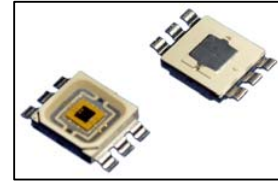




## SMB1W-660N-I



### TECHNICAL DATA

### High Power LED, SMD

### AlGaInP

SMB1W-660N-I are AlGaInP High Power LEDs, isolated 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 350 mW at a peak wavelength of 660 nm.

#### Specifications

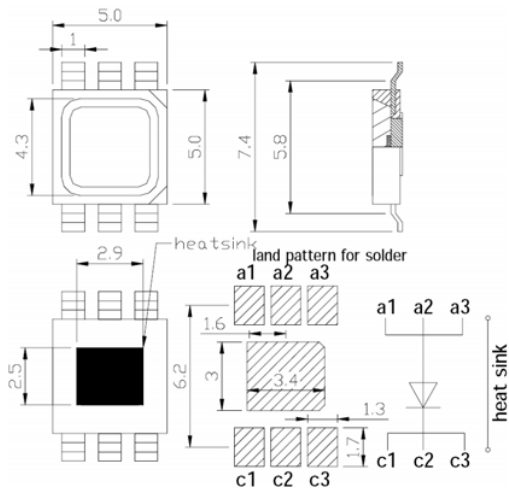
- Structure: AlGaAs, 1W high power chip
- Peak Wavelength: typ. 660 nm
- Optical Output Power: typ. 350 mW
- Package
  - SMD, PPA resin Isolator: AlN ceramics
  - Lead frame die: silver plated on copper
  - Lens: epoxy resin

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

Item	Symbol	Value	Unit
Power Dissipation	$P_D$	1600	mW
Forward Current	$I_F$	600	mA
Pulse Forward Current *1	$I_{FP}$	2000	mA
Reverse Voltage	$V_R$	5	V
Thermal Resistance	$R_{th}$	10	K/W
Junction Temperature	$T_J$	100	$^\circ\text{C}$
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  $\mu\text{s}$

\*2 must be completed within 5 seconds



(Unit: mm)

#### Electro-Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F = 500 \text{ mA}$	-	2.1	2.4	V
Pulsed Forward Current	$V_{FP}$	$I_{FP} = 2 \text{ A}$	-	2.8	3.3	V
Total Radiated Power	$P_O$	$I_F = 500 \text{ mA}$	-	350	-	mW
		$I_{FP} = 2 \text{ A}$	-	1400	-	
Radiant Intensity	$I_E$	$I_F = 500 \text{ mA}$	-	170	-	mW/sr
		$I_{FP} = 2 \text{ A}$	-	590	-	
Brightness	$I_V$	$I_F = 500 \text{ mA}$	-	13500	-	mcd
		$I_{FP} = 2 \text{ A}$	-	45500	-	
Peak Wavelength	$\lambda_P$	$I_F = 100 \text{ mA}$	-	660	-	nm
Half Width	$\Delta\lambda$	$I_F = 100 \text{ mA}$	-	14	-	nm
Viewing Half Angle	$\Theta_{1/2}$	$I_F = 100 \text{ mA}$	-	$\pm 62$	-	deg.
Rise Time	$t_r$	$I_F = 100 \text{ mA}$	-	300	-	ns
Fall Time	$t_f$	$I_F = 100 \text{ mA}$	-	30	-	ns

Total Radiated Power is measured by S3584-08

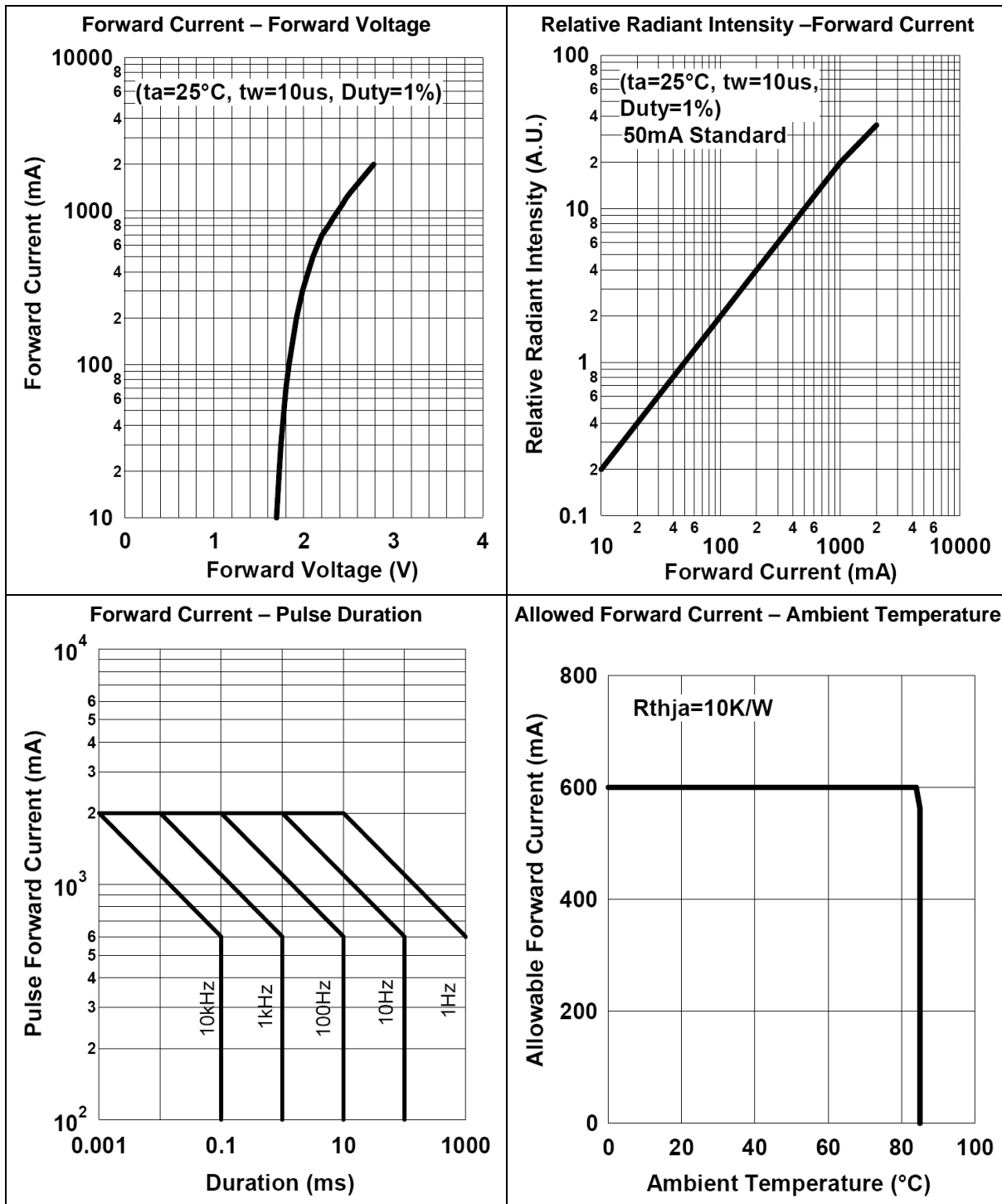
Radiant Intensity is measured by Tektronix J-6512

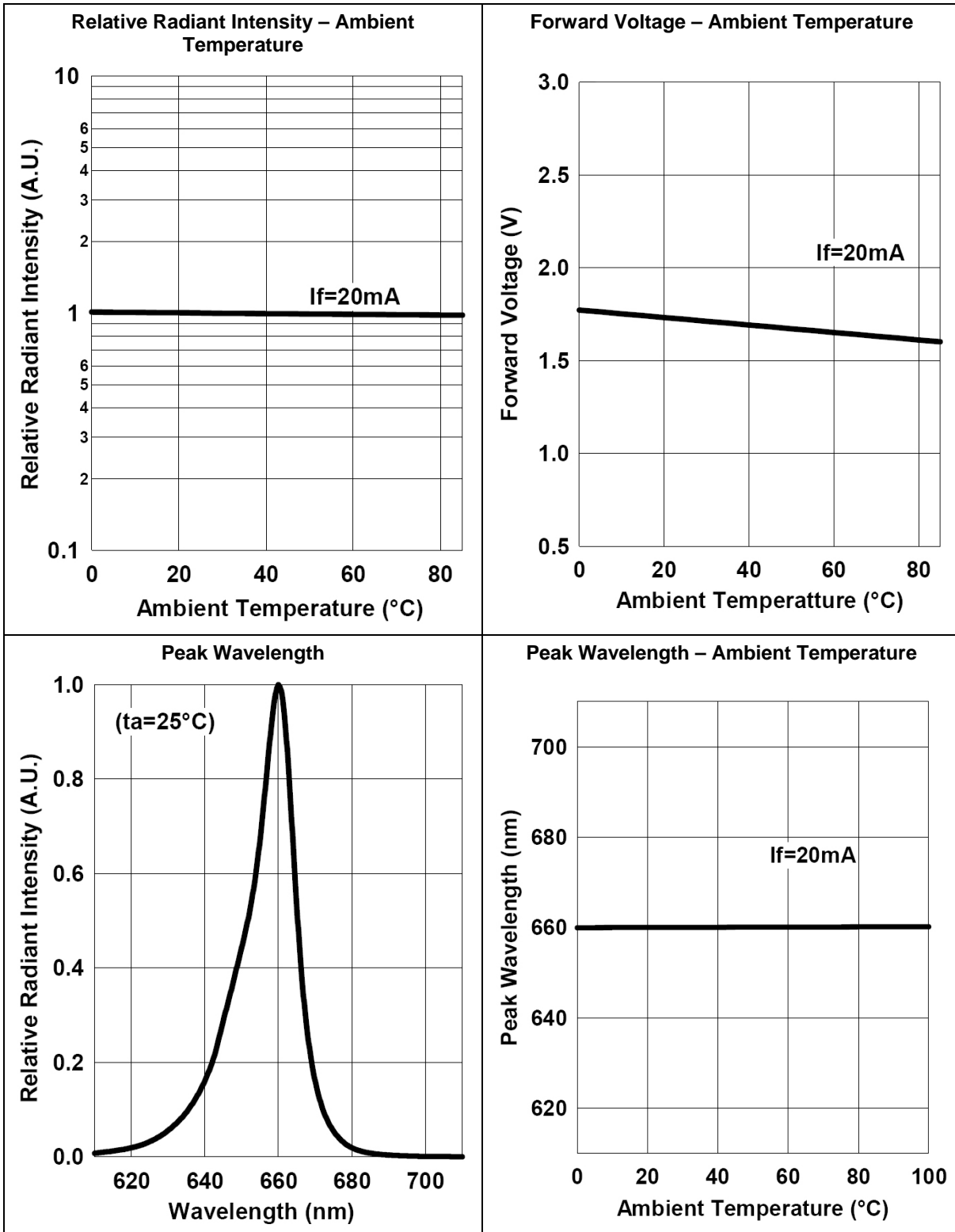


### Notes

- 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.

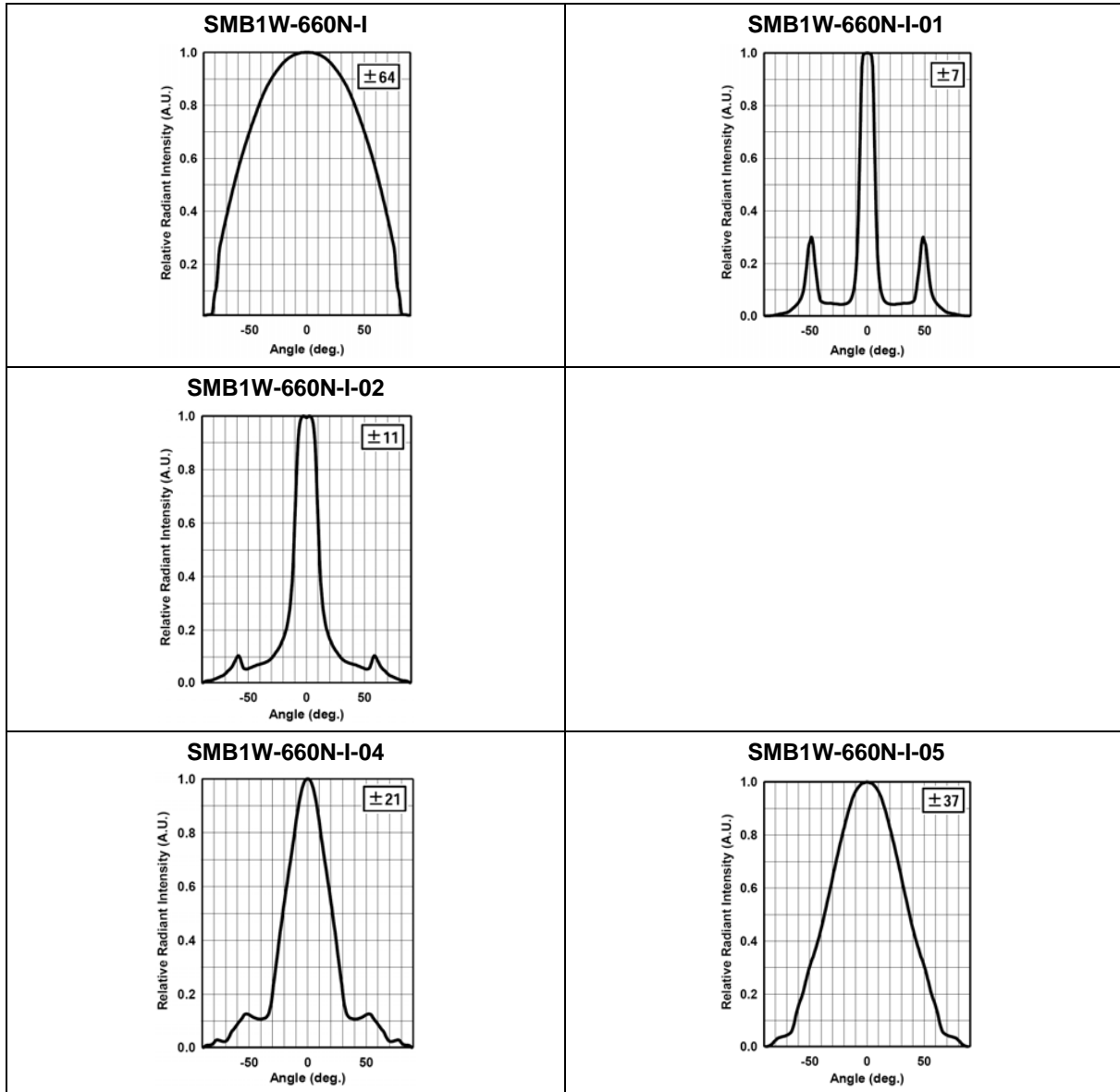
### Typical Performance Curves





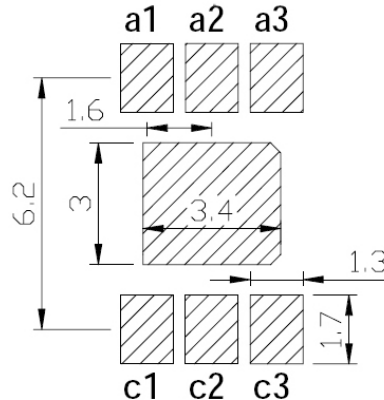


## Viewing half angle





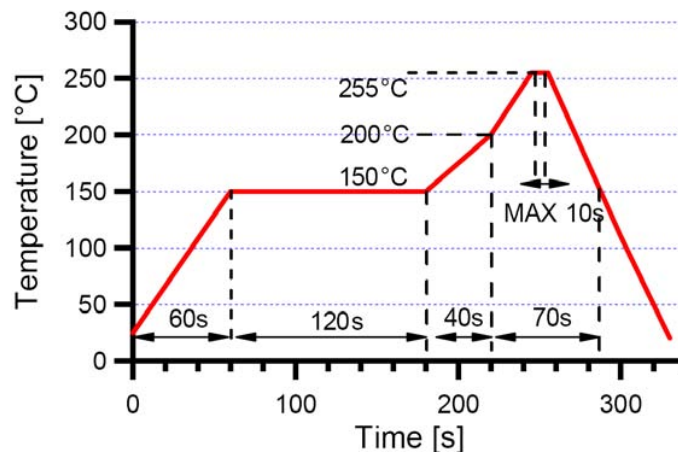
## Recommended Land Layout (Unit: mm)



## 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.

