

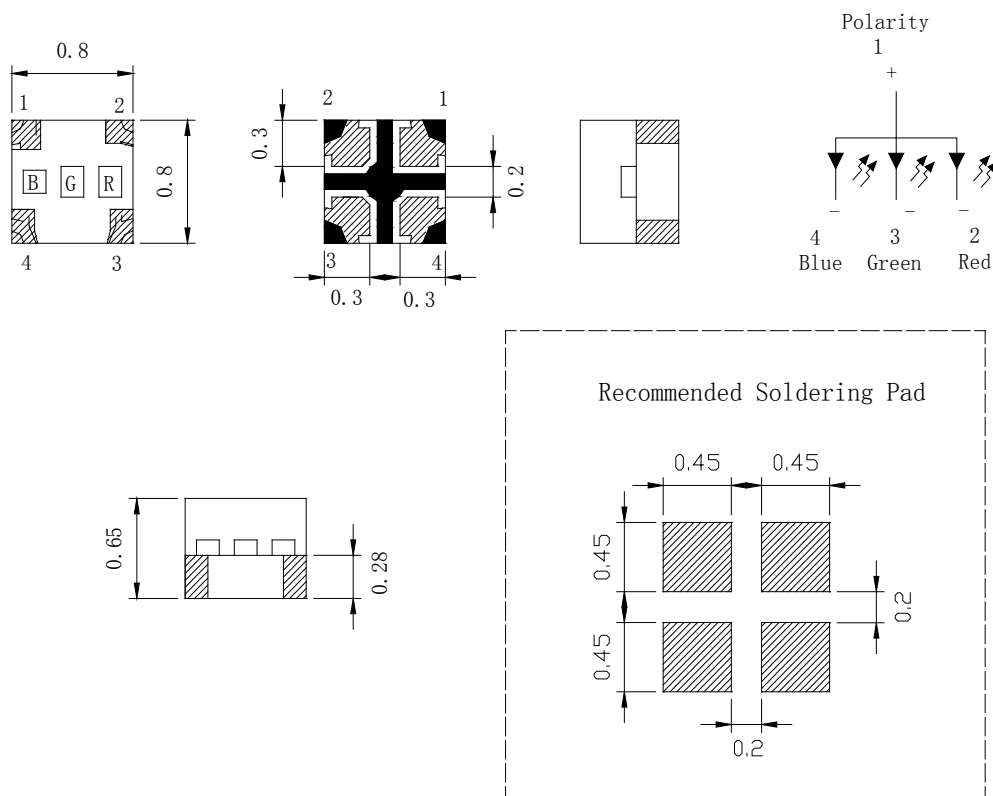
**Features**

- 0.8mm\*0.8mm SMT LED, Super thin (0.65H 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.
- Package: 3000pcs/Reel

**Applications**

- Backlight and Indicator

**Package Dimensions**



**Notes:**

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.2$  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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**Selection Guide**

Part No	Lens Type	Dice	Emitted Color
FSL-0808065RGB-KAT2NC3DJC-1CA	Water Clear	AlGaInP AlInGaP InGaN	Red Green Blue

**Electrical / Optical Characteristics At Ta=25 °C**

Symbol	Parameter		Red	Green	Blue	Unit	Test Condition
Iv	Luminous Intensity	MIN.	7.2	11.2	4.5	mcd	IF=2mA
		TYP.					
		MAX.	18	28	11.2		
2θ1/2	Viewing Angle	TYP.	120	120	120	deg	IF=2mA
λ Peak	Peak Emission Wavelength	TYP.	632	520	461	nm	IF=2mA
λ d	Dominant Wavelength	MIN.	617.5	520	460	nm	IF=2mA
		TYP.	631.0	530	470		
		MAX.	637.5	535	475		
Δλ	Spectral Line Half-Width	TYP.	20	25	25	nm	IF=2mA
VF	Forward Voltage	MIN.	1.5	2.5	2.5	V	IF=2mA
		TYP.	2.0	3.3	3.0		
		MAX.	2.3	3.7	3.3		
IR	Reverse Current	MAX.	10	10	10	μ A	VR=5V

Note:

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

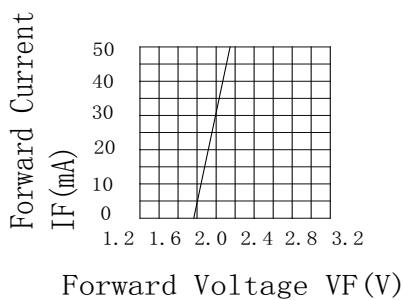
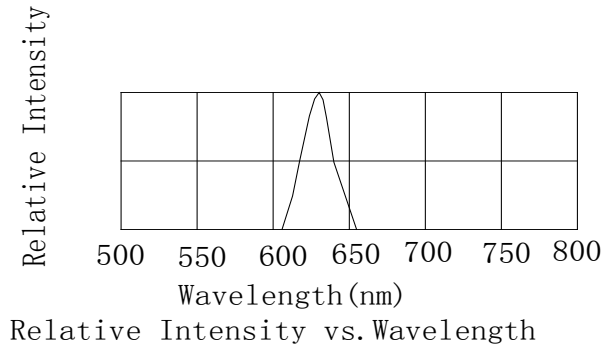
**Absolute Maximum Ratings At Ta=25°C**

Parameter	Red	Green	Blue	Unit
Power Dissipation	24	35	35	mW
Peak Forward Current[1]	20	20	20	mA
Continuous Forward Current	10	10	10	mA
Dreading Linear From 30°C	0.4	0.5	0.25	mA/°C
Reverse Voltage	5	5	5	V
Electrostatic Discharge Threshold(HBM)	2000	150	150	V
Operating Temperature Range	-45°C to + 85°C			
Storage Temperature Range	-55°C to + 105°C			
Soldering Condition	260°C For 10 Seconds			

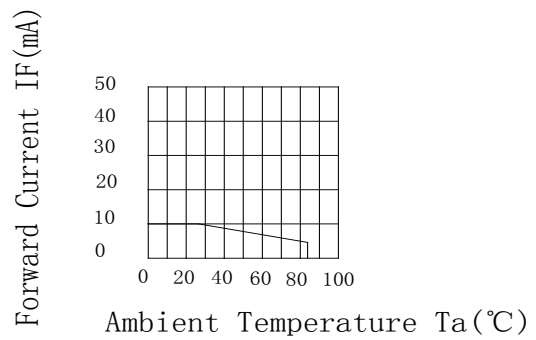
Note:

1. 1/10DutyCycle, 0.1msPulseWidth

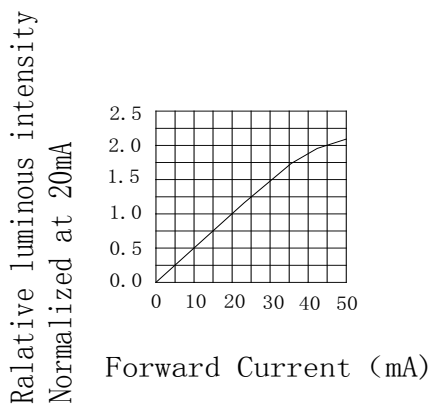
**Electrical Optical Characteristics Curves At Ta=25 °C**



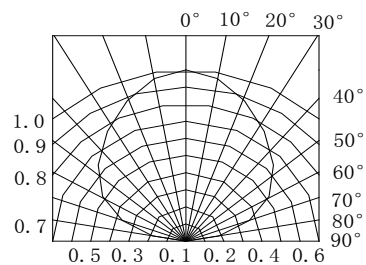
Forward Current vs. Forward Voltage



Forward Current Derating Curve

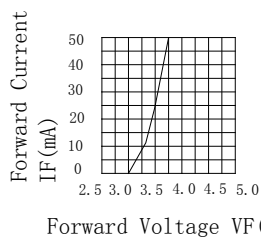
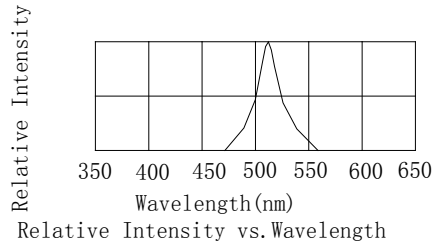


Forward luminous Intensity vs. Forward Current

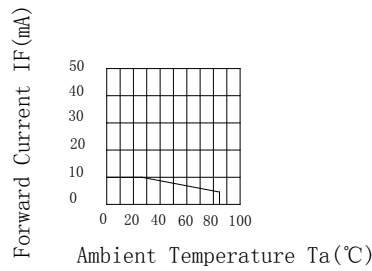


Spatial Distribution

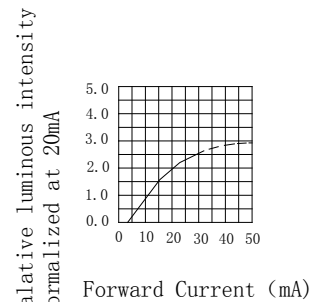
**Electrical Optical Characteristics Curves At Ta=25 °C**



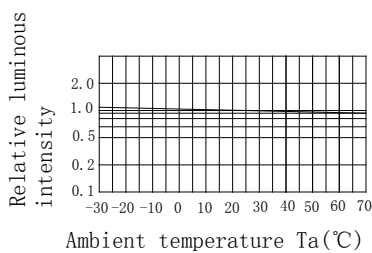
Forward Current vs. Forward Voltage



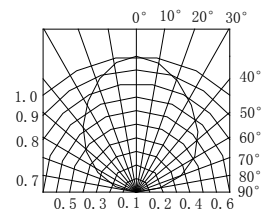
Forward Current Derating Curve



Forward luminous intensity vs. Forward Current

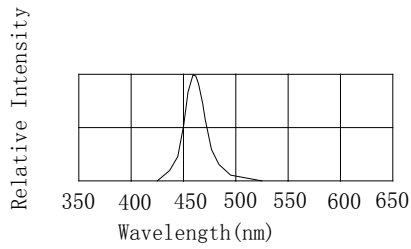


Relative Luminous Intensity vs. Ambient temperature

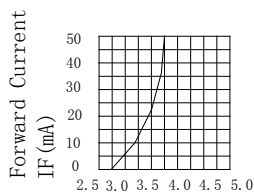


Spatial Distribution

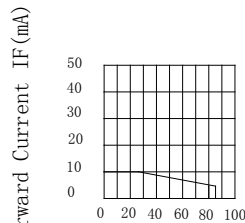
**Electrical Optical Characteristics Curves At Ta=25 °C**



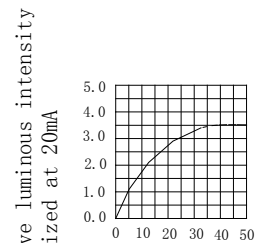
Relative Intensity vs. Wavelength



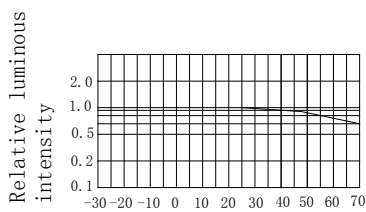
Forward Current vs. Forward Voltage



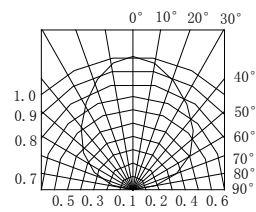
Forward Current Derating Curve



Forward luminous Intensity vs. Forward Current



Relative Luminous Intensity vs. Ambient temperature



Spatial Distribution



**Bin Range Of Luminous Intensity $\pm$ 20%**

Symbol	Bin Code	Min.	Max.	Unit	Condition
Iv(R)	K	7.2	11.2	mcd	IF=2mA
	L	11.2	18		
Iv(G)	L	11.2	18	mcd	IF=2mA
	M	18	28		
Iv(B)	J	4.5	7.2	mcd	IF=2mA
	K	7.2	11.2		

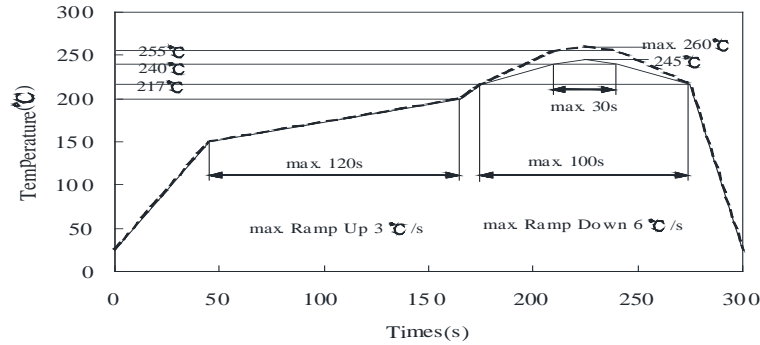
**Bin Range Of Forward Voltage  $\pm$ 0.15V**

Symbol	Bin Code	Min.	Max.	Unit	Condition
VF(R)	V15	1.5	1.7	V	IF=2mA
	V17	1.7	1.9		
	V19	1.9	2.1		
	V21	2.1	2.3		
VF(G)	V25	2.50	2.70	V	IF=2mA
	V27	2.70	2.90		
	V29	2.90	3.10		
	V31	3.10	3.30		
	V33	3.30	3.50		
	V35	3.50	3.70		
VF(B)	V25	2.50	2.70	V	IF=2mA
	V27	2.70	2.90		
	V29	2.90	3.10		
	V31	3.10	3.30		

**Bin Range Of Dominate Wavelength $\pm$  2nm**

Symbol	Bin Code	Min.	Max.	Unit	Condition		
$\lambda$ d(R)	R1	617.5	621.5	nm	IF=2mA		
	R2	621.5	625.5				
	R3	625.5	629.5				
		R4	629.5	633.5	nm	IF=2mA	
		R5	633.5	637.5			
$\lambda$ d(G)	G0	515	520	nm			IF=2mA
	G1	520	525				
	G2	525	530				
	G3	530	535				
$\lambda$ d(B)	B1	460	465	nm	IF=2mA		
	B2	465	470				
	B3	470	475				

**SMT Reflow Soldering Instructions**

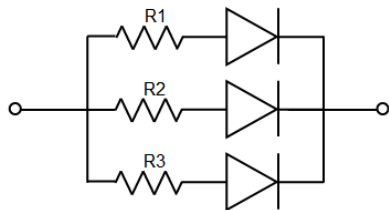


**Notes:**

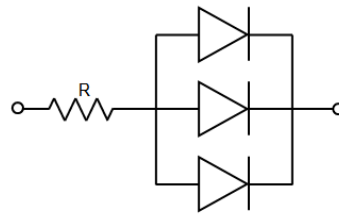
1. Selles gives no other assurances regarding the ability of to withstand ESD. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
2. Reflow soldering should not be done more than two times.
3. Do not 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°C for once only.

**Application**

In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended to use individual resistor separately, as shown in Circuit A below. The brightness of each LED shown in Circuit B might appear difference due to the differences in the I-V characteristics of those LEDs.

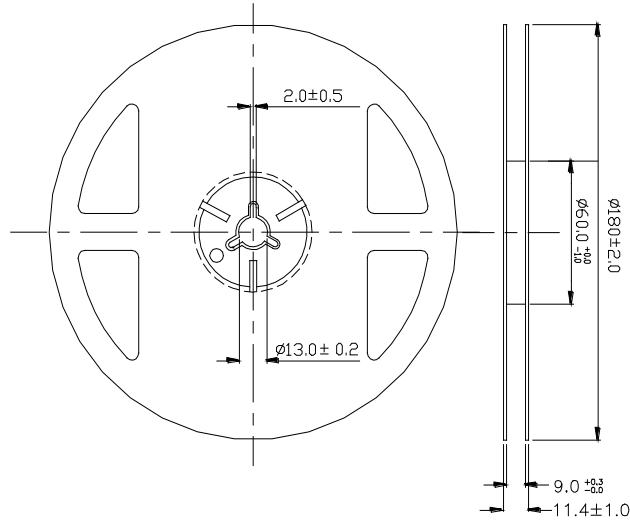


**Circuit model A**

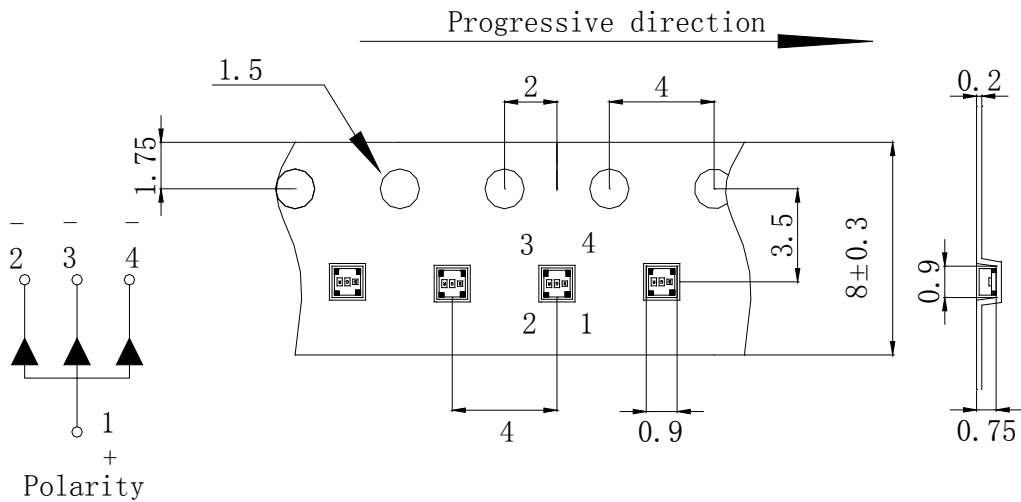


**Circuit model B**

**Reel Dimensions**



**Package Specifications (Units: mm(inches))**



**Notes:**

1. The LEDs should be used within a year.
2. The LEDs should be kept in  $5 \sim 30^\circ\text{C}$  and 60% RH for less.
3. The LEDs should be used within 24 hours, or else should be kept a  $5 \sim 30^\circ\text{C}$  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	Operation Life	Connect with a power $I_F=2mA$ $T_a$ =Under room temperature	1000Hrs	0/20
	High Temperature High Humidity	$T_a=+65^{\circ}C\pm5^{\circ}C$ RH=90%-95%	240Hrs	0/20
	High Temperature Storage	High $T_a=+100^{\circ}C\pm5^{\circ}C$	1000Hrs	0/20
	Low Temperature Storage	Low $T_a=-50^{\circ}C\pm5^{\circ}C$ Test time=1000hrs	1000Hrs	0/20
Environmental Test	Temperature Cycling	$-50^{\circ}C\sim+105^{\circ}C$ 15min 5min 15min	300 Cycles	0/20
	Thermal Shock	$-45^{\circ}C\sim\pm5^{\circ}C\sim+85^{\circ}C\sim\pm5^{\circ}C$ 5min 10sec 5min	300 Cycles	0/20
	Solder Resistance	Preheating: $120^{\circ}C-150^{\circ}C$ , within 2 minutes. Operation heating : $260^{\circ}C$ (Max.), within 10 seconds(Max.)	5Cycles	0/20

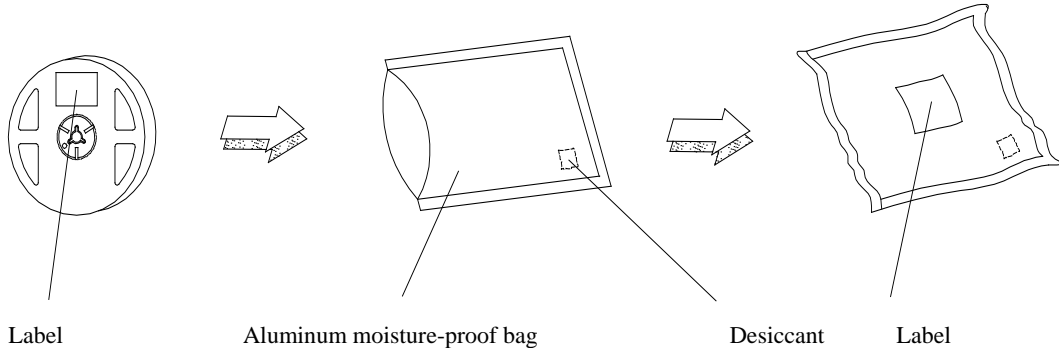
**Judgment criteria of failure for the reliability**

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	$V_F(V)$	$I_F=2mA$	Over $U\times 1.2$
Reverse current	$I_R(\mu A)$	$V_R=5V$	Over $U\times 2$
Luminous intensity	$I_v(mcd)$	$I_F=2mA$	Below $S\times 0.5$

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

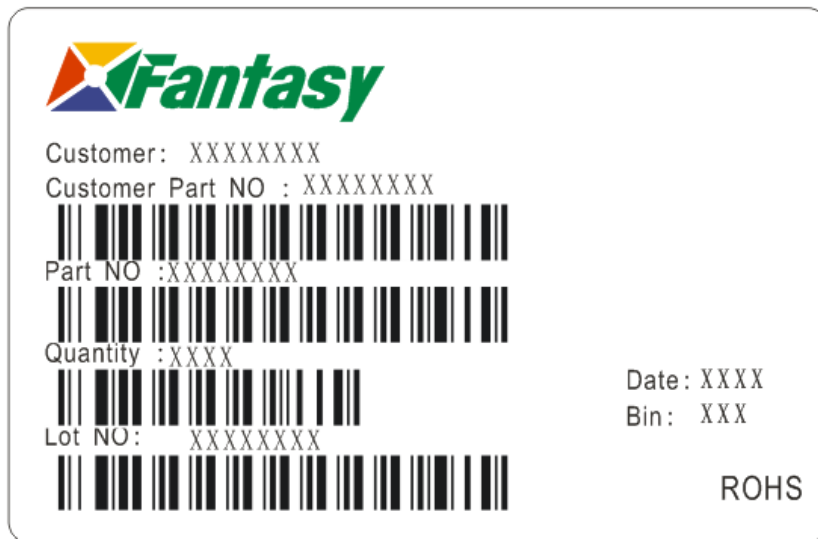
2.Measurement shall be taken between 2 hours after the test pieces have been returned to normal ambient conditions after completion of each test.

**Moisture Resistant Packaging**



Remark: Add Desiccant into Aluminum moisture-proof bag

**Label Explanation**



- Customer: Customer Name
- Customer Part NO: Customer's Product Number
- Part NO : Fantasy Product Number
- Quantity : Packing Quantity
- Lot NO : Lot Number
- Date : Product Date (Week)
- Bin: Rank of Luminous Intensity ,Dom. Wavelength, Forward Voltage