



AA1608LQBS/D-295V  
1.6 x 0.8 mm Surface Mount LED Lamp

DESCRIPTIONS

- The Blue source color devices are made with InGaN 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

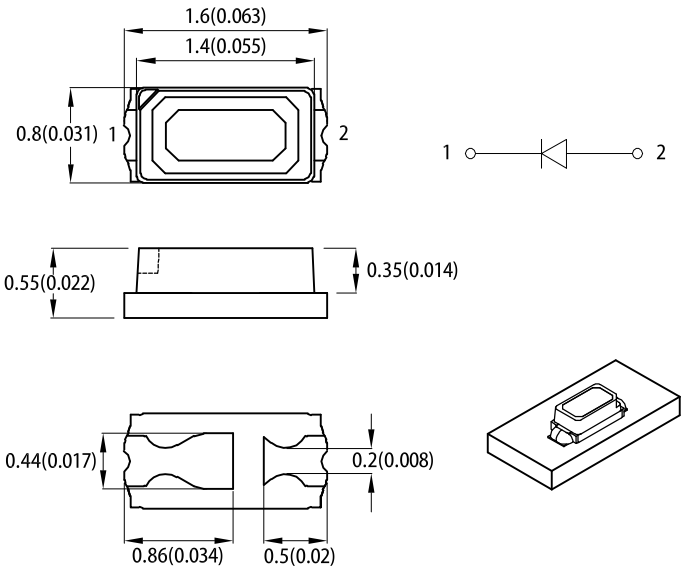
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

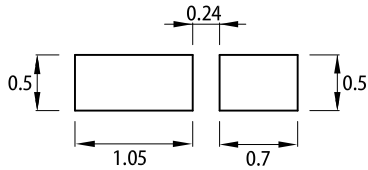
Observe precautions for handling electrostatic discharge sensitive devices



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 <sup>[2]</sup> |      | Viewing Angle <sup>[1]</sup> |
|-------------------|---------------------------|-------------|-------------------------------|------|------------------------------|
|                   |                           |             | Min.                          | Typ. | 2θ1/2                        |
| AA1608LQBS/D-295V | ■ Blue (InGaN)            | Water Clear | 15                            | 25   | 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<sub>A</sub>=25°C**

| Parameter                                                                                    | Symbol                                           | Emitting Color | Value |      |      | Unit  |
|----------------------------------------------------------------------------------------------|--------------------------------------------------|----------------|-------|------|------|-------|
|                                                                                              |                                                  |                | Min.  | Typ. | Max. |       |
| Wavelength at Peak Emission I <sub>F</sub> = 2mA                                             | $\lambda_{\text{peak}}$                          | Blue           | -     | 460  | -    | nm    |
| Dominant Wavelength I <sub>F</sub> = 2mA                                                     | $\lambda_{\text{dom}}$ <sup>[1]</sup>            | Blue           | -     | 465  | -    | nm    |
| Spectral Bandwidth at 50% $\Phi$ REL MAX<br>I <sub>F</sub> = 2mA                             | $\Delta\lambda$                                  | Blue           | -     | 25   | -    | nm    |
| Forward Voltage I <sub>F</sub> = 2mA                                                         | V <sub>F</sub> <sup>[2]</sup>                    | Blue           | 2.2   | 2.65 | 2.95 | V     |
| Reverse Current (V <sub>R</sub> = 5V)                                                        | I <sub>R</sub>                                   | Blue           | -     | -    | 50   | μA    |
| Temperature Coefficient of $\lambda_{\text{peak}}$<br>I <sub>F</sub> = 2mA, -10°C ≤ T ≤ 85°C | TC <sub><math>\lambda_{\text{peak}}</math></sub> | Blue           | -     | 0.04 | -    | nm/°C |
| Temperature Coefficient of $\lambda_{\text{dom}}$<br>I <sub>F</sub> = 2mA, -10°C ≤ T ≤ 85°C  | TC <sub><math>\lambda_{\text{dom}}</math></sub>  | Blue           | -     | 0.03 | -    | nm/°C |
| Temperature Coefficient of V <sub>F</sub><br>I <sub>F</sub> = 2mA, -10°C ≤ T ≤ 85°C          | TC <sub>V</sub>                                  | Blue           | -     | -2.9 | -    | mV/°C |

**Notes:**

1. The dominant wavelength ( $\lambda_d$ ) above is the setup value of the sorting machine. (Tolerance  $\lambda_d$  : ±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<sub>A</sub>=25°C**

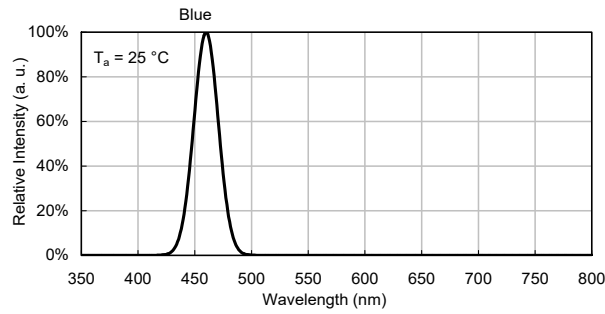
| Parameter                                    | Symbol                            | Value      | Unit |
|----------------------------------------------|-----------------------------------|------------|------|
| Power Dissipation                            | P <sub>D</sub>                    | 80         | mW   |
| Reverse Voltage                              | V <sub>R</sub>                    | 5          | V    |
| Junction Temperature                         | T <sub>J</sub>                    | 115        | °C   |
| Operating Temperature                        | T <sub>op</sub>                   | -40 to +85 | °C   |
| Storage Temperature                          | T <sub>stg</sub>                  | -40 to +85 | °C   |
| DC Forward Current                           | I <sub>F</sub>                    | 20         | mA   |
| Peak Forward Current                         | I <sub>FP</sub> <sup>[1]</sup>    | 100        | mA   |
| Electrostatic Discharge Threshold (HBM)      | -                                 | 250        | V    |
| Thermal Resistance (Junction / Ambient)      | R <sub>th JA</sub> <sup>[2]</sup> | 450        | °C/W |
| Thermal Resistance (Junction / Solder point) | R <sub>th JS</sub> <sup>[2]</sup> | 240        | °C/W |

**Notes:**

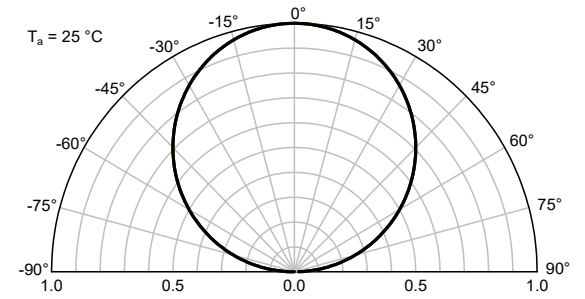
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. R<sub>th JA</sub>, R<sub>th JS</sub> Results from mounting on PC board FR4 (pad size ≥ 16 mm<sup>2</sup> per pad).
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref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

## TECHNICAL DATA

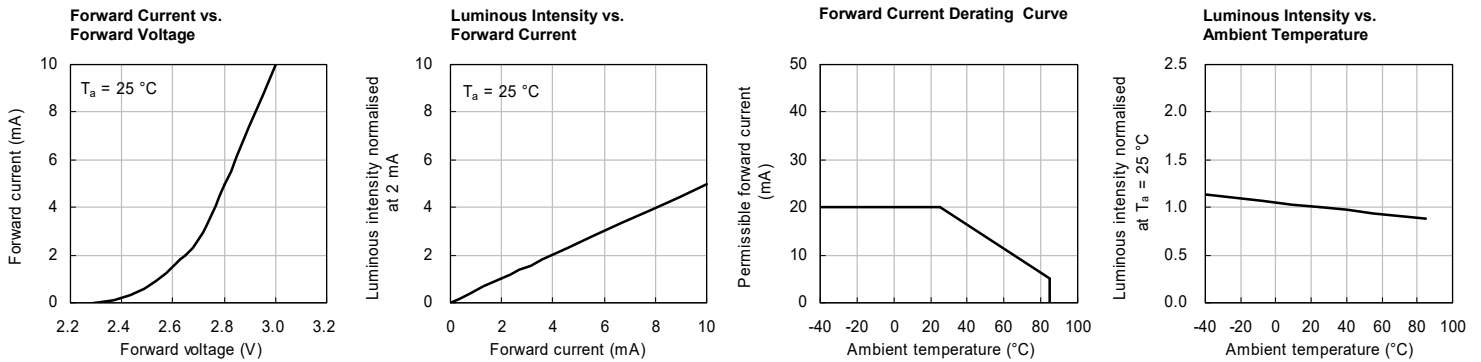
### RELATIVE INTENSITY vs. WAVELENGTH



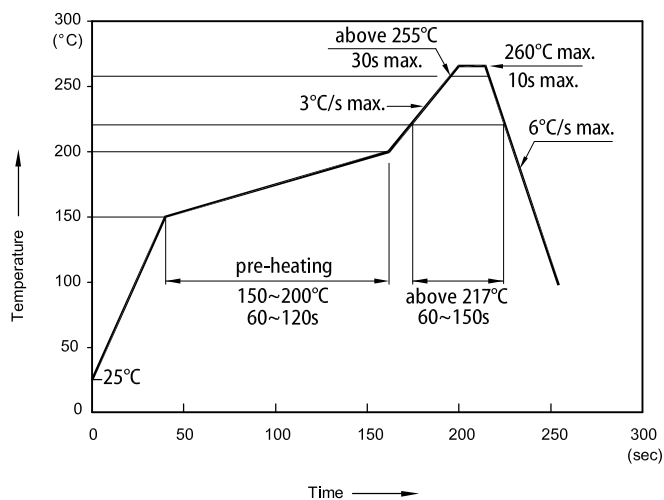
### SPATIAL DISTRIBUTION



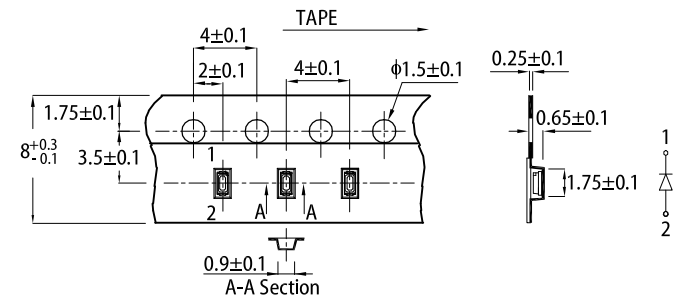
## BLUE



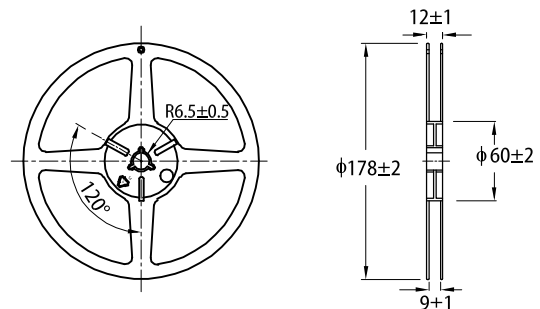
### REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



### 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.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Single Colour LEDs](#) category:*

*Click to view products by [Kingbright](#) manufacturer:*

Other Similar products are found below :

[BL-HH033-TRB](#) [4302T3-5VLC](#) [CMD57173](#) [67-21S/R2C-D2030B7L22028Z6/2T](#) [OSG5DSA131A](#) [OSPBDF5A31A](#) [OSYPMF5A31A](#)  
[N0R31L82](#) [OSRYMF5A31A](#) [OSG5GP5201A](#) [OSPPD2A131A](#) [OSO5PA3NE2A](#) [803AD2C-1B](#) [OS5OGP5A34A-6.8HZ](#) [OSW58131A-VV](#)  
[OS5RAA5A32A-0.5](#) [OS5RKA5C31A](#) [OSR5PA5B61C](#) [OSG5DA3NE2A](#) [OS5YKA5C31A](#) [OSG5DA6231A](#) [OSTLMCA131A](#)  
[OSRBMC8162A-VV](#) [OSW5DK8B31B-CRLED14](#) [N0Y62L99](#) [OSR5PA5E31B-CRLED14](#) [OSRY0805C1S](#) [LS Q976.01](#) [Q65112A6091](#) [LB](#)  
[Q99G.01-P1R1-35-1-5-R18](#) [LG Q976.01-MGNI-35-1-20-R18](#) [LT Q99G.01-R2T1-25-1-5-R18](#) [LW Q98G.01-R2T1-3K6L-1-5-R18](#)  
[Q65112A5230](#) [GA CS8PM1.23-LPLR-W3-0-350-R18](#) [LA A67F-AABB-24-1-30-R33-Z](#) [Q65113A7465](#) [Q65113A7469](#) [Q65113A7466](#) [LA](#)  
[E6SF.01-S1T2-1-3X5X+8B5D-24-G3R3-S](#) [LA ETSF.01-S1T2-1-3X5X+8B5D-24-G3R3-S](#) [KM2520SGC09](#) [LS M676-Q2S1-1](#) [Q65110A4007](#)  
[Q65110A2151](#) [Q62702P5178](#) [Q62702P5177](#) [150224BS73100](#) [150224YS73100](#) [150224SS73100](#)