



AA1608LVBS/A-295V
1.6 x 0.8 mm Surface Mount LED Lamp

DESCRIPTIONS

- The Blue source color devices are made with InGaN on Sapphire substrate Light Emitting Diode
- 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

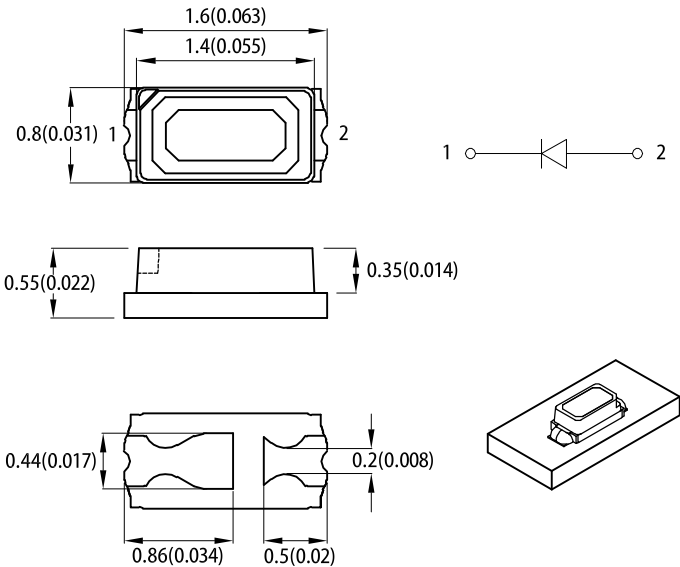
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

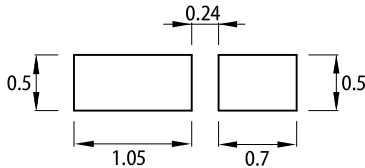


PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



- Notes:
- 1. All dimensions are in millimeters (inches).
 - 2. Tolerance is ±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
AA1608LVBS/A-295V	■ Blue (InGaN)	Water Clear	20	35	120°

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: +/-15%.
- 3. Luminous intensity value is traceable to CIE127-2007 standards.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value			Unit
			Min.	Typ.	Max.	
Wavelength at Peak Emission I _F = 2mA	λ _{peak}	Blue	-	463	-	nm
Dominant Wavelength I _F = 2mA	λ _{dom} ^[1]	Blue	-	468	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 2mA	Δλ	Blue	-	25	-	nm
Forward Voltage I _F = 2mA	V _F ^[2]	Blue	2.2	2.8	2.95	V
Reverse Current (V _R = 5V)	I _R	Blue	-	-	50	μA
Temperature Coefficient of λ _{peak} I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _{λpeak}	Blue	-	0.04	-	nm/°C
Temperature Coefficient of λ _{dom} I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _{λdom}	Blue	-	0.03	-	nm/°C
Temperature Coefficient of V _F I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _V	Blue	-	-3.0	-	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.

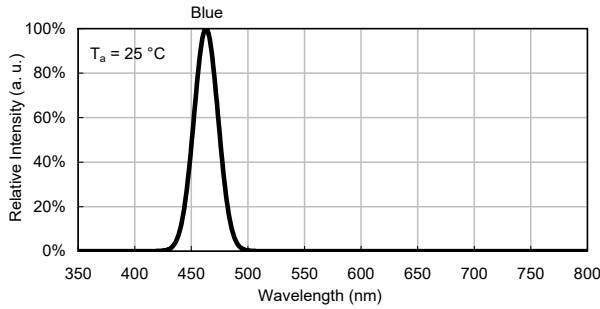
ABSOLUTE MAXIMUM RATINGS at T_A=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	80	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	20	mA
Peak Forward Current	I _{FP} ^[1]	100	mA
Electrostatic Discharge Threshold (HBM)	-	250	V
Thermal Resistance (Junction / Ambient)	R _{th JA} ^[2]	340	°C/W
Thermal Resistance (Junction / Solder point)	R _{th JS} ^[2]	160	°C/W

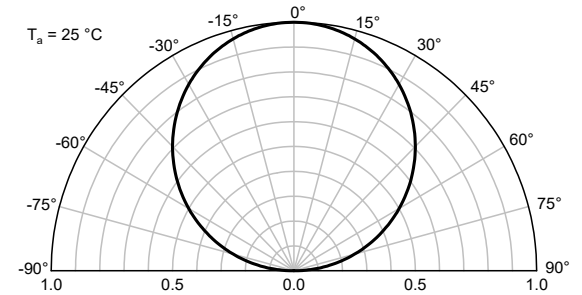
Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. R_{th JA}, R_{th JS} Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad).
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and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

TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

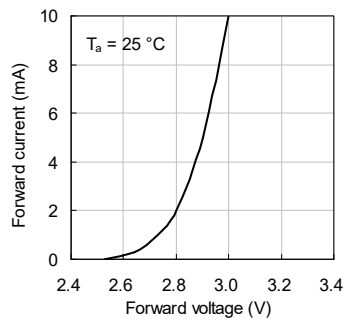


SPATIAL DISTRIBUTION

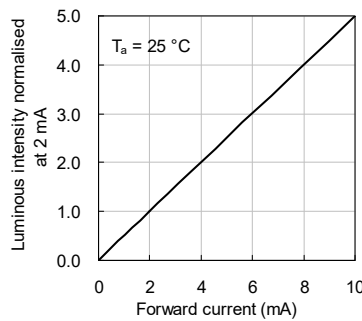


BLUE

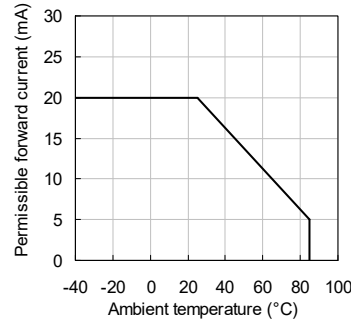
Forward Current vs. Forward Voltage



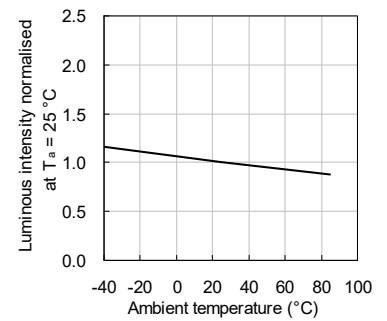
Luminous Intensity vs. Forward Current



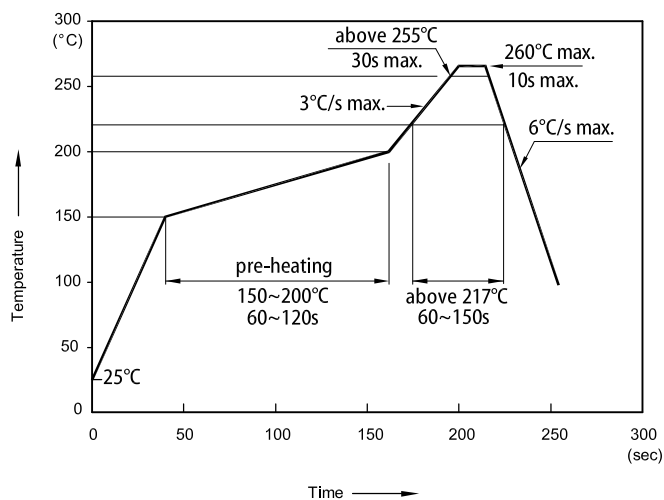
Forward Current Derating Curve



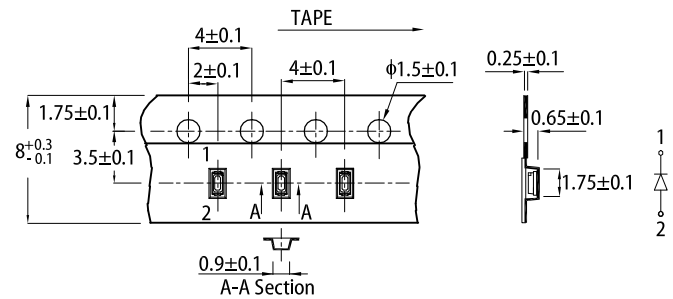
Luminous Intensity vs. Ambient Temperature



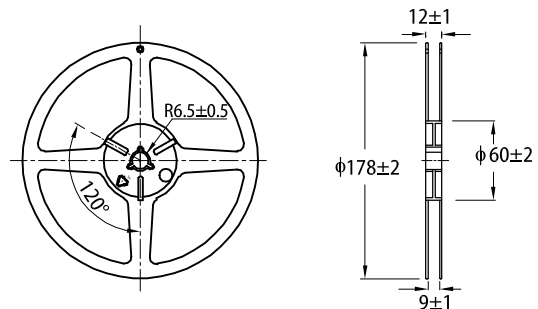
REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



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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