

SML12RG3-TR

Hi-Eff Red/Hi-Eff Green

Surface Mount LED

3.0 × 1.3 × 1.05 mm Chip LED

140° viewing angle

DWG BY:
KB / GP
01-09-13

CHK BY:
PL
01-24-13

REVISION LTR: -
01-23-13

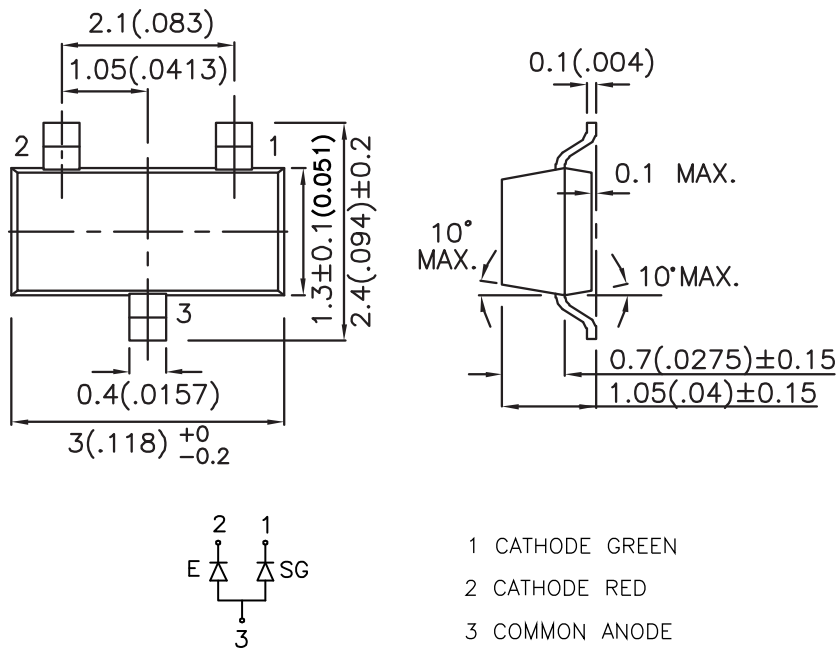
Features

- SOT-23 PACKAGE SURFACE MOUNT LED LAMP.
- LOW POWER CONSUMPTION.
- LONG LIFE - SOLID STATE RELIABILITY.
- PACKAGE: 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

Description

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

Package Dimensions



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

Notes:

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

Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle[1]
		Min.	Typ.	2 θ 1/2
HIGH EFFICIENCY GREEN (Gap)	WATER CLEAR	4	15	140°
HIGH EFFICIENCY RED (GaAsP/GaP)		4	15	

Notes:

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

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Green High Efficiency Red	566 633		nm	IF=20mA
λD[1]	Dominant Wavelength	High Efficiency Green High Efficiency Red	571 620		nm	IF=20mA
Δλ 1/2	Spectral Line Half-width	High Efficiency Green High Efficiency Red	30 44		nm	IF=20mA
C	Capacitance	High Efficiency Green High Efficiency Red	15 15		pF	VF=0V;f=1MHz
VF[2]	Forward Voltage	High Efficiency Green High Efficiency Red	2.2 2.0	2.5 2.5	V	IF=20mA
IR	Reverse Current	High Efficiency Green High Efficiency Red		10 10	uA	VR = 5V
x	Chromaticity Coordinates	High Efficiency Green	0.45			IF=20mA
y			0.54			
x	Chromaticity Coordinates	High Efficiency Red	0.69			IF=20mA
y			0.31			

Notes:

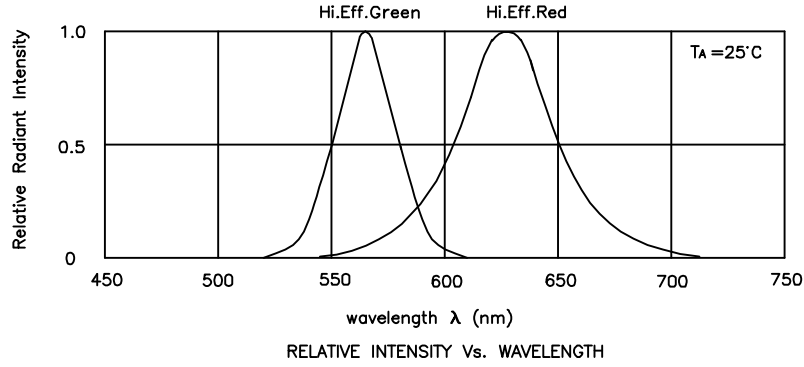
- Wavelength: +/-1nm
- Forward Voltage: +/-0.1V

Absolute Maximum Ratings at TA=25°C

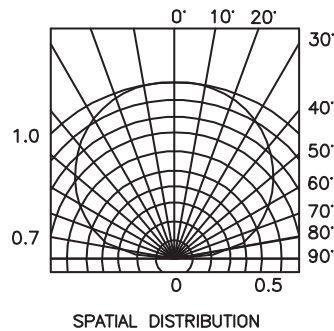
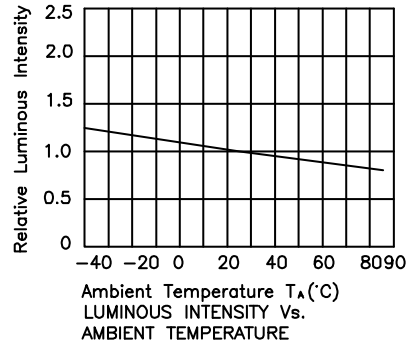
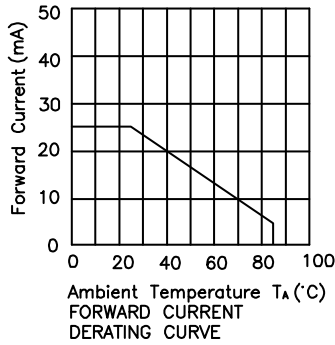
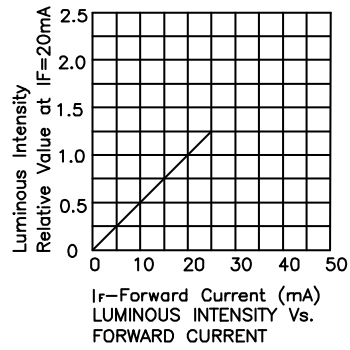
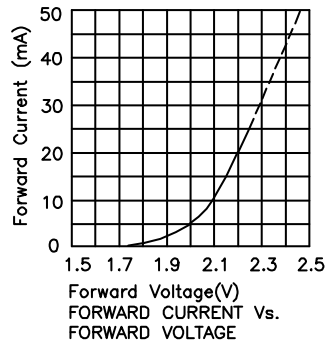
Parameter	Super Bright Green	High Efficiency Red	Units
Power dissipation	105	105	mW
DC Forward Current	25	30	mA
Peak Forward Current [1]	140	160	mA
Electrostatic Discharge Threshold (HBM)	5000		V
Reverse Voltage	5		V
Operating/Storage Temperature	-40°C To +85°C		

Note:

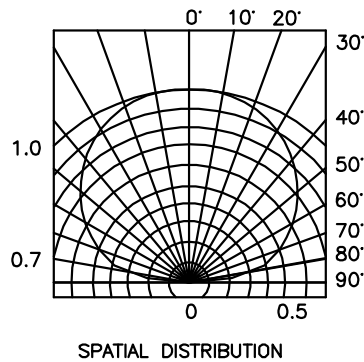
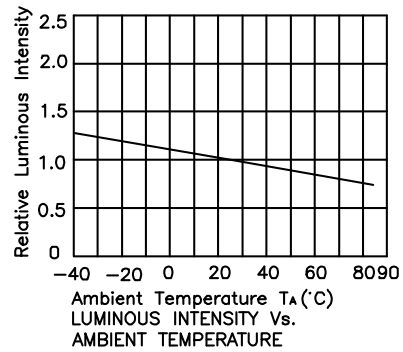
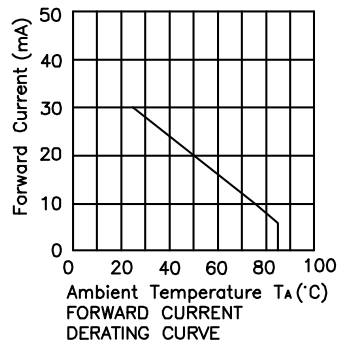
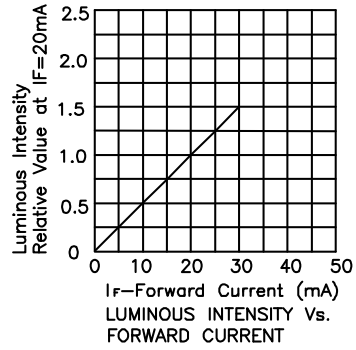
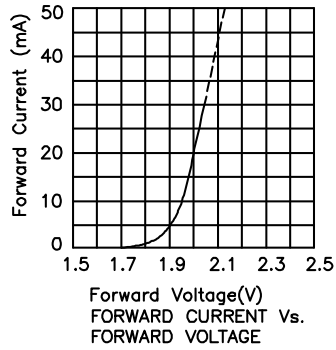
- 1/10 Duty Cycle, 0.1ms Pulse Width.



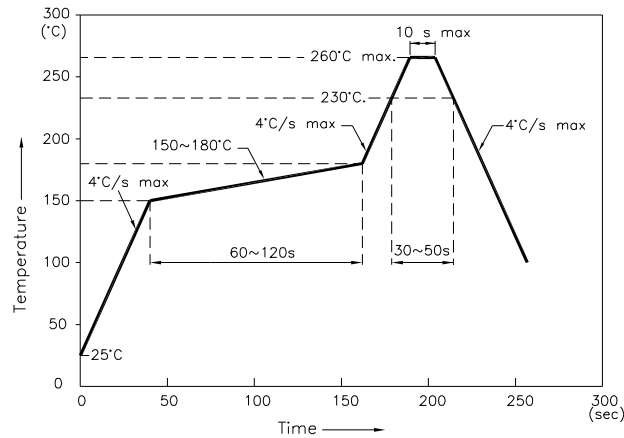
Hi-Eff. Green



Hi-Effi. Red



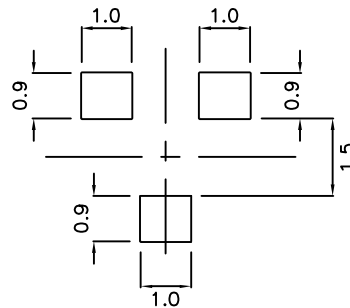
Reflow Soldering Profile For Lead-free SMT Process.



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)**

