

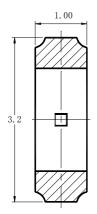
Features

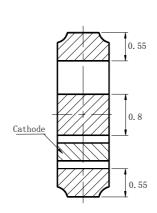
- 3.2mm*1.5mm SMT LED, Super thin (1.0H mm)
- Low Power Consumption
- Wide Viewing Angle
- Various Colors
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow and wave solder process.
- Meet ROHS Green Product

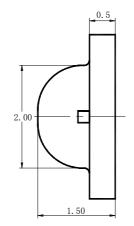
Applications

· Backlight and Indicator

Package Dimensions









Notes:

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

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FSL-3215100HR-LCSCHQ

Selection Guide

Part No	Lens Type	Dice	Emitted Color
FSL-3215100HR-LCSCHQ	Water Clear	AllnGaP	Red

Electrical / Optical Characteristics At Ta=25°C

Symbol	Parameter	Min.	Тур.	Max.	Unit	Test Condition
Iv	Luminous Intensity	45	90	280	mcd	IF=20mA
201/2	Viewing Angle		130		deg	IF=20mA
入 Peak	Peak Emission Wavelength		636		nm	IF=20mA
入 d	Dominant Wavelength	615	622	635	nm	IF=20mA
$\triangle \lambda$	Spectral Line Half-Width		20		nm	IF=20mA
VF	Forward Voltage	1.7	1.9	2.4	V	IF=20mA
IR	Reverse Current			100	uA	VR 5V

Note

Absolute Maximum Ratings At Ta=25℃

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

Note:

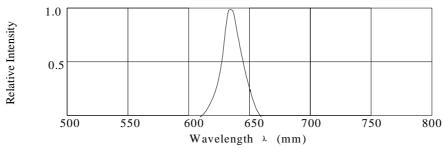
1. 1/10DutyCycle, 0.1msPulseWidth

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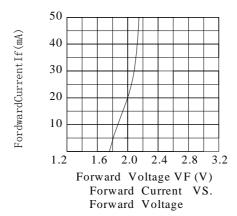
 $^{1.\,\}theta1/2$ is the angle from optical centerline where the luminous intensity is 1/2 optical centerline value

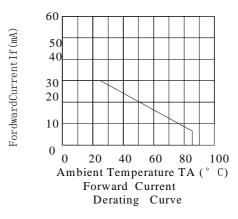


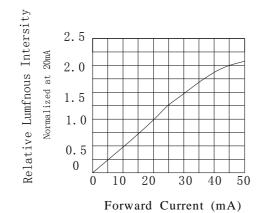
Electrical Optical Characteristics Curves At Ta=25°C



Rekative Intensity vs. Wavekength

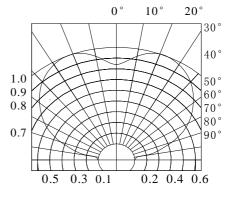






Relative Luminous

Intensity vs. Forward Current



Spatial Distribution

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Bin Range Of Luminous Intensity

Symbol	Bin Code	Min.	Max.	Unit	Condition
	P	45	72	mcd	IF=20mA
T _v ,	Q	72	112		
lv	R	112	180		
	S	180	280		

Bin Range Of Forward Voltage

Symbol	Bin Code	Min.	Max.	Unit	Condition
VF	-	1.7	2.4	V	IF=20mA

Bin Range Of Dominate Wavelength

Symbol	Bin Code	Min.	Max.	Unit	Condition
入 d	1	615	635	nm	IF=20mA

Notes:

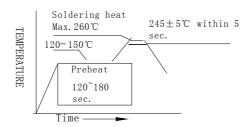
- 1. Tolerance of Luminous Intensity $\pm -20\%$, the Luminous Intensity is measured with the led excluded the black lens cover.
- 2. Tolerance of Forward Voltage +/-0.15V
- 3. Tolerance of the Dominate Wavelength +/- 2nm

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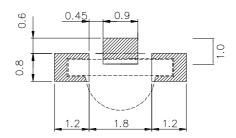
SMT Reflow Soldering Instructions



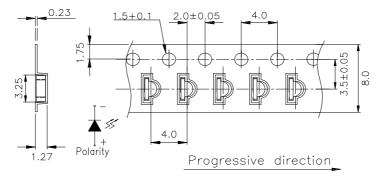
Notes:

- 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°C 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 $5\sim30\,^{\circ}\text{C}$ and 60% RH for less.
- 3. The LEDs should be used within 24 hours, or else should be kept in 5~30°C and 30% RH or less. And LEDs should be used within 7 days after opening the package.

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Reliability Test Items Conditions

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

Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	V _F (V)	IF=20mA	Over U×1.2
Reverse current	Ir(µA)	V _R =5V	Over U×2
Luminous intensity	Iv(mcd)	IF=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 returned to normal ambient conditions after completion of each test.

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