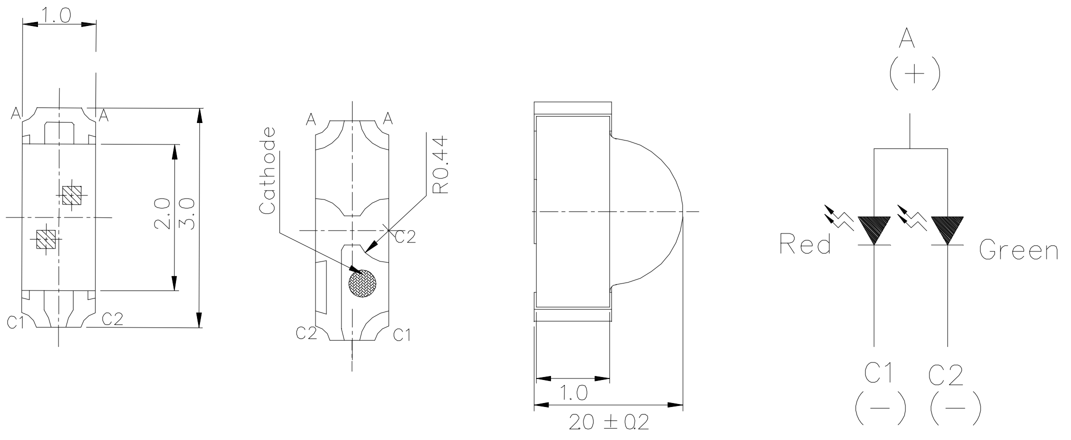
Features

- 3.0mm*2.0mm SMT LED, Super thin (1.0H mm)
- Low Power Consumption
- Wide Viewing Angle
- Various Colors
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow and wave solder process.
- Meet ROHS Green Product

Applications

- Backlight and Indicator

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2mm (.0079″) unless otherwise noted.
3. Specifications are subject to change without notice
4. This drawing is only for indication,not as a basis for the actual structure.

Selection Guide

Part No	Lens Type	Dice	Emitted Color
FSL-3020100RG-SC3	Water Clear	AllnGaP	Green Red

Electrical / Optical Characteristics At Ta=25℃

Symbol	Parameter				Unit	Test Condition
			Green	Red		
Iv	Luminous Intensity	MIN.			mcd	IF=20mA
		TYP.	72	90		
		MAX.				
2θ1/2	Viewing Angle	TYP.	100	100	deg	IF=20mA
入 Peak	Peak Emission Wavelength	TYP.	574	636	nm	IF=20mA
入 d	Dominant Wavelength	TYP.	573	622	nm	IF=20mA
△入	Spectral Line Half-Width	TYP.	15	20	nm	IF=20mA
VF	Forward Voltage	TYP.	2.0	1.9	V	IF=20mA
		MAX.	2.4	2.4		
IR	Reverse Current	MAX.	100	100	uA	VR = 5V

Note:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 optical centerlince value

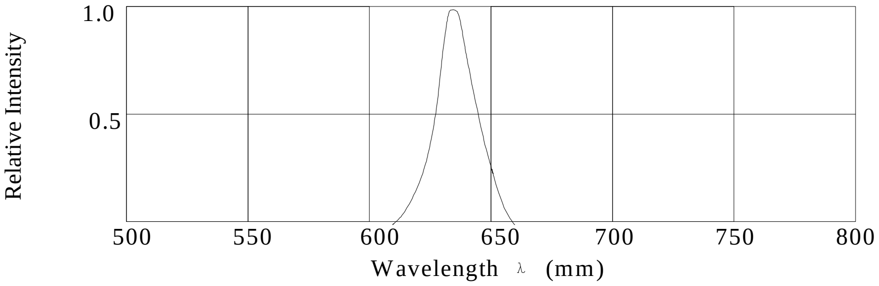
Absolute Maximum Ratings At Ta=25℃

Parameter	Red	Green	Unit
Power Dissipation	75	75	mW
Peak Forward Current[1]	80	80	mA
Continuous Forward Current	30	30	mA
Dreading Linear From25℃	0.4	0.4	mA/℃
Reverse Voltage	5	5	V
Operating Temperature Range	-55℃ to + 85℃		
Storage Temperature Range	-55℃ to + 85℃		
Soldering Condition	260℃ For5 Seconds		

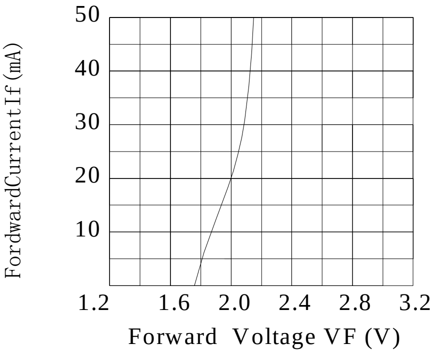
Note:

1. 1/10DutyCycle, 0.1msPulseWidth

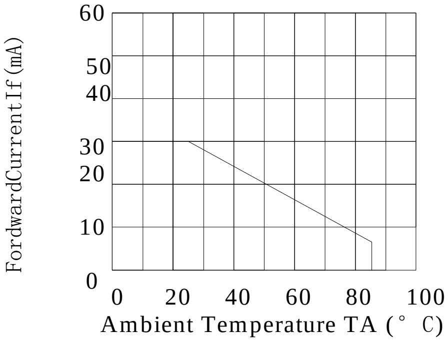
Electrical Optical Characteristics Curves At Ta=25℃



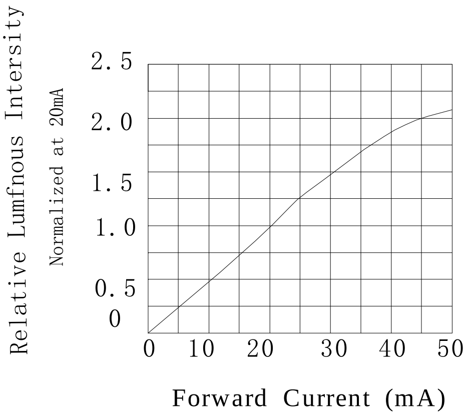
Rekative Intensity vs. Wavekength



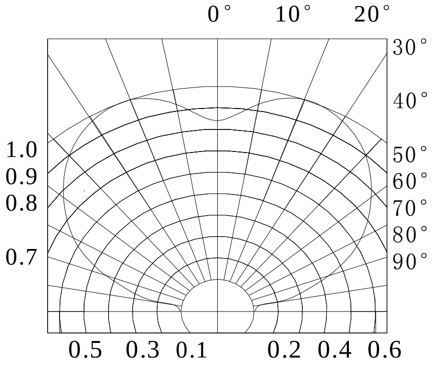
Forward Current VS. Forward Voltage



Forward Current Derating Curve



Relative Luminous Intensity vs. Forward Current



Spatial Distribution

Electrical Optical Characteristics Curves At Ta=25℃

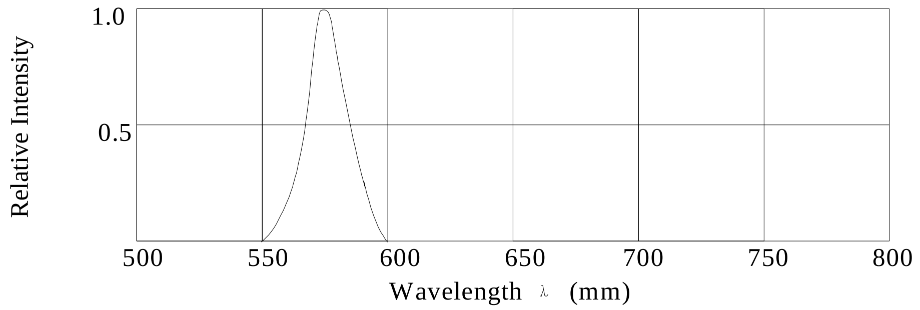


Fig.1 Rekative Intensity vs. Wavekength

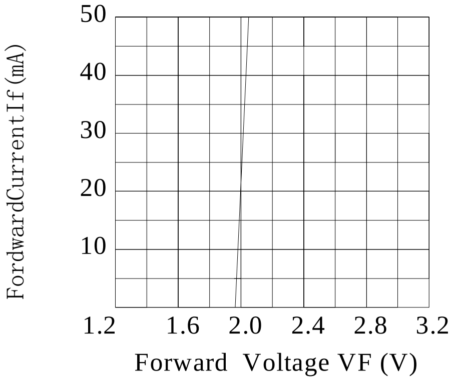


Fig.2 Forward Current VS. Forward Voltage

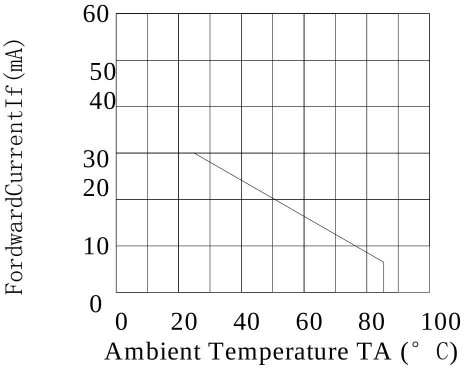


Fig.3 Forward Current Derating Curve

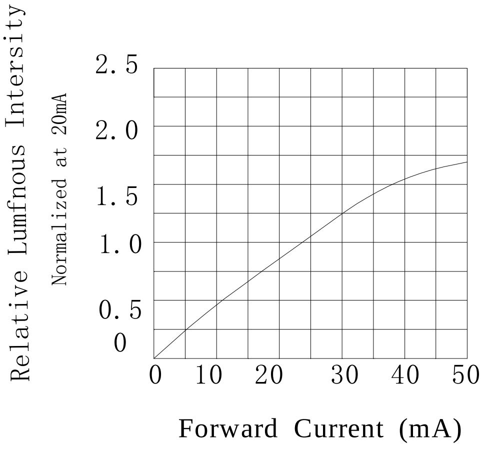


Fig.4 Relative Luminous Intensity vs. Forward Current

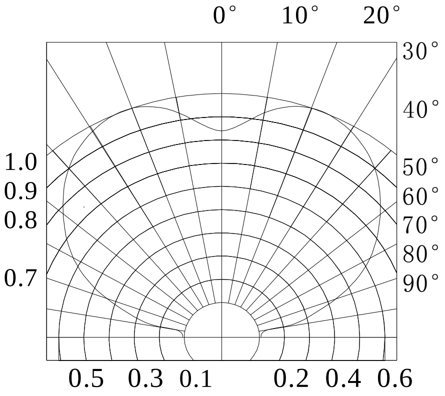


Fig.6 Spatial Distribution

Bin Range Of Luminous Imtensity

Symbol	Bin Code	Min.	Max.	Unit	Condition
Iv(R)	P	45	72	mcd	IF=20mA
	Q	72	112		
	R	112	180		
Iv(G)	N	28	45	mcd	IF=20mA
	P	45	72		
	Q	72	112		

Bin Range Of Forward Voltage

Symbol	Bin Code	Min.	Max.	Unit	Condition
VF(R)	-	1.6	2.4	V	IF=20mA
VF(G)	-	1.6	2.4	V	IF=20mA

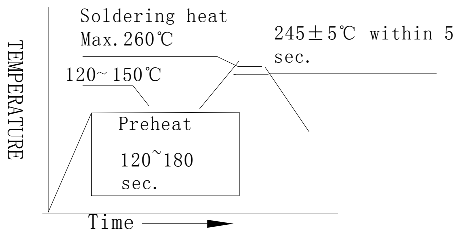
Bin Range Of Dominate Wavelength

Symbol	Bin Code	Min.	Max.	Unit	Condition
入 d(R)	-	615	635	nm	IF=20mA
入 d(G)	C	567.5	570.5	nm	IF=20mA
	D	570.5	573.5		
	E	573.5	576.5		

Notes:

1. Tolerance of Luminous Intensity +/-15％,the Luminous Intensity is measured with the led excluded the black lens cover.
2. Tolerance of Forward Voltage +/-0.1V
3. Tolerance of the Dominate Wavelength +/- 1nm

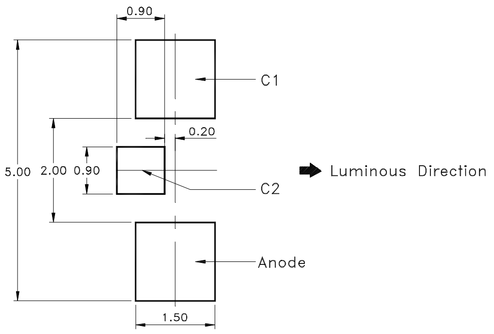
SMT Reflow Soldering Instructions



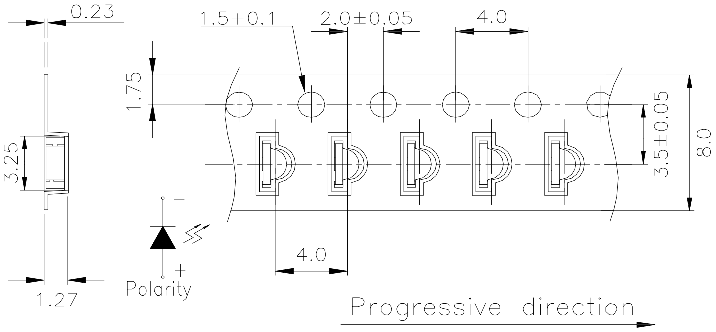
Notes:

1. Selles gives no other assurances regarding the ability of to withstand ESD. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
2. Reflow soldering should not be done more than two times.
3. Do not stress LED when soldering, and do not warp the circuit board after soldering
4. While using Iron, Power dissipation of Iron should be smaller than 25W, and temperature should be controllable. The work should be finished within 2 sec under 320℃ for once only.

Recommended Soldering Pad Dimensions



Package Specifications (Units: mm (inches))



Notes:

1. The LEDs should be used within a year.
2. The LEDs should be kept in 5~30℃ and 60% RH for less.
3. The LEDs should be used within 24 hours, or else should be kept in 5~30℃ and 30% RH or less. And LEDs should be used within 7 days after opening the package.

Reliability Test Items Conditions

Classification	Test Item	Test Conditions	Test hours	Result
Endurance Test	Opertion Life	Connect with a power if=20mA Ta=Under room temperature	1000Hrs	0/20
	Hige Temperature High Humidity	Ta=＋65℃±5℃ RH=90%-95%	240Hrs	0/20
	Hige Temperature Storage	High Ta=＋85℃±5℃	1000Hrs	0/20
	Low Temperature Storage	Low Ta=-35℃±5℃ Test time=1000hrs	1000Hrs	0/20
Environmental Test	Temperature Cycling	-45℃～+105℃ 15min 5min 15min	300 Cycles	0/20
	Thermal Shock	-35℃～±5℃～+85℃～±5℃ 5min 10sec 5min	300 Cycles	0/20
	Solder Resistance	Preheating: 120℃-150℃,within 2 minutes. Operation heating : 260℃(Max.),within5 seconds(Max.)	5Cycles	0/20

Judgment criteria of fialure for the reliability

Measuring items	Symbol	Measuring conditions	Judement criteria for failure
Forward voltage	V_F(V)	I_F=20mA	Over U×1.2
Rvevrse current	I_R(μA)	V_R=5V	Over U×2
Luminous intensity	Iv(mcd)	I_F=20mA	Below S×0.5

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2.Meansurment shall be taken between 2 hours after the test pieces have been returnde to normal ambient cnditions after completion of each test.