Kingbright

**2.8X1.0mm RIGHT ANGLE SMD CHIP LED LAMP**

PRELIMINARY SPEC

Part Number: KPKA-2810VGC-A Green

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

## Features

- 2.8mmX1.0mm RIGHT ANGLE SMT LED, 1.2mm THICKNESS.
- LOW POWER CONSUMPTION.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- RoHS COMPLIANT.

## Description

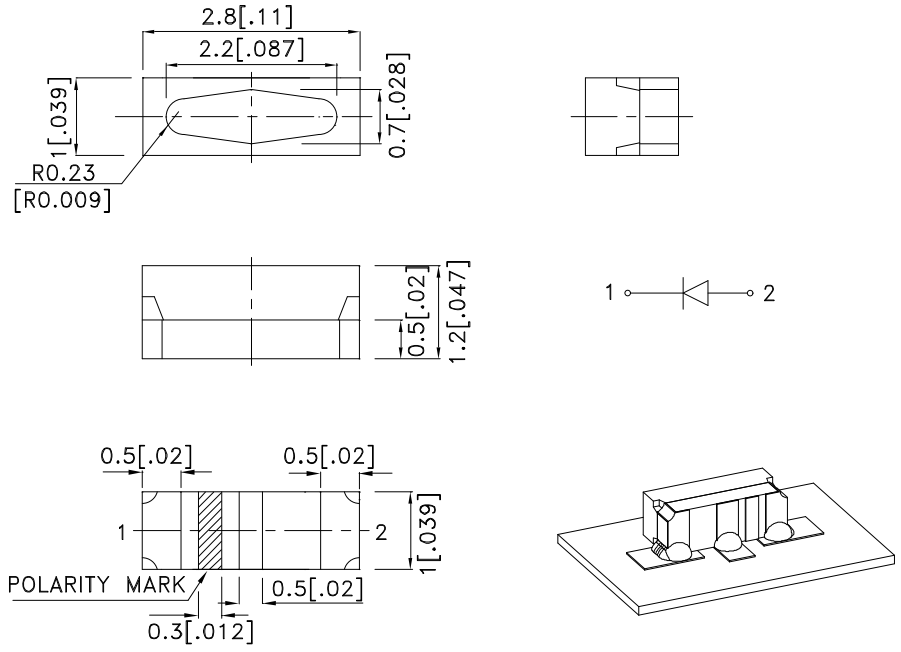
The Green source color devices are made with InGaN on G-SiC Light Emitting Diode.

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




Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(±0.01") 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] @ 20mA | | Viewing Angle [1] |
|---|---|---|---|---|---|
| | | | Min. | Typ. | 2θ1/2 |
| KPKA-2810VGC-A | Green (InGaN) | WATER CLEAR | 70 | 200 | 90° |

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

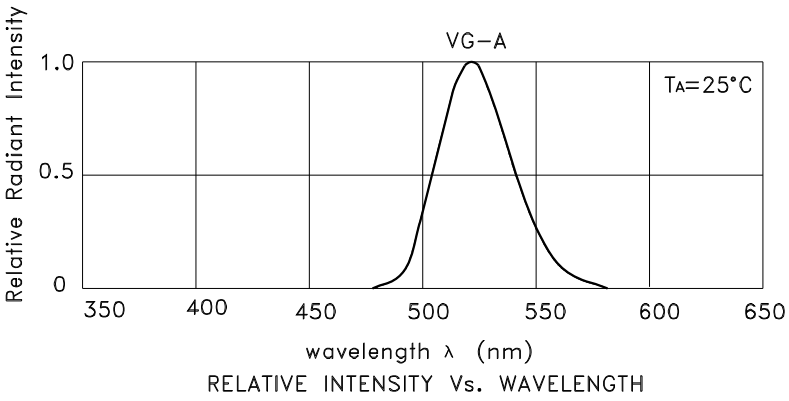
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|---|---|---|---|---|---|---|
| λpeak | Peak Wavelength | Green | 520 | | nm | $I_F$=20mA |
| λD [1] | Dominant Wavelength | Green | 525 | | nm | $I_F$=20mA |
| Δλ1/2 | Spectral Line Half-width | Green | 35 | | nm | $I_F$=20mA |
| C | Capacitance | Green | 100 | | pF | $V_F$=0V;f=1MHz |
| $V_F$ [2] | Forward Voltage | Green | 3.2 | 4 | V | $I_F$=20mA |
| $I_R$ | Reverse Current | Green | | 10 | uA | $V_R$=5V |

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

## Absolute Maximum Ratings at TA=25°C

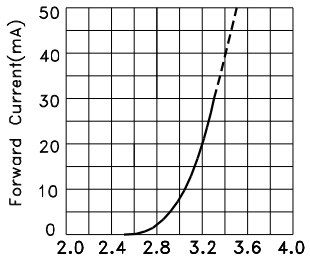
| Parameter | Green | Units |
|---|---|---|
| Power dissipation | 120 | mW |
| DC Forward Current | 30 | mA |
| Peak Forward Current [1] | 100 | mA |
| Reverse Voltage | 5 | V |
| Operating Temperature | -40°C To +85°C | |
| Storage Temperature | -40°C To +85°C | |

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

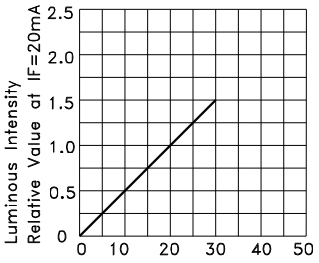


RELATIVE INTENSITY Vs. WAVELENGTH

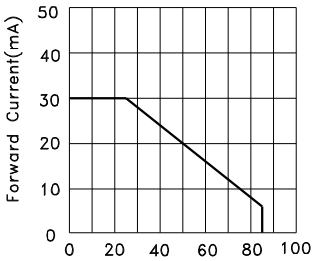
**Green** **KPKA-2810VGC-A**



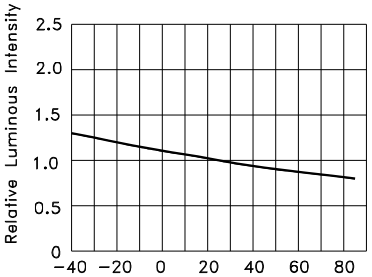
FORWARD CURRENT Vs.
FORWARD VOLTAGE



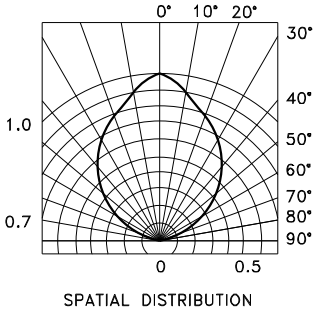
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



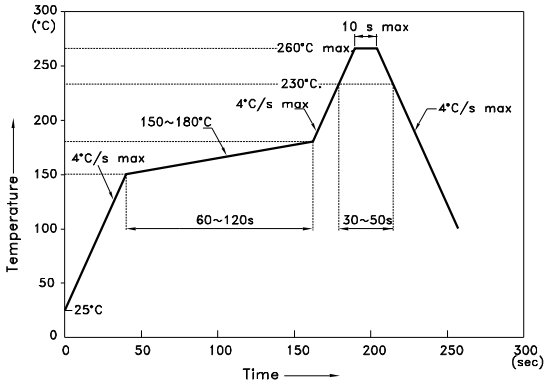
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

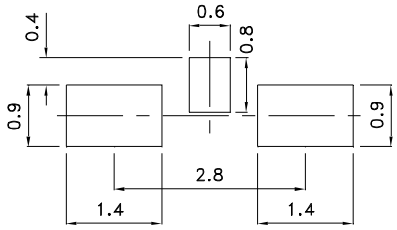
**KPKA-2810VGC-A**

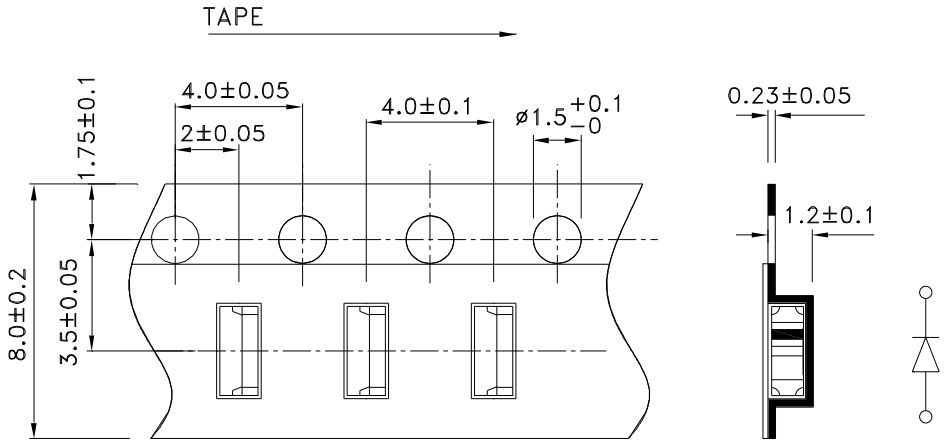
Reflow Soldering Profile For Lead-free SMT Process.




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)**