

AA1608LSESK

1.6 x 0.8 mm Surface Mount LED Lamp



DESCRIPTIONS

- The Super Bright Orange device is made with AlGaInP (on GaAs substrate) light emitting diode chip
- Electrostatic discharge and power surge could damage the LEDs
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs
- All devices, equipments and machineries must be electrically grounded

FEATURES

- 1.6 mm x 0.8 mm, 0.55 mm high, only minimum space required
- Suitable for compact optoelectronic applications
- Low power consumption
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Halogen-free
- RoHS compliant

APPLICATIONS

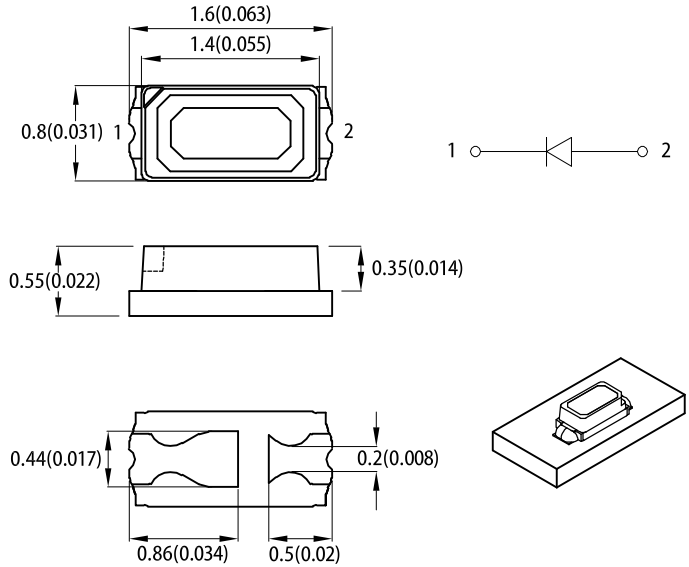
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

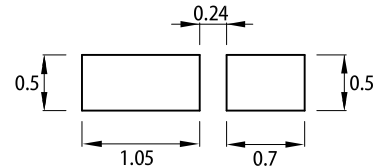


PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.15(0.006)$ unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Iv (mcd) @ 2mA ^[2]		Viewing Angle ^[1]
			Min.	Typ.	2θ1/2
AA1608LSESK	 Super Bright Orange (AlGaInP)	Water Clear	15	25	120°
			*6	*15	

Notes:
 1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
 2. Luminous intensity / luminous flux: $\pm 15\%$.
 * Luminous intensity value is traceable to CIE127-2007 standards.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I _F = 2mA	λ _{peak}	Super Bright Orange	610	-	nm
Dominant Wavelength I _F = 2mA	λ _{dom} ^[1]	Super Bright Orange	605	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 2mA	Δλ	Super Bright Orange	29	-	nm
Forward Voltage I _F = 2mA	V _F ^[2]	Super Bright Orange	1.85	2.2	V
Reverse Current (V _R = 5V)	I _R	Super Bright Orange	-	10	μA
Temperature Coefficient of λ _{peak} I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _{λpeak}	Super Bright Orange	0.13	-	nm/°C
Temperature Coefficient of λ _{dom} I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _{λdom}	Super Bright Orange	0.06	-	nm/°C
Temperature Coefficient of V _F I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _V	Super Bright Orange	-1.9	-	mV/°C

Notes:
1. The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd : ±1nm.)
2. Forward voltage: ±0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

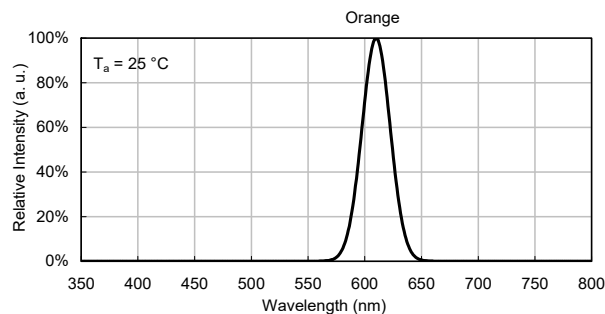
ABSOLUTE MAXIMUM RATINGS at T_A=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	75	mW
Reverse Voltage	V _R	5	V
Junction Temperature	T _j	115	°C
Operating Temperature	T _{op}	-40 to +85	°C
Storage Temperature	T _{stg}	-40 to +85	°C
DC Forward Current	I _F	30	mA
Peak Forward Current	I _{FP} ^[1]	195	mA
Electrostatic Discharge Threshold (HBM)	-	3000	V
Thermal Resistance (Junction / Ambient)	R _{th JA} ^[2]	410	°C/W
Thermal Resistance (Junction / Solder point)	R _{th JS} ^[2]	190	°C/W

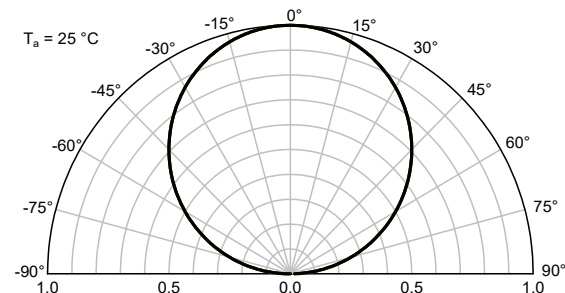
Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. R_{th JA}, R_{th JS} Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad).
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

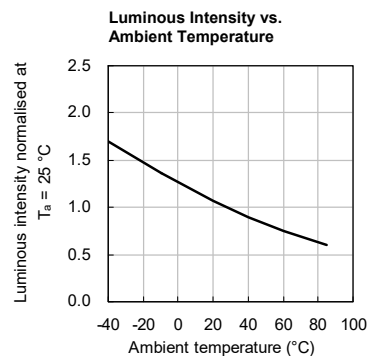
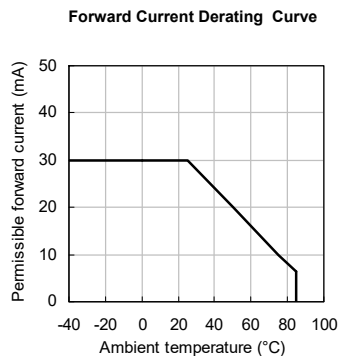
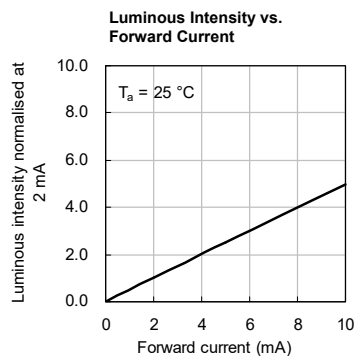
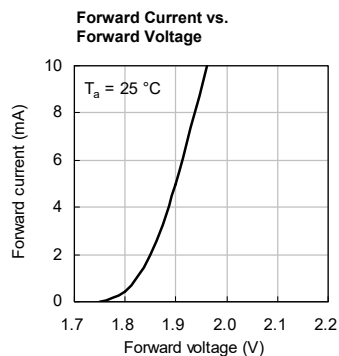
RELATIVE INTENSITY vs. WAVELENGTH



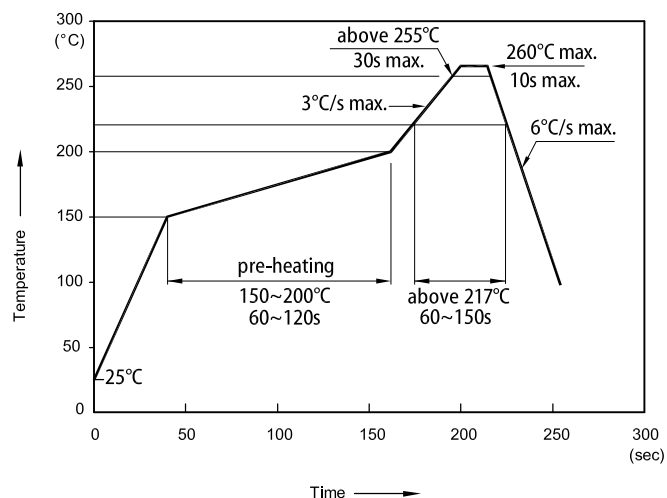
SPATIAL DISTRIBUTION



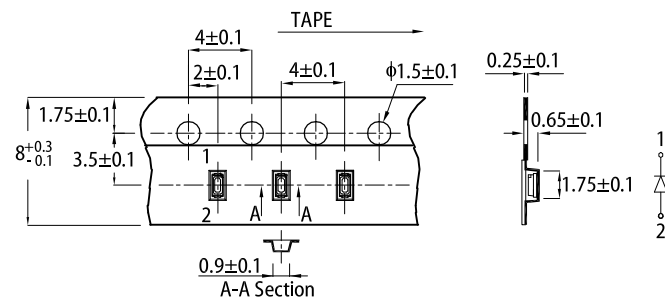
SUPER BRIGHT ORANGE



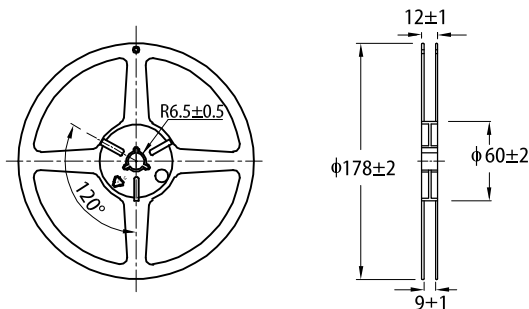
REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



TAPE SPECIFICATIONS (units : mm)



REEL DIMENSION (units : mm)



- Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
 2. The maximum number of reflow soldering passes is 2 times.
 3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

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