

PRELIMINARY SPEC

Part Number: KP-23QBC-D-F

Blue



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

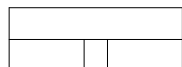
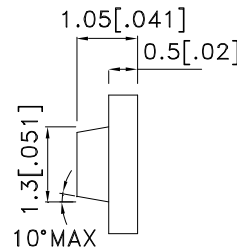
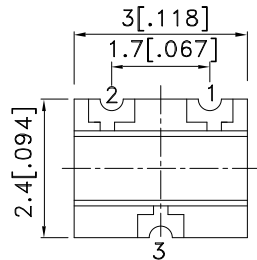
**Features**

- 3mmx2.4mm SMT LED, 1.05mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

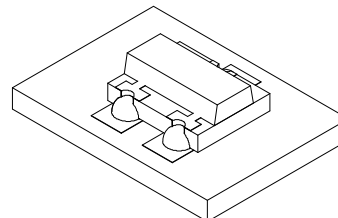
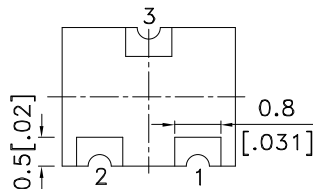
**Description**

The Blue source color devices are made with AlInGaN on Sapphire Light Emitting Diode.  
Static electricity and surge damage the LEDs.  
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.  
All devices, equipment and machinery must be electrically grounded.

**Package Dimensions**



- 1. ANODE
- 2. N.C
- 3. CATHODE



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.2(0.008)$  unless otherwise noted.
3. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



## Selection Guide

| Part No.     | Dice           | Lens Type   | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|--------------|----------------|-------------|------------------------|------|----------------------|
|              |                |             | Min.                   | Typ. | 2θ1/2                |
| KP-23QBC-D-F | Blue (AlInGaN) | WATER CLEAR | 50                     | 100  | 120°                 |

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity/ luminous Flux: +/-15%.

## Electrical / Optical Characteristics at TA=25°C

| Symbol                | Parameter                | Device | Typ. | Max. | Units | Test Conditions           |
|-----------------------|--------------------------|--------|------|------|-------|---------------------------|
| $\lambda_{peak}$      | Peak Wavelength          | Blue   | 468  |      | nm    | I <sub>F</sub> =20mA      |
| $\lambda_D$ [1]       | Dominant Wavelength      | Blue   | 470  |      | nm    | I <sub>F</sub> =20mA      |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Blue   | 25   |      | nm    | I <sub>F</sub> =20mA      |
| C                     | Capacitance              | Blue   | 100  |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2]    | Forward Voltage          | Blue   | 3.3  | 4    | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>        | Reverse Current          | Blue   |      | 10   | uA    | V <sub>R</sub> =5V        |

Notes:

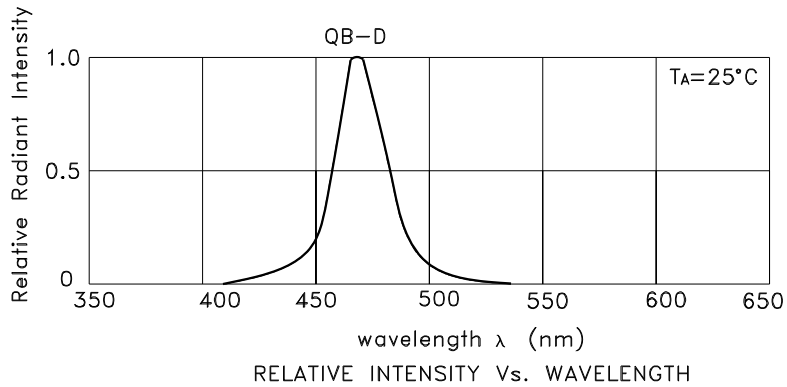
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

| Parameter                | Blue           | Units |
|--------------------------|----------------|-------|
| Power dissipation        | 120            | mW    |
| DC Forward Current       | 30             | mA    |
| Peak Forward Current [1] | 150            | mA    |
| Reverse Voltage          | 5              | V     |
| Operating Temperature    | -40°C To +85°C |       |
| Storage Temperature      | -40°C To +85°C |       |

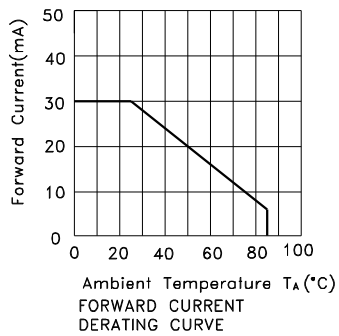
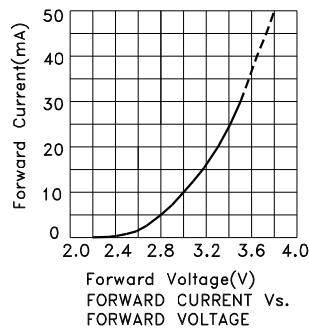
Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.



## Blue

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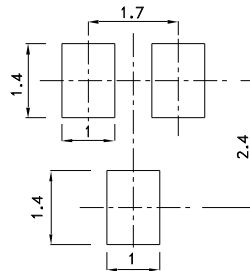
Reflow Soldering Profile For Lead-free SMT Process.



NOTES:

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Tape Specifications (Units : mm)

