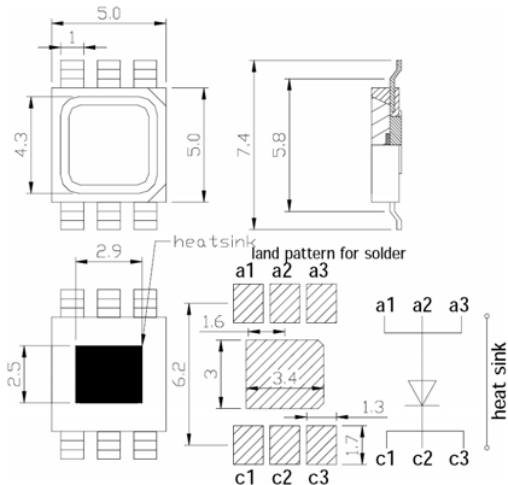
- Structure: InGaN, 1W high power chip
- Peak Wavelength: typ. 470 nm
- Optical Output Power: typ. 100 mW
- Package
 - SMD, PPA resin
 - Lead frame die: silver plated on copper
 - Lens: epoxy resin

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Power Dissipation	P_D	1400	mW
Forward Current	I_F	350	mA
Pulse Forward Current *1	I_{FP}	700	mA
Reverse Voltage	V_R	5	V
Thermal Resistance	R_{th}	10	K/W
Operating Temperature	T_{opr}	-30 ... +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-30 ... +100	$^\circ\text{C}$
Soldering Temperature *2	T_{sol}	255	$^\circ\text{C}$

*1 duty = 1%, pulse width = 10 μs

*2 must be completed within 5 seconds



(Unit: mm)

Electro-Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 200 \text{ mA}$	-	3.4	4.0	V
		$I_F = 350 \text{ mA}$	-	3.6	4.2	
Pulsed Forward Current	V_{FP}	$I_{FP} = 700 \text{ mA}$	-	4.0	4.8	V
Total Radiated Power	P_O	$I_F = 200 \text{ mA}$	-	110	-	mW
		$I_{FP} = 700 \text{ mA}$	-	360	-	
Brightness	I_V	$I_F = 350 \text{ mA}$	-	3800	-	mcd
Peak Wavelength	λ_P	$I_F = 50 \text{ mA}$	-	470	-	nm
Half Width	$\Delta\lambda$	$I_F = 50 \text{ mA}$	-	17	-	nm
Viewing Half Angle	$\Theta_{1/2}$	$I_F = 50 \text{ mA}$	-	± 60	-	deg.

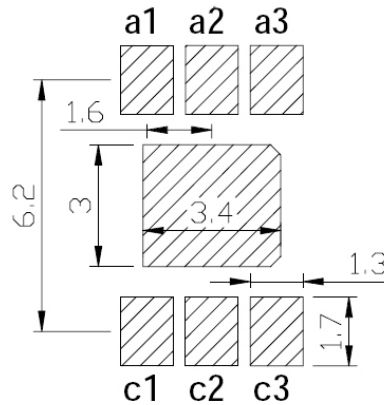
Total Radiated Power is measured by S3584-08

Notes

- Do not view directly into the emitting area of the LED during operation!
- The above specifications are for reference purpose only and subjected to change without prior notice.



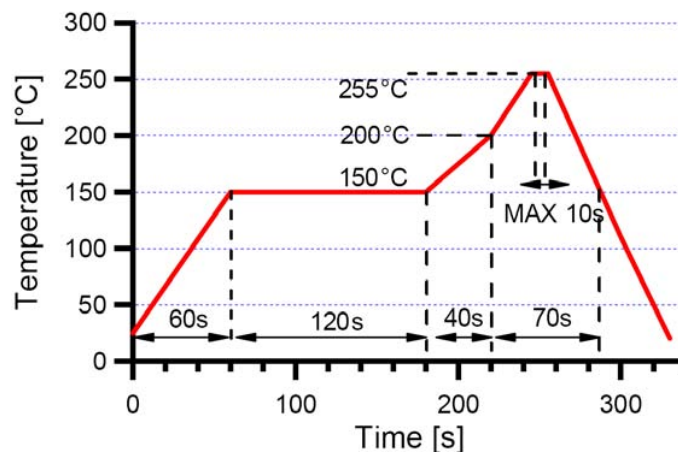
Recommended Land Layout (Unit: mm)



1. Soldering Conditions

- DO NOT apply any stress to the lead particularly when heat.
- After soldering the LEDs should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.

Soldering Conditions



2. Static Electricity

- The LEDs are very sensitive to Static Electricity and surge voltage. So it is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.
- All devices, equipment and machinery must be grounded properly. It is recommended that precautions should be taken against surge voltage to the equipment that mounts the LEDs.

