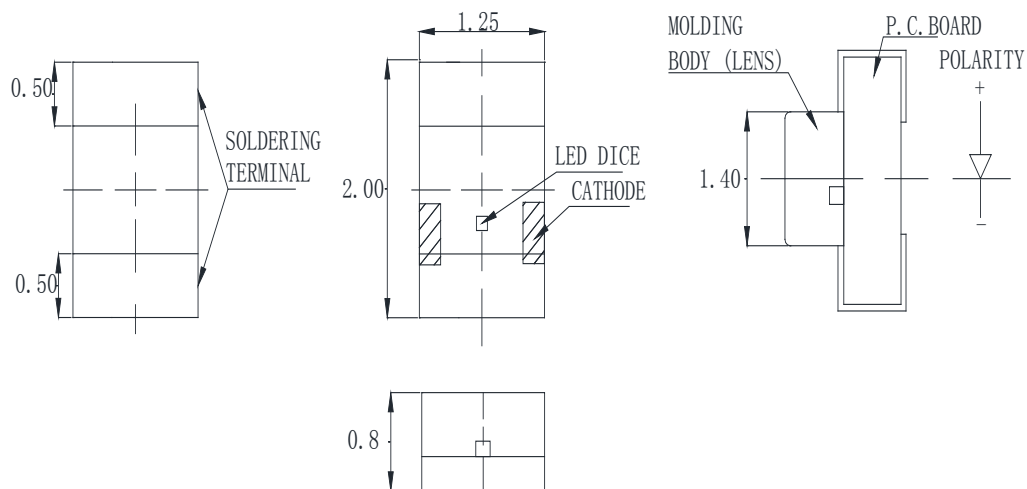


Features

- 2.0mm*1.25mm SMT LED, Super thin (0.80H 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 Products
- 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
4. This drawing is only for reference, not as a basis for the actual structure.



Selection Guide

Part No	Lens Type	Dice	Emitted Color
FSL-20125080W-FATNQ1V2THH	Yellow	InGaN	White

Electrical / Optical Characteristics At Ta=25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Iv	Luminous Intensity	180	360	900	mcd	IF=20mA
2θ1/2	Viewing Angle		130		deg	
x	Chromaticity Coordinates		0.31			IF=20mA
y			0.31			
VF	Forward Voltage	2.8	3.3		V	IF=20mA
IR	Reverse Current			50	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 form 1931 CIE chromaticity diagram.
3. The chromaticity coordinates(x,y) guarantee should be added±0.02 tolerance.

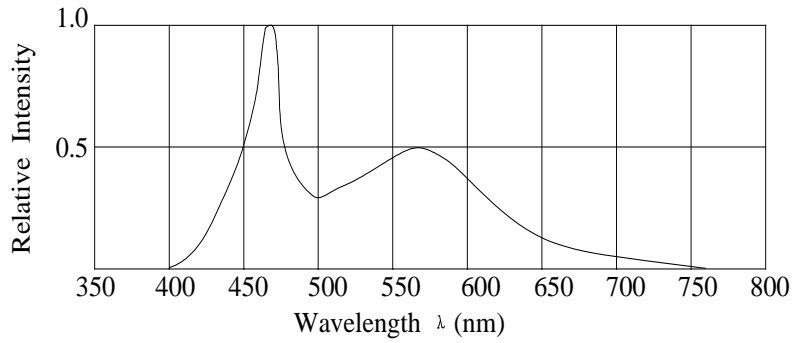
Absolute Maximum Ratings At Ta=25°C

Parameter	White	Unit
Power Dissipation	70	mW
Peak Forward Current	100	mA
Continuous Forward Current	20	mA
Dreading Linear From25°C	0.25	mA/°C
Reverse Voltage	5	V
Electrostatic Discharge Threshold(HBM)	500	V
Operating Temperature Range	-20°C to + 80°C	
Storage Temperature Range	-55°C to + 85°C	
Soldering Condition	260°C For 5 Seconds	

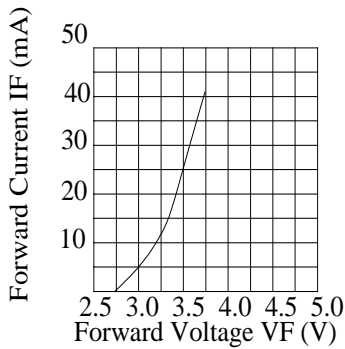
Note:

1. 1/10DutyCycle,0.1msPulseWidth

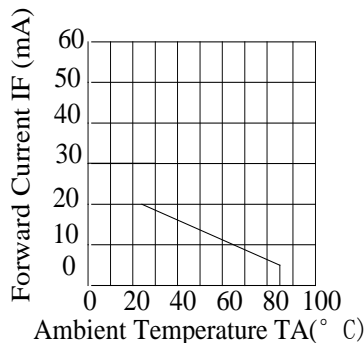
Electrical Optical Characteristics Curves At Ta=25 °C



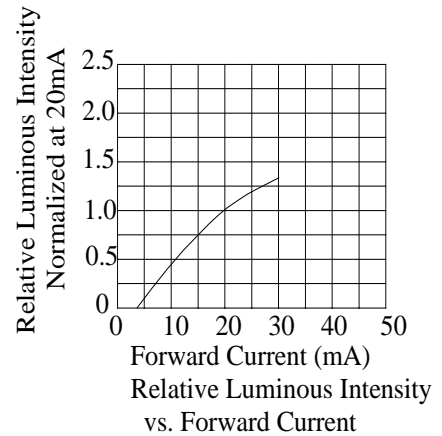
Relative Intensity VS. Wavelength



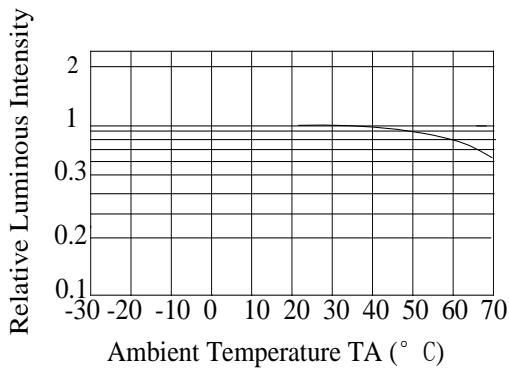
Forward Current vs. Forward Voltage



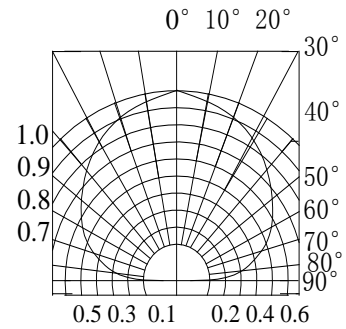
Forward Current Derating Curve



Relative Luminous Intensity vs. Forward Current



Luminous Intensity vs. Ambient Temperature



Spatial Distribution

Bin Range Of Luminous Intensity (+/-20%)

Symbol	Bin Code	Min.	Max.	Unit	Condition
Iv	Q	80	112	mcd	IF=20mA
	R	112	180		
	S	180	280		
	T	280	450		
	U	450	720		
	V	720	900		

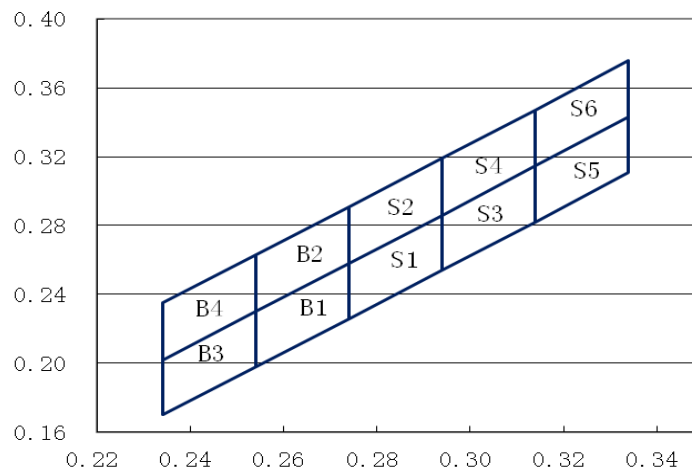
Bin Range Of Forward Voltage (+/-0.15)

Symbol	Bin Code	Min.	Max.	Unit	Condition
VF	V28	2.80	3.00	V	IF=20mA
	V30	3.00	3.20		
	V32	3.20	3.40		
	V34	3.40	3.60		
	V36	3.60	3.80		
	V38	3.80	4.00		

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

BIN	X	Y	X	Y	X	Y	X	Y
B1	0.254	0.198	0.254	0.23	0.274	0.258	0.254	0.198
B2	0.254	0.23	0.254	0.263	0.274	0.291	0.274	0.258
B3	0.234	0.17	0.234	0.202	0.254	0.23	0.254	0.198
B4	0.234	0.202	0.234	0.235	0.254	0.263	0.254	0.23
S1	0.274	0.226	0.274	0.258	0.294	0.286	0.294	0.254
S2	0.274	0.258	0.274	0.291	0.294	0.319	0.294	0.286
S3	0.294	0.254	0.294	0.286	0.314	0.315	0.314	0.282
S4	0.294	0.286	0.294	0.319	0.314	0.347	0.314	0.315
S5	0.314	0.282	0.314	0.315	0.334	0.343	0.334	0.311
S6	0.314	0.315	0.314	0.347	0.334	0.376	0.334	0.343

CIE Chromaticity Diagram (+/-0.02)



Reliability Test Items Conditions

Classification	Test Item	Test Conditions	Test hours	Result
Endurance Test	Operation Life	Connect with a power $I_F=20\text{mA}$ $T_a=\text{Under room temperature}$	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	$V_F(\text{V})$	$I_F=20\text{mA}$	Over $U\times 1.2$
Reverse current	$I_R(\mu\text{A})$	$V_R=5\text{V}$	Over $U\times 2$
Luminous intensity	$I_v(\text{mcd})$	$I_F=20\text{mA}$	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.