

KM-23ESGW

HIGH EFFICIENCY RED
SUPER BRIGHT GREEN

Features

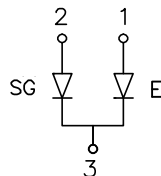
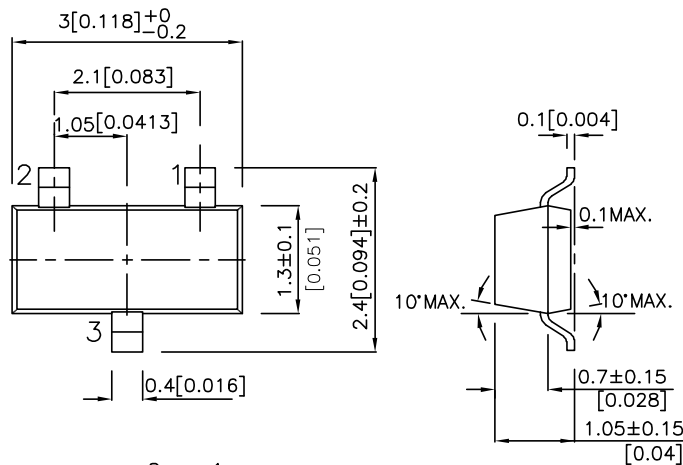
- SOT-23 PACKAGE SURFACE MOUNT LED LAMP.
- LOW POWER CONSUMPTION.
- LONG LIFE - SOLID STATE RELIABILITY.
- PACKAGE: 2000PCS / REEL.
- RoHS COMPLIANT.

Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

Package Dimensions



- 1 ANODE RED
- 2 ANODE GREEN
- 3 COMMON CATHODE

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
3. Lead spacing is measured where the lead emerge from the package.
4. Specifications are subject to change without notice.

Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) @ 20mA | | Viewing Angle |
|-----------|---------------------------------|----------------|--------------------|------|------------------|
| | | | Min. | Typ. | 2 θ 1/2 |
| KM-23ESGW | HIGH EFFICIENCY RED (GaAsP/GaP) | WHITE DIFFUSED | 4 | 15 | 140° |
| | SUPER BRIGHT GREEN (GaP) | | 4 | 15 | |

Note:

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Electrical / Optical Characteristics at TA=25°C

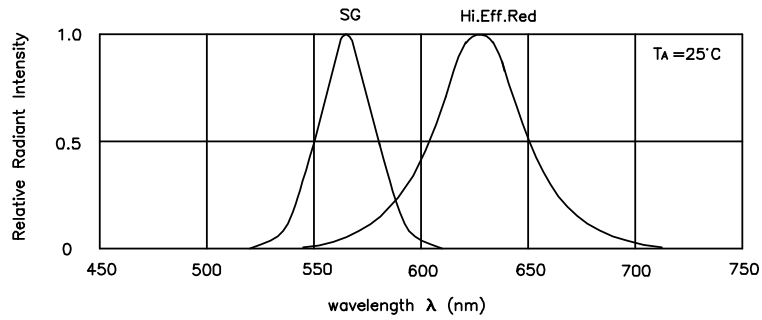
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|-----------------------|--------------------------|---|------------|------------|---------|-----------------|
| λ_{peak} | Peak Wavelength | High Efficiency Red Super Bright Green | 627 565 | | nm | IF=20mA |
| λ_D | Dominant Wavelength | High Efficiency Red Super Bright Green | 625 568 | | nm | IF=20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | High Efficiency Red Super Bright Green | 45 30 | | nm | IF=20mA |
| C | Capacitance | High Efficiency Red Super Bright Green | 15 15 | | pF | VF=0V;f=1MHz |
| VF | Forward Voltage | High Efficiency Red Super Bright Green | 2.0 2.2 | 2.5 2.5 | V | IF=20mA |
| IR | Reverse Current | All | | 10 | μ A | VR = 5V |

Absolute Maximum Ratings at TA=25°C

| Parameter | High Efficiency Red | Super Bright Green | Units |
|-------------------------------|---------------------|--------------------|-------|
| Power dissipation | 105 | 105 | mW |
| DC Forward Current | 30 | 25 | mA |
| Peak Forward Current [1] | 160 | 140 | mA |
| Reverse Voltage | 5 | | V |
| Operating/Storage Temperature | -40°C To +85°C | | |

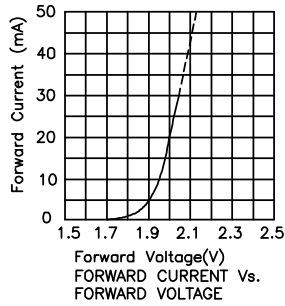
Note:

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

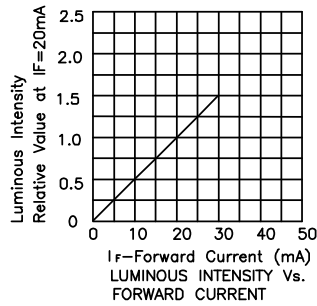


RELATIVE INTENSITY Vs. WAVELENGTH

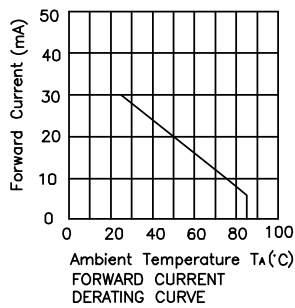
KM-23ESGW High Efficiency Red



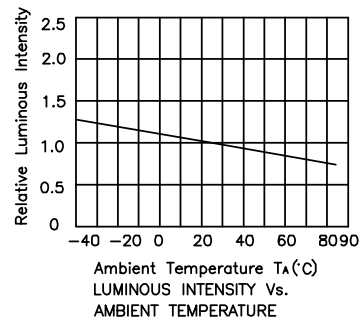
FORWARD CURRENT Vs. FORWARD VOLTAGE



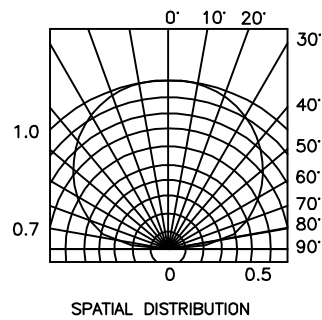
LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE



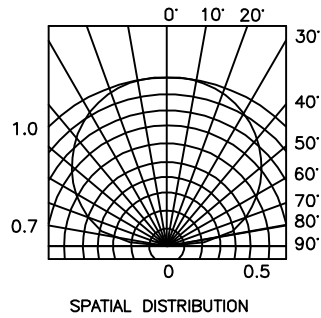
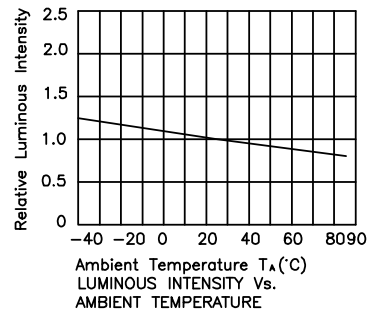
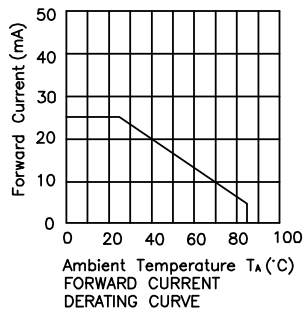
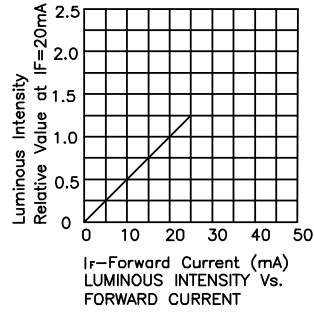
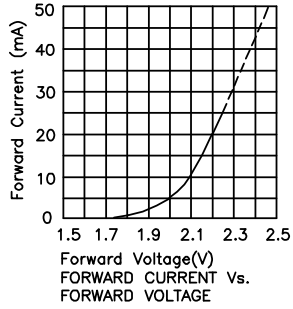
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

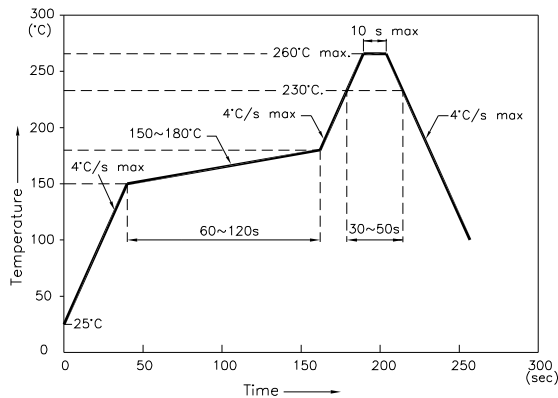
Kingbright

Super Bright Green



KM-23ESGW

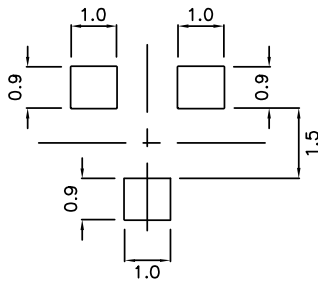
Reflow Soldering Profile For Lead-free SMT Process.



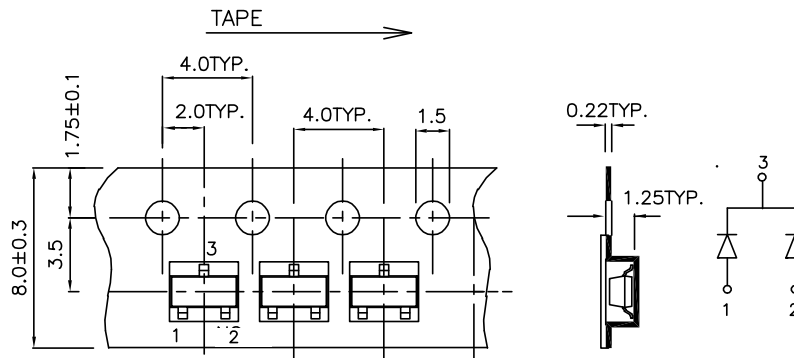
NOTES:

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)



Tape Specifications (Units : mm)



Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or wavelength), the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm
2. Luminous Intensity: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.