

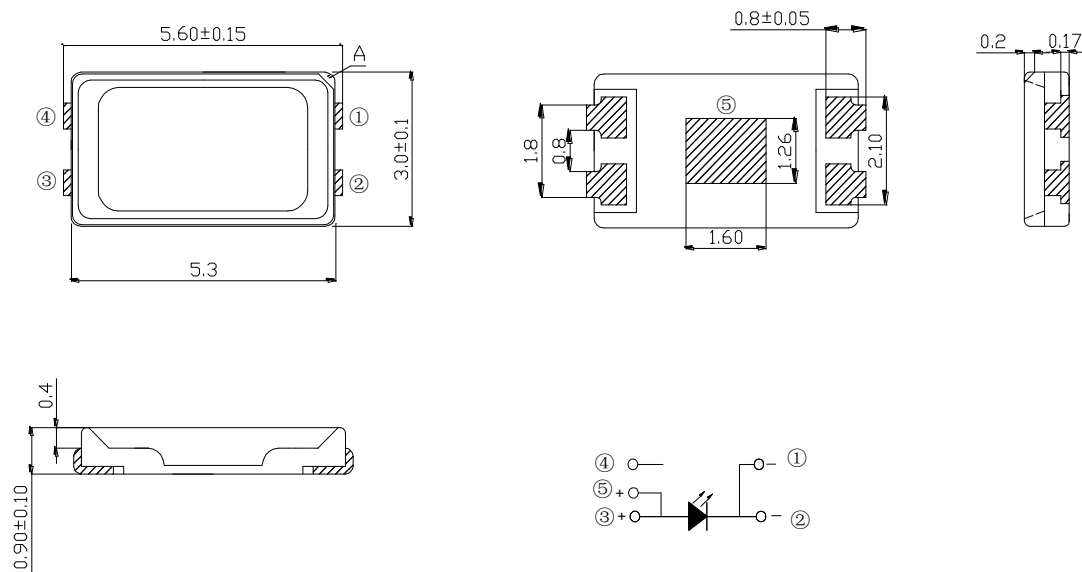
Features

- 5.6mm*3.0mm SMT LED, Super thin (0.90H mm)
- 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 $\pm 0.2\text{mm}$ (.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.



FSL-5630090W-GBT120N3548CJY

Selection Guide

Part No	Lens Type	Dice	Emitted Color
FSL-5630090W-GBT120N3548CJY	Yellow	InGaN	White

Electrical / Optical Characteristics At Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Φ_v	Luminous Flux	35.0	38.0	48.0	Lm	IF=120mA
2 θ 1/2	Viewing Angle		110		deg	
Tc	Color Temperature		5600			IF=120mA
x	Chromaticity Coordinates		0.330			IF=120mA
y			0.340			
Ra	Color Rendering Index	70				IF=120mA
VF	Forward Voltage	2.8	3.4	4.0	V	IF=120mA
IR	Reverse Current			10	uA	VR=5V

Note:

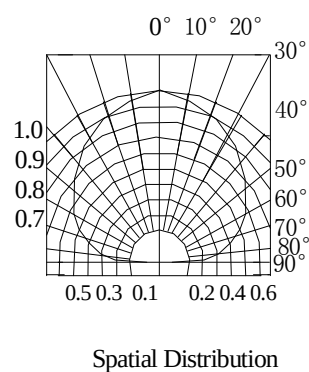
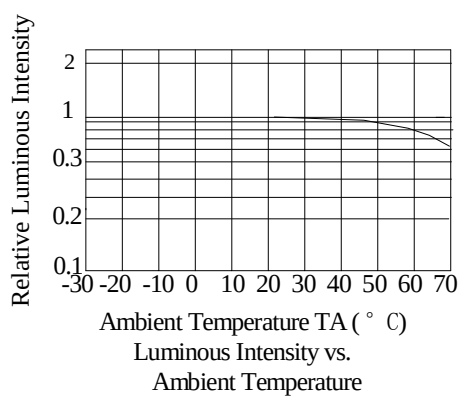
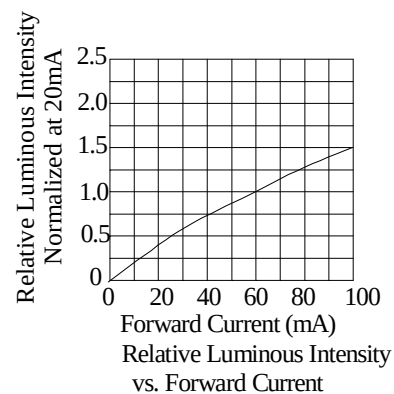
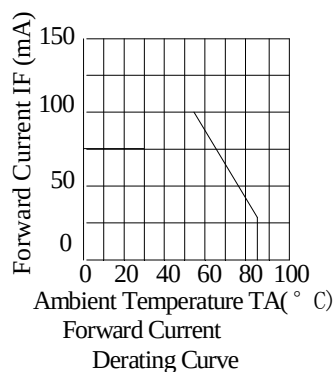
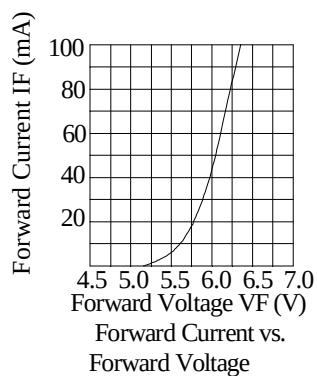
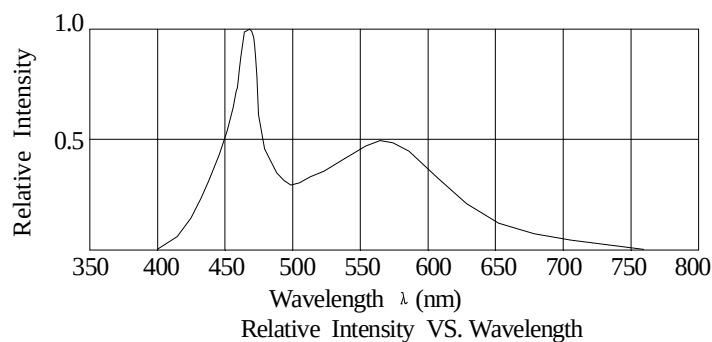
1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 optical centerline value
2. The chromaticity coordinates(x,y) is derived from 1931 CIE chromaticity diagram.
3. The chromaticity coordinates(x,y) guarantee should be added ± 0.02 tolerance.

Absolute Maximum Ratings At Ta=25°C

Parameter	White	Unit
Power Dissipation	500	mW
Peak Forward Current(duty 1/10@10ms)	300	mA
Continuous Forward Current (each dice)	150	mA
Dreading Linear From 25°C	0.25	mA/°C
Reverse Voltage(each dice)	5	V
Electrostatic Discharge Threshold(HBM)	2000	V
Operating Temperature Range	-20°C to + 80°C	
Storage Temperature Range	-55°C to + 85°C	
Soldering Condition	260°C For 5 Seconds	

Note:

Electrical Optical Characteristics Curves At Ta=25°C





FSL-5630090W-GBT120N3548CJY

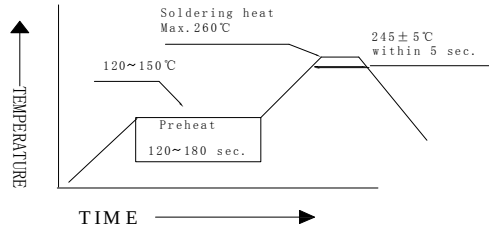
Bin Range Of Luminous Intensity (+/-15%)

Symbol	Bin Code	Min.	Max.	Unit	Condition
Iv	L35	35	36	lm	IF=120mA
	L36	36	37		
	L37	37	38		
	L38	38	39		
	L39	39	40		
	L40	40	41		
	L41	41	42		
	L42	42	43		
	L43	43	44		
	L44	44	45		
	L45	45	46		
	L46	46	47		
	L47	47	48		

Bin Range Of Forward Voltage (+/-0.1)

Symbol	Bin Code	Min.	Max.	Unit	Condition
VF	VA	2.8	2.9	V	IF=20mA
	V0	2.9	3.0		
	V1	3.0	3.1		
	V2	3.1	3.2		
	V3	3.2	3.3		
	V4	3.3	3.4		
	V5	3.4	3.5		
	V6	3.5	3.6		
	V7	3.6	3.7		
	V8	3.7	3.8		
	V9	3.8	3.9		
	V10	3.9	4.0		

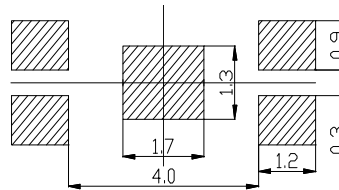
SMT Reflow Soldering Instructions



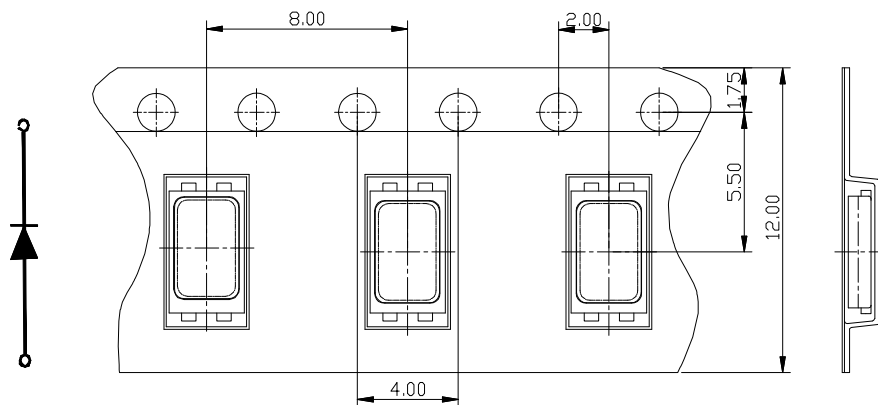
Notes:

1. Seller 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 5~30°C and 60% RH for less.
3. The LEDs should be used within 24 hours, or else should be kept a 5~30°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 $I_F=60\text{mA}$ $T_a=\text{Under room temperature}$	1000Hrs	0/20
	High Temperature High Humidity	$T_a=+65^{\circ}\text{C}\pm 5^{\circ}\text{C}$ $\text{RH}=90\%-95\%$	240Hrs	0/20
	High Temperature Storage	High $T_a=+85^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000Hrs	0/20
	Low Temperature Storage	Low $T_a=-35^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Test time=1000hrs	1000Hrs	0/20
Environmental Test	Temperature Cycling	$-45^{\circ}\text{C}\sim +105^{\circ}\text{C}$ 15min 5min 15min	300 Cycles	0/20
	Thermal Shock	$-35^{\circ}\text{C}\sim \pm 5^{\circ}\text{C}\sim +85^{\circ}\text{C}\sim \pm 5^{\circ}\text{C}$ 5min 10sec 5min	300 Cycles	0/20
	Solder Resistance	Preheating: $120^{\circ}\text{C}-150^{\circ}\text{C}$, 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	$V_F(\text{V})$	$I_F=60\text{mA}$	Over $U\times 1.2$
Reverse current	$I_R(\mu\text{A})$	$V_R=5\text{V}$	Over $U\times 2$
Luminous intensity	$I_v(\text{mcd})$	$I_F=60\text{mA}$	Below $S\times 0.5$

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

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