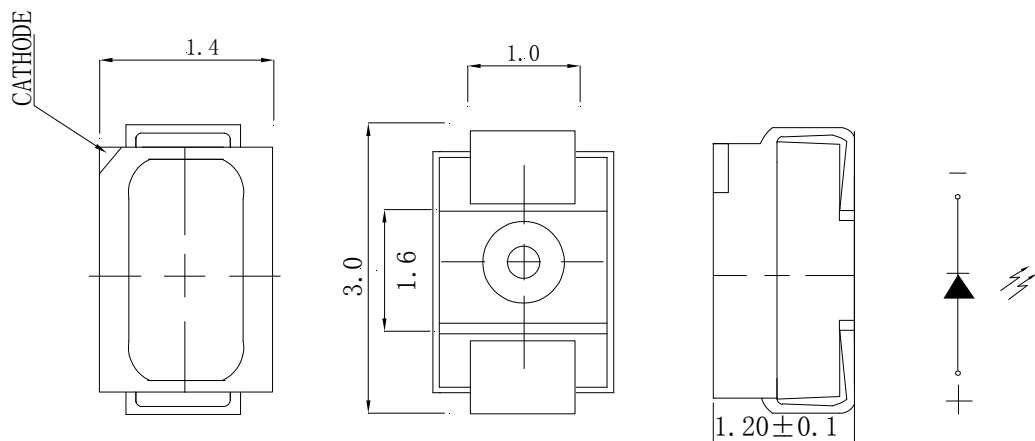


Features

- Package in 12mm tape on 7" diameter reels.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- I.C. compatible
- Meet green product and Pb-free(According to RoHS)
- Package : 3000pcs/Reel

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

**Selection Guide**

Part No	Lens Type	Source Color
FSL-3014120HW-TY3	Yellow	InGaN White

Electrical / Optical Characteristics At Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Iv	Luminous Intensity	1200		2300	mcd	IF=20mA
2θ1/2	Viewing Angle		110		deg	
x	Chromaticity Coordinates		0.260		nm	IF=20mA
y			0.255		nm	IF=20mA
VF	Forward Voltage	3.0		3.4	V	IF=20mA
IR	Reverse Current			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
2. The chromaticity coordinates(x,y) is derived from 1931 CIE chromaticity diagram.
3. The chromaticity coordinates(x,y) guarantee should be added ±0.01 tolerance.

Absolute Maximum Ratings At Ta=25°C

Parameter	White	Unit
Power Dissipation	110	mW
Peak Forward Current (1/10 Duty Cycle @ 0.1ms)	100	mA
Continuous Forward Current	25	mA
Reverse Voltage	5	V
Electrostatic Discharge Threshold(HBM)	2000	V
Operating Temperature Range	-30°C to + 85°C	
Storage Temperature Range	-40°C to + 100°C	
Soldering Condition	260°C For 10 Seconds	

Electrical Optical Characteristics Curves At Ta=25°C

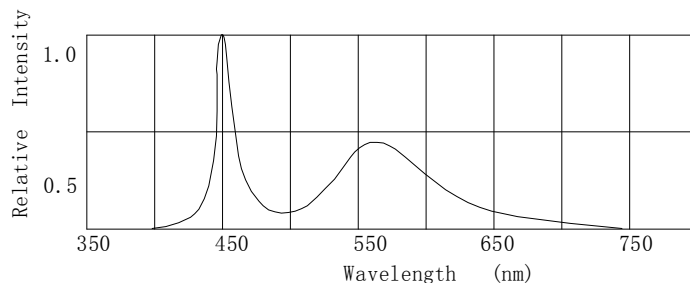


Fig.1 Relative Intensity VS. Wavelength

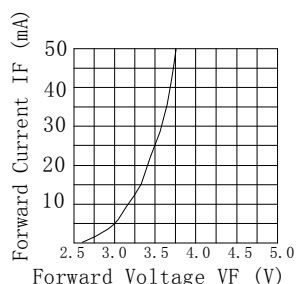


Fig.2 Forward Current vs. Forward Voltage

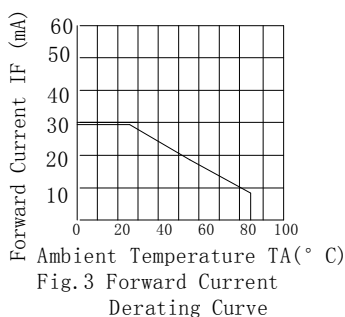


Fig.3 Forward Current Derating Curve

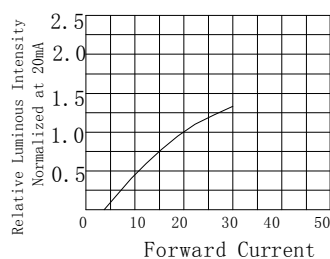


Fig.4 Relative Luminous Intensity vs. Forward Current

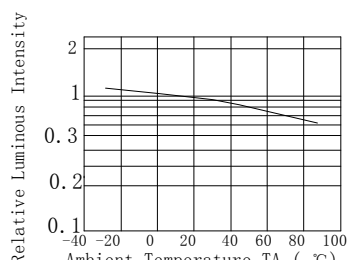


Fig.5 Luminous Intensity vs. Ambient Temperature

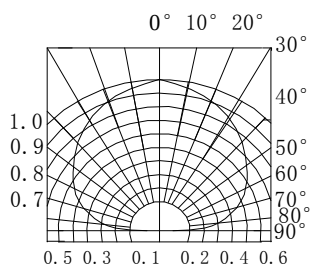


Fig.6 Spatial Distribution

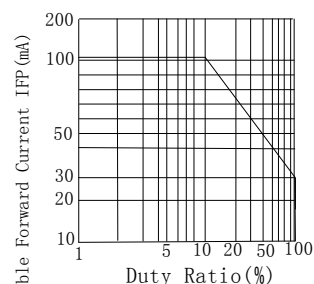


Fig.7 Duty Ratio vs. Allowable Forward Current

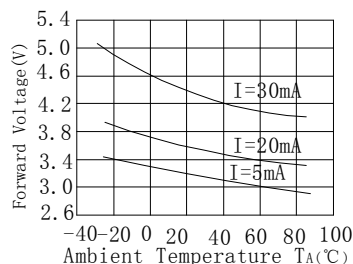


Fig.8 Ambient Temperature vs. Forward Voltage

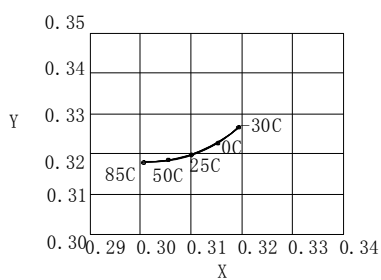


Fig.9 Ambient Temperature TA (°C) Chromaticity Coordinate

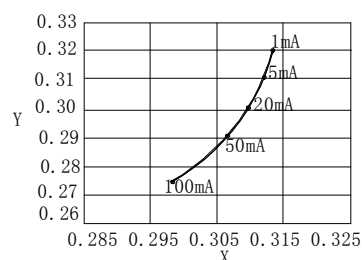


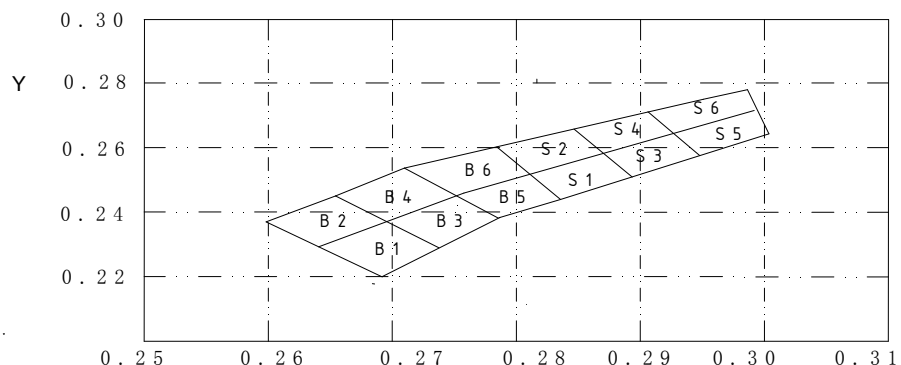
Fig.10 Forward Current VS. Chromaticity Coordinate

Bin Range Of Luminous Intensity (+/-15%) & Forward Voltage (+/-0.1)

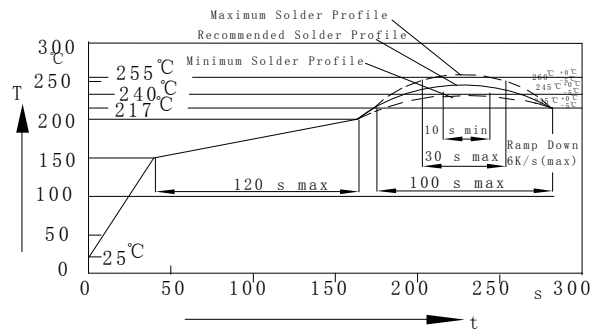
Symbol	Bin Code	Min.	Max.	Unit	Condition
I _v	P1	1200	1300	mcd	IF=20mA
	P2	1300	1400		
	P3	1400	1500		
	Q1	1500	1600		
	Q2	1600	1700		
	Q3	1700	1800		
	R1	1800	1900		
	R2	1900	2000		
	R3	2000	2100		
	S1	2100	2200		
	S2	2200	2300		
V _F	V1	3.0	3.1	V	IF=20mA
	V2	3.1	3.2		
	V3	3.2	3.3		
	V4	3.3	3.4		

Chromaticity Coordinates Specifications for Bin Grading (+/-0.02)
IF=20mA

Bin	CIE _x	CIE _y	Bin	CIE _x	CIE _y	Bin	CIE _x	CIE _y	Bin	CIE _x	CIE _y
B1	0.2652	0.2429	B2	0.2569	0.2528	B3	0.2720	0.2575	B4	0.2640	0.2670
	0.2584	0.2283		0.2498	0.2385		0.2652	0.2429		0.2569	0.2528
	0.2666	0.2185		0.2584	0.2283		0.2733	0.2333		0.2652	0.2429
	0.2733	0.2333		0.2652	0.2429		0.2800	0.2480		0.2720	0.2575
B5	0.2800	0.2480	B6	0.2720	0.2575	S1	0.2879	0.2619	S2	0.2818	0.2715
	0.2720	0.2575		0.2640	0.2670		0.2818	0.2715		0.2755	0.2810
	0.2818	0.2715		0.2755	0.2810		0.2915	0.2855		0.2870	0.2950
	0.2879	0.2619		0.2818	0.2715		0.2960	0.2760		0.2915	0.2855
S3	0.2960	0.2760	S4	0.2915	0.2855	S5	0.3035	0.2850	S6	0.3003	0.2950
	0.2915	0.2855		0.2870	0.2950		0.3003	0.2950		0.2970	0.3050
	0.3003	0.2950		0.2970	0.3050		0.3090	0.3045		0.3070	0.3150
	0.3035	0.2850		0.3003	0.2950		0.3110	0.2940		0.3090	0.3045

CIE Chromaticity Diagram


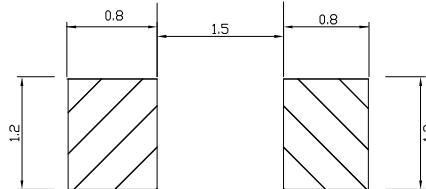
SMT Reflow Soldering Instructions



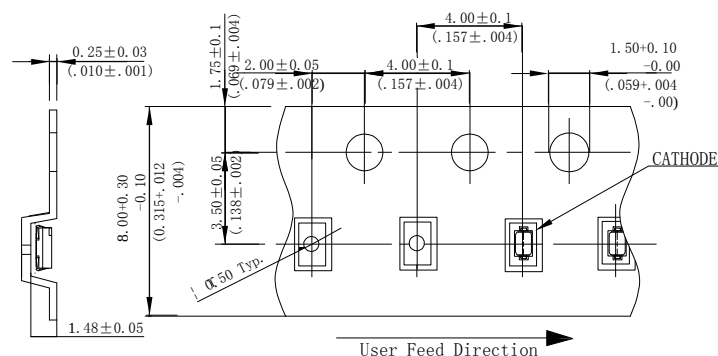
Notes:

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.

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 a 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	Operation Life	Connect with a power if=20mA Ta=Under room temperature	1000Hrs	0/20
	Hige Temperature High Humidity	Ta=+65°C±5°C RH=90%-95%	240Hrs	0/20
	Hige 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
Environmental Test	Temperature Cycling	-45°C ~ +105°C 15min 5min 15min	300 Cycles	0/20
	Thermal Shock	-35°C ~ +5°C ~ +85°C ~ +5°C 5min 10sec 5min	300 Cycles	0/20
	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 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	I _v (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.