



APHB1608LQBDCGKC

1.6 x 0.8 x 0.5 mm Bi-Color Surface Mount LED

DESCRIPTIONS

- The Blue source color devices are made with InGaN Light Emitting Diode
- The Green source color devices are made with AlGaInP on GaAs 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 x 0.8 mm SMD LED, 0.5 mm thickness
- Compatible with reflow soldering
- Available in various color combination
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Tinned pads for improved solderability
- RoHS compliant

APPLICATIONS

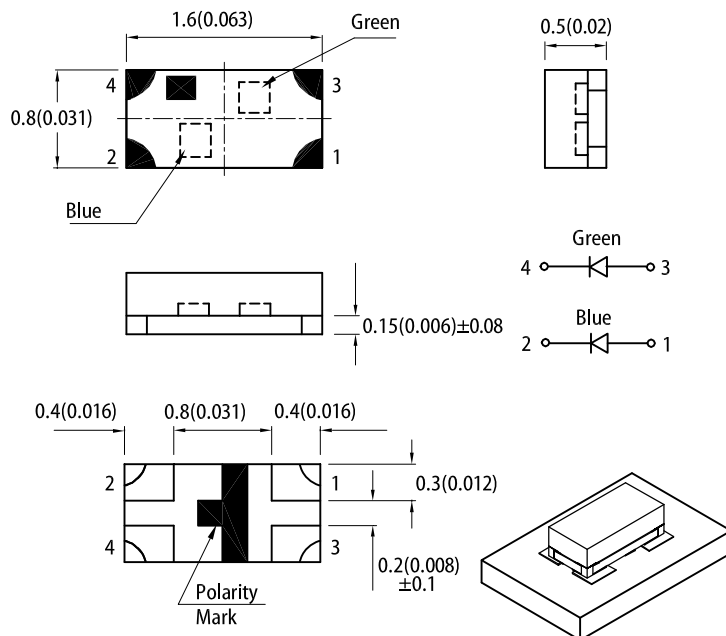
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

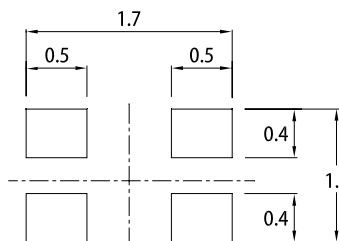


PACKAGE DIMENSIONS



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 |
| APHB1608LQBDCGKC | ■ Blue (InGaN) | Water Clear | 6 | 12 | 130° |
| | ■ Green (AlGaInP) | | 1.2 | 3 | |

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 Green | - | 460 574 | - | nm |
| Dominant Wavelength I _F = 2mA | λ _{dom} [1] | Blue Green | - | 465 570 | - | nm |
| Spectral Bandwidth at 50% Φ REL MAX I _F = 2mA | Δλ | Blue Green | - | 25 20 | - | nm |
| Capacitance | C | Blue Green | - | 100 15 | - | pF |
| Forward Voltage I _F = 2mA | V _F [2] | Blue Green | 2.2 1.5 | 2.65 1.75 | 3 2.1 | V |
| Reverse Current (V _R = 5V) | I _R | Blue Green | - | - | 50 10 | uA |

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance λ_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_A=25°C

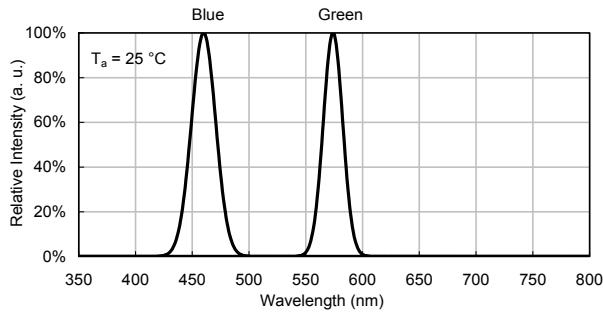
| Parameter | Symbol | Value | | Unit |
|---|---------------------|------------|-------|------|
| | | Blue | Green | |
| Power Dissipation | P _D | 120 | 75 | mW |
| Reverse Voltage | V _R | 5 | 5 | V |
| Junction Temperature | T _j | 115 | 115 | °C |
| Operating Temperature | T _{op} | -40 to +85 | | °C |
| Storage Temperature | T _{stg} | -40 to +85 | | °C |
| DC Forward Current | I _F | 30 | 30 | mA |
| Peak Forward Current | I _{FM} [1] | 150 | 150 | mA |
| Electrostatic Discharge Threshold (HBM) | - | 250 | 3000 | V |

Notes:

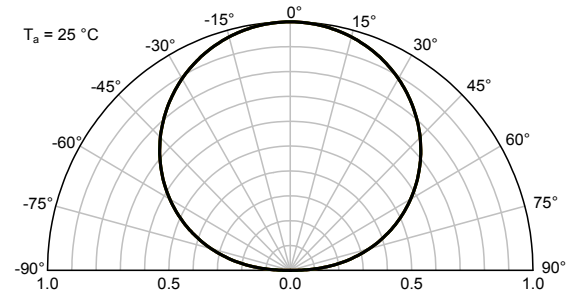
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

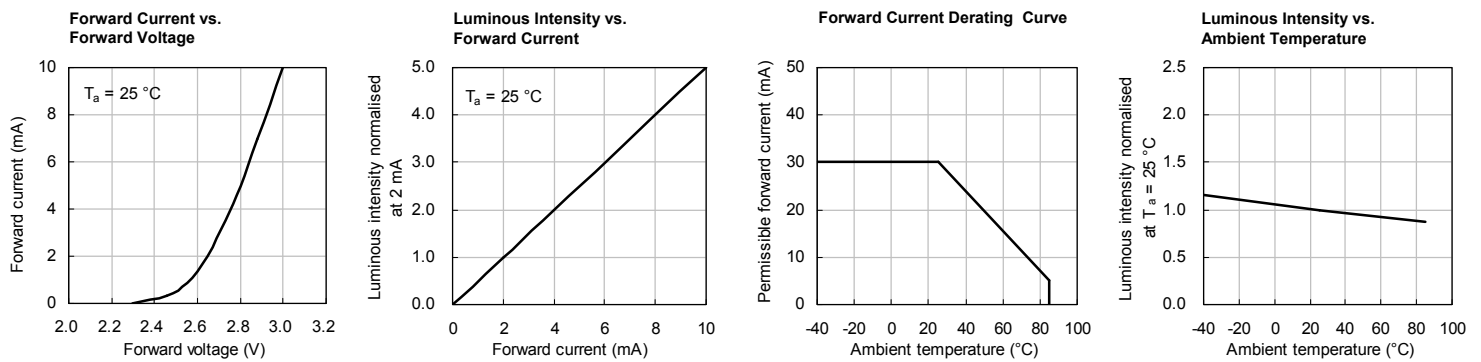
RELATIVE INTENSITY vs. WAVELENGTH



SPATIAL DISTRIBUTION



BLUE



GREEN

