

PRELIMINARY SPEC

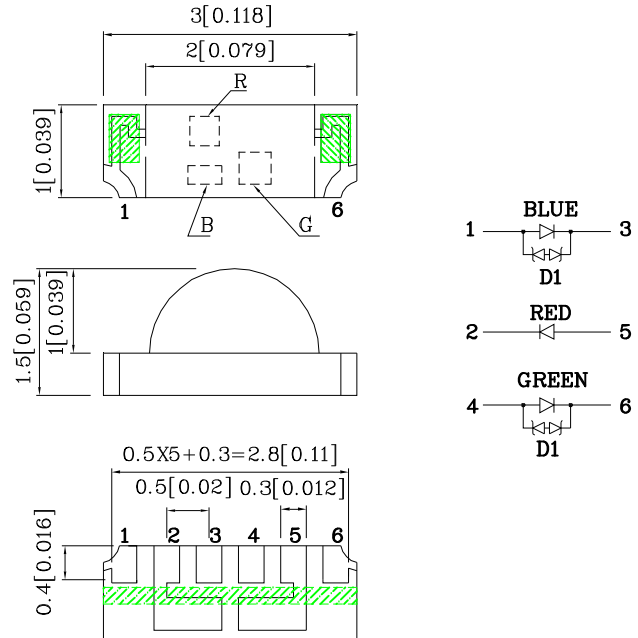
Features

- 3.0 X 1.0 X 1.5mm right angle SMD LED
- Ideal for indication on hand held products
- Low current operation
- Standard Package: 2,000pcs/ Reel
- MSL (Moisture Sensitivity Level): 3
- RoHS compliant



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Package Schematics

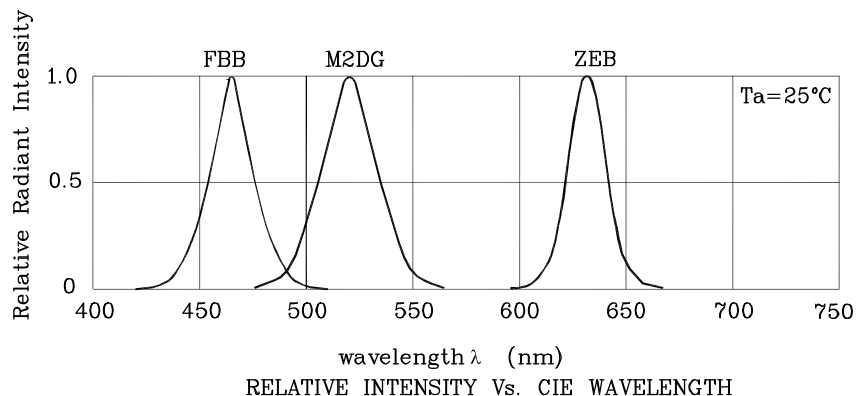


Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.2(0.008)$ unless otherwise noted.
3. Specifications are subject to change without notice.

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* (I _F =20mA) mcd		Iv (mcd) [2] @B:R:G=15mA: 13mA:16mA	Dice Chroma- ticity Coordinates		Wavelength CIE127-2007* nm λP	Viewing Angle 2θ 1/2
				min.	typ.		X(Typ.)	Y(Typ.)		
XZFBBZEEM2DGZ157W	Blue	InGaP	Water Clear	120*	208*	1540*	0.3	0.3	465*	140°
	Red	AlGaInP		500*	755*				631*	
	Green	InGaP		700*	1175*				520*	

*Luminous intensity value and wavelength are in accordance with CIE127-2007 standards.



Electrical / Optical Characteristics at T_A=25°C

Parameter	Condition	Symbol	Value			Unit
			FBB	ZEB	M2DG	
Wavelength at Peak emission CIE127-2007*	I _F =20mA	λ _{peak}	465*	631*	520*	nm
Dominant Wavelength CIE127-2007*	I _F =20mA	λ _{dom}	470*	624*	525*	nm
Spectral bandwidth at 50%Φ _{REL MAX}	I _F =20mA	Δλ	22	20	35	nm
Forward Voltage	I _F =20mA	V _F [typ.] V _F [max.]	3.3 4	2.1 2.5	3.2 4	V
Reverse Current	V _R =5V	I _R [max.]	10	10	10	uA

Note:

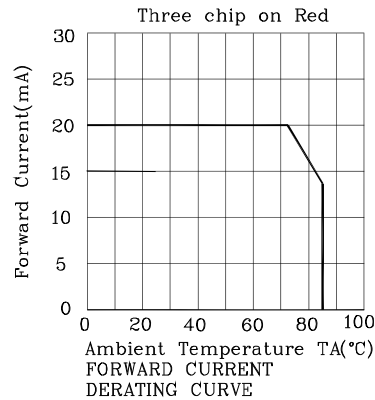
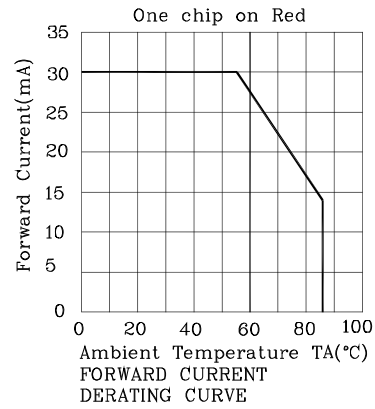
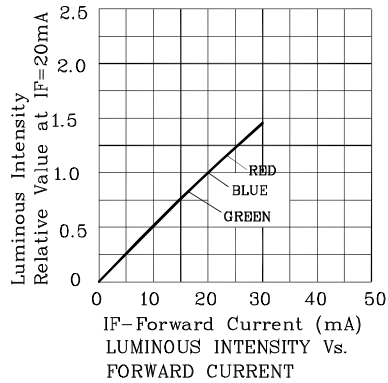
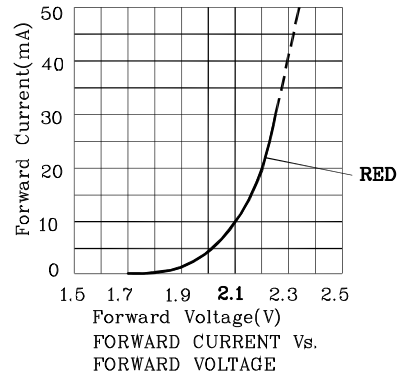
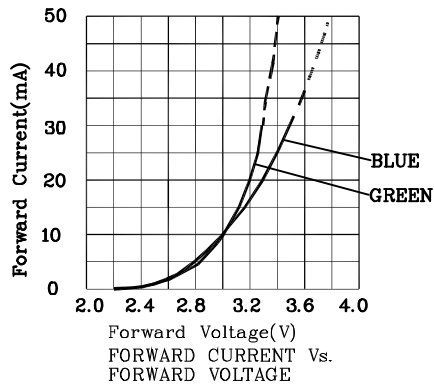
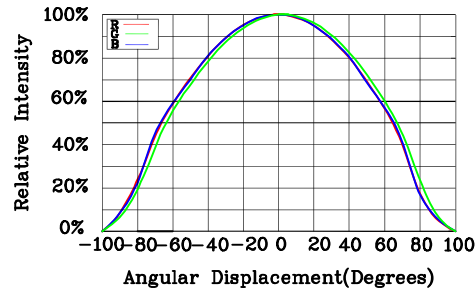
* Wavelength value is in accordance with CIE127-2007 standards.

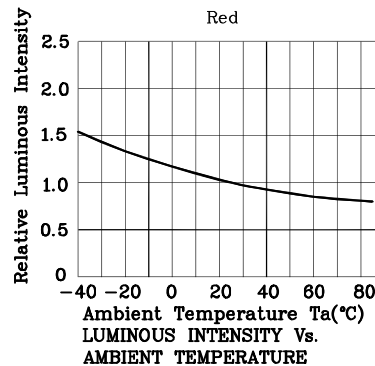
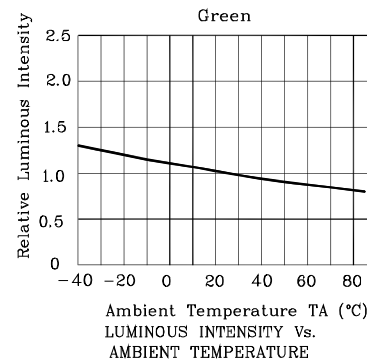
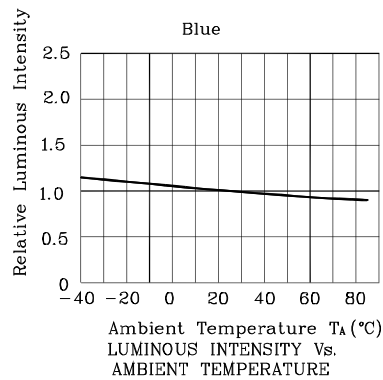
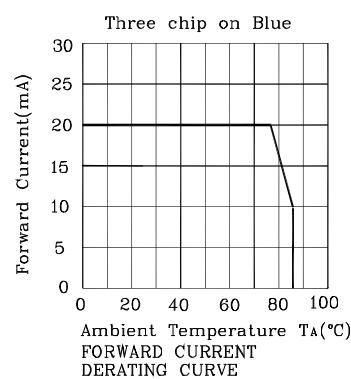
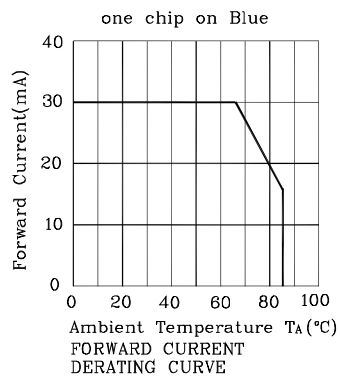
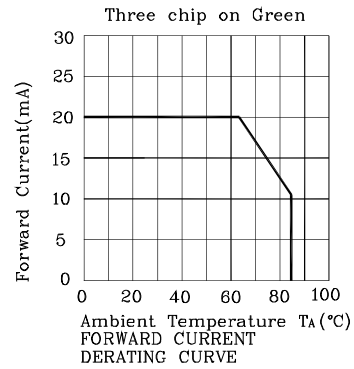
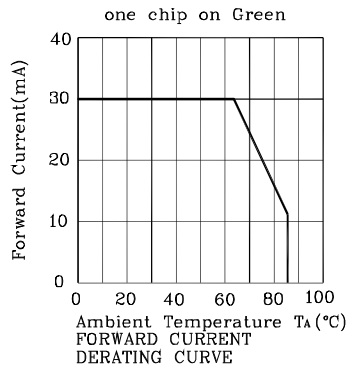
Absolute Maximum Ratings at T_A=25°C

Parameter	Symbol	Value			Unit
		FBB	ZEB	M2DG	
Operating Temperature	Top	-40 To +85			°C
Storage Temperature	T _{stg}	-40 To +100			°C
Junction Temperature	T _J	100	100	100	°C
Power dissipation	P _D	120	175	120	mW
Total Power dissipation [3]	P total	240			mW
DC Forward Current [1]	I _F	30	70	30	mA
Peak Forward Current [2]	I _{FM}	100	200	100	mA
Reverse Voltage	V _R	5	5	5	V
Junction/ambient 1 chip on	R _{thj-a}	290	400	400	°C/W
Junction/ambient 3 chip on	R _{thj-a}	630	590	610	°C/W
Electrostatic Discharge Threshold (HBM)		8000	3000	8000	V

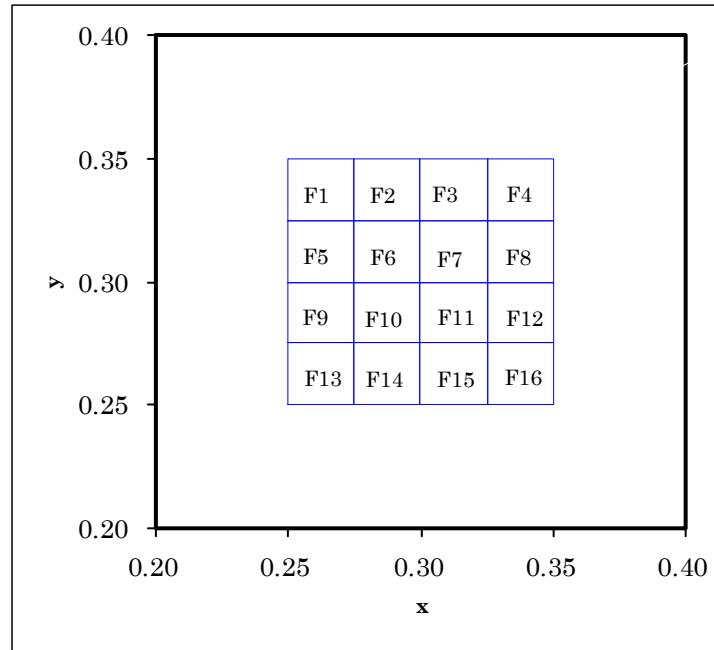
Notes:

1. Single-color light
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. Value for total power dissipation when two and more chips are lit simultaneously.





Full color (White Rank)

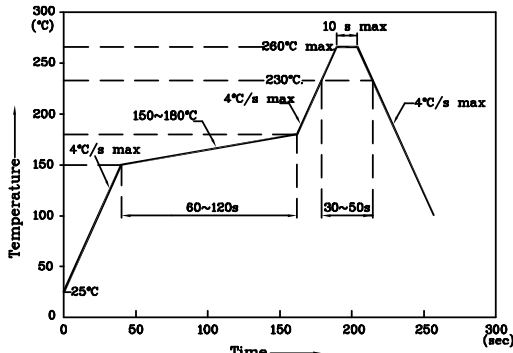


F1		F2		F3		F4	
x	y	x	y	x	y	x	y
0.250	0.325	0.275	0.325	0.300	0.325	0.325	0.325
0.275	0.325	0.300	0.325	0.325	0.325	0.350	0.325
0.275	0.350	0.300	0.350	0.325	0.350	0.350	0.350
0.250	0.350	0.275	0.350	0.300	0.350	0.325	0.350
F5		F6		F7		F8	
x	y	x	y	x	y	x	y
0.250	0.300	0.275	0.300	0.300	0.300	0.325	0.300
0.275	0.300	0.300	0.300	0.325	0.300	0.350	0.300
0.275	0.325	0.300	0.325	0.325	0.325	0.350	0.325
0.250	0.325	0.275	0.325	0.300	0.325	0.325	0.325
F9		F10		F11		F12	
x	y	x	y	x	y	x	y
0.250	0.275	0.275	0.275	0.300	0.275	0.325	0.275
0.275	0.275	0.300	0.275	0.325	0.275	0.350	0.275
0.275	0.300	0.300	0.300	0.325	0.300	0.350	0.300
0.250	0.300	0.275	0.300	0.300	0.300	0.325	0.300
F13		F14		F15		F16	
x	y	x	y	x	y	x	y
0.250	0.250	0.275	0.250	0.300	0.250	0.325	0.250
0.275	0.250	0.300	0.250	0.325	0.250	0.350	0.250
0.275	0.275	0.300	0.275	0.325	0.275	0.350	0.275
0.250	0.275	0.275	0.275	0.300	0.275	0.325	0.275

Notes:
Shipment may contain more than one chromaticity regions.
Orders for single chromaticity region are generally not accepted.
Measurement tolerance of the chromaticity coordinates is ± 0.01 .

❖ LED is recommended for reflow soldering and soldering profile is shown below.

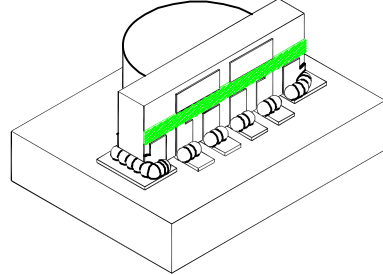
Reflow Soldering Profile for SMD Products (Pb-Free Components)



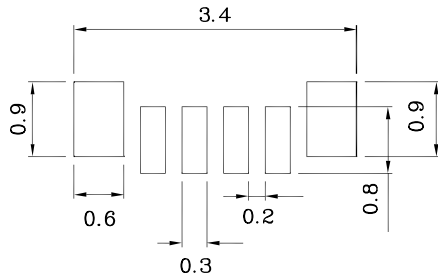
Notes:

1. Maximum soldering temperature should not exceed 260°C
2. Recommended reflow temperature: 145°C-260°C
3. Do not put stress to the epoxy resin during high temperatures conditions

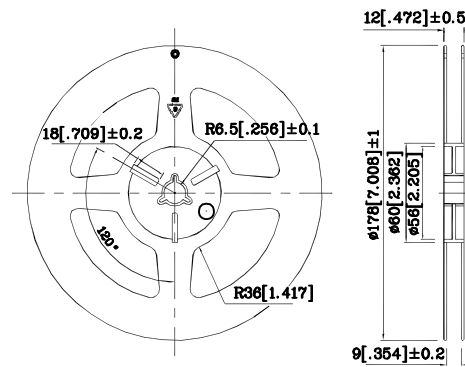
❖ The device has a single mounting surface. The device must be mounted according to the specifications.



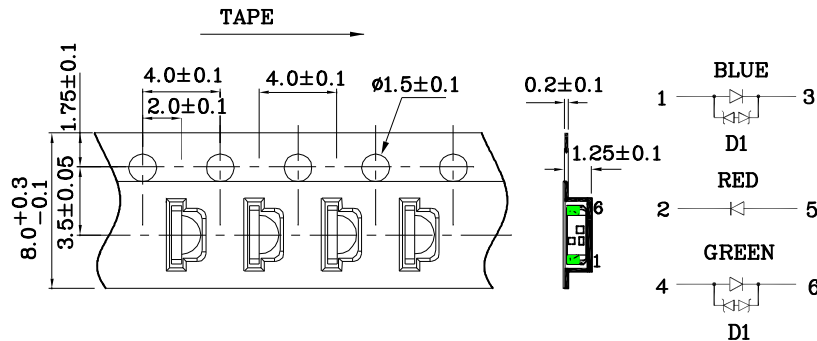
❖ Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



❖ Reel Dimension



❖ Tape Specification (Units : mm)



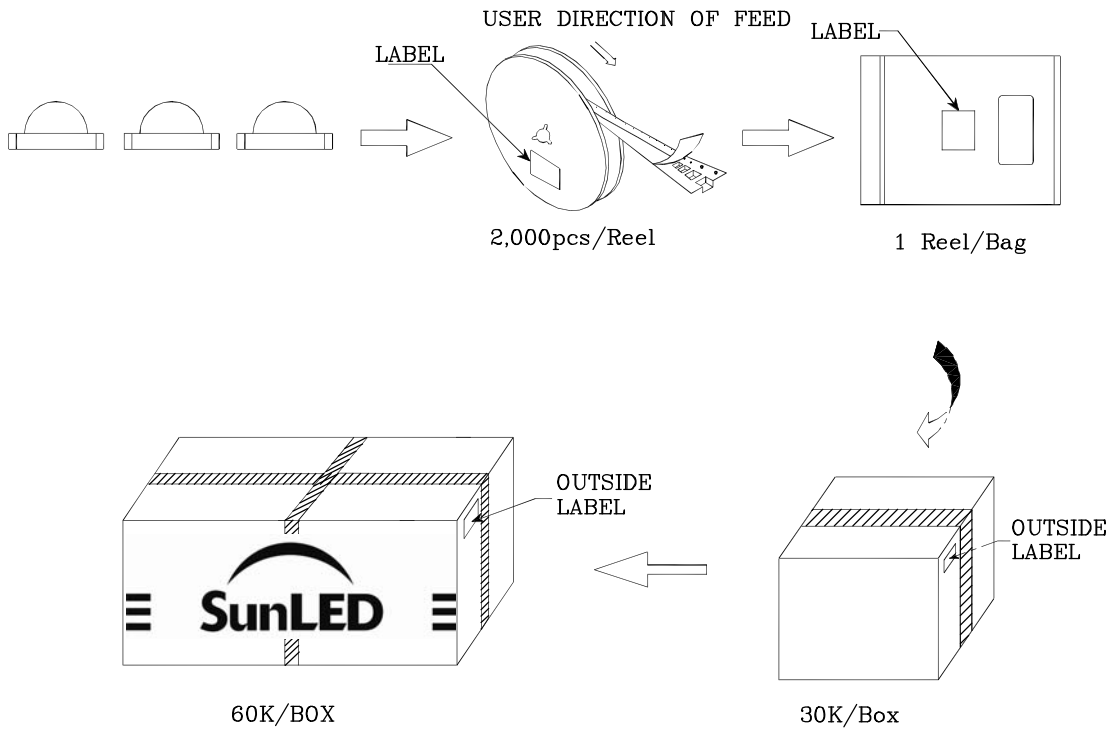
Remarks:

If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm
2. Luminous intensity / luminous flux: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS



		Q.C. Q C XX XX XXXX PASSED
P/NO : XZxxx157x		
QTY : 2,000 pcs	CODE: XXX	
S/N : XX		
LOT NO :		
 XXXXXXXXXXXXXXXXXXXXX		
RoHS Compliant		

TERMS OF USE

1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
2. Contents within this document are subject to improvement and enhancement changes without notice.
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