

Power Top View LEDs

67-11U-NP56B64DBACB2638Z2-2T0T-AM



Features

Lead (Pb) Free Product - RoHS Compliant

- P-LCC-2 package.
- Colored diffused resin.
- Wide viewing angle 120°.
- Inner reflector and white package.
- Qualification according to AEC-Q101 rev C.
- Precondition: Bases on JEDEC J-STD 020D Level 3.
- Automotive reflow profile (IR reflow or wave soldering)

Applications

- Automotive Lighting Interior and Exterior.
- Signal and Symbol Luminary.
- Commercial and Industrial Illumination.
- Backlight: LCD, Switches, Push buttons.

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	White	Yellowish

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Forward Current	I_F	60	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Power Dissipation	P_d	228	mW
Junction Temperature	T_j	115	°C
Operating Temperature	T_{opr}	-40 ~ +100	°C
Storage Temperature	T_{stg}	-40 ~ +110	°C
Thermal Resistance	$R_{th\ J-A}$	250	K/W
	$R_{th\ J-S}$	150	K/W
ESD (Classification acc. AEC Q101)	ESD_{HBM}	2000	V
	ESD_{MM}	200	V
Soldering Temperature	T_{sol}	Reflow Soldering : 260 °C for 30 sec. Hand Soldering : 350 °C for 3 sec.	

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	1800	---	4500	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	
Forward Voltage	V _F	2.6	---	3.8	V	

Note:

1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Chromaticity Coordinates is ±0.01
3. Tolerance of Forward Voltage: ±0.1V

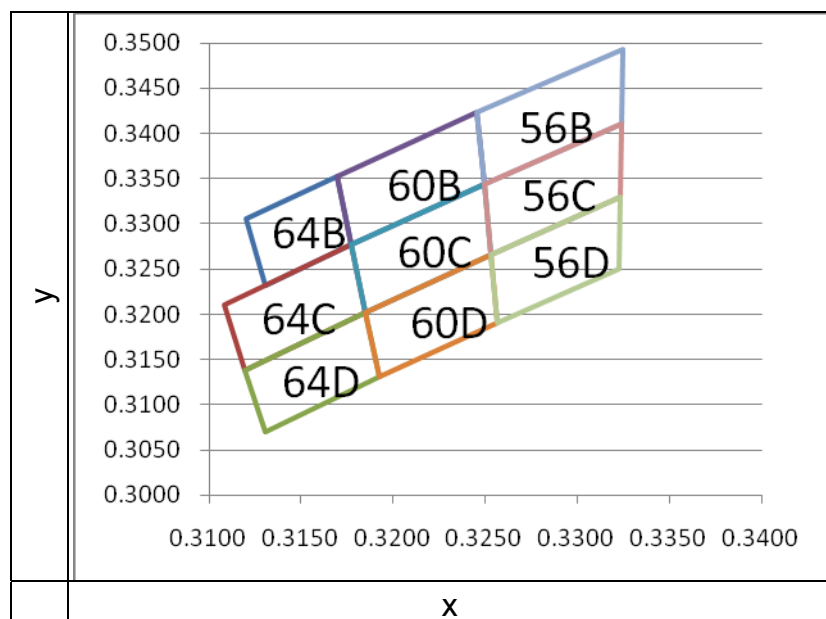
Bin Range of Luminous Intensity

Bin Code	Min.(mcd)	Max.(mcd)	Flux(lm) typ.	Unit	Condition
BA	1800	2240	7.0	mcd	I _F =20mA
BB	2240	2800	7.5		
CA	2800	3550	9.0		
CB	3550	4500	11.5		

Bin Range of Forward Voltage

Bin Code	Min.	Max.	Unit	Condition
A6-1	2.60	2.80	V	I _F =20mA
A6-2	2.80	3.00		
A6-3	3.00	3.20		
A6-4	3.20	3.40		
A6-5	3.40	3.60		
A6-6	3.60	3.80		

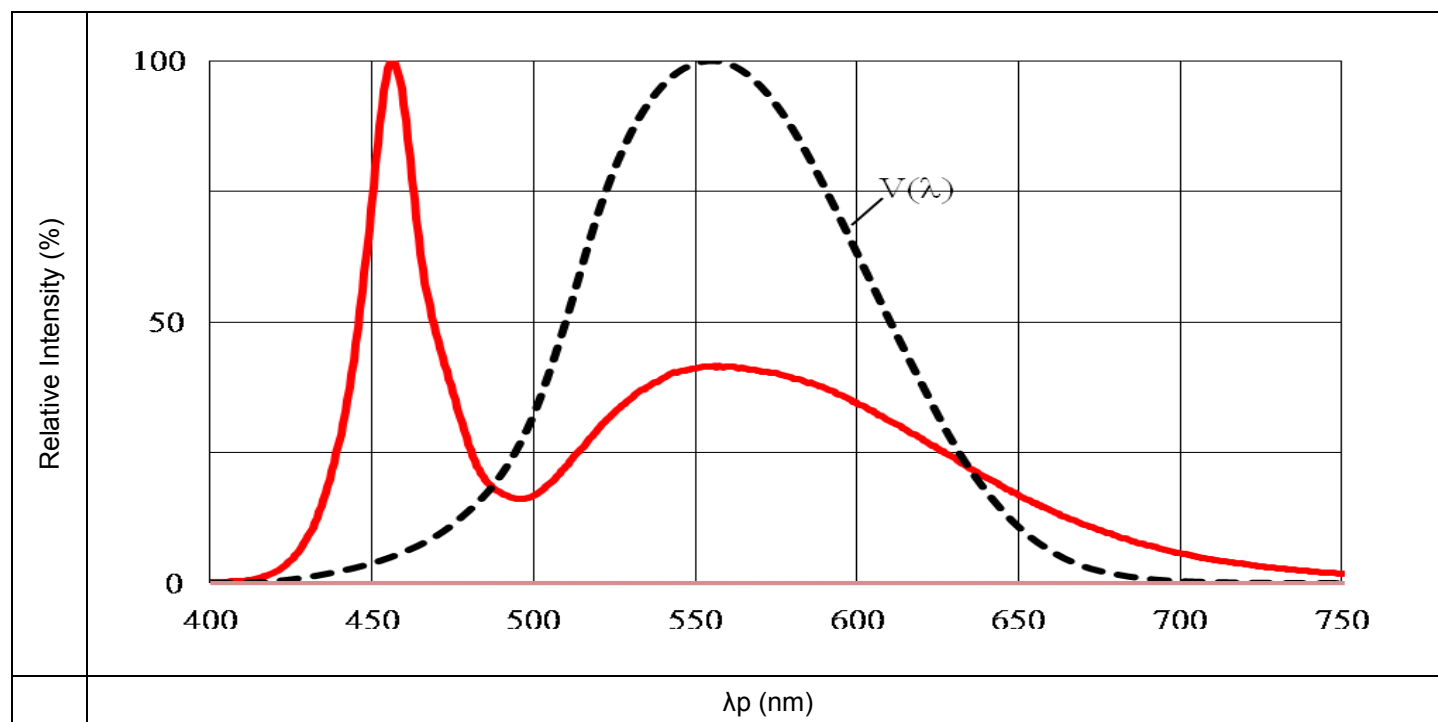
The C.I.E. 1931 Chromaticity Diagram



Bin Range of Chromaticity Coordinates Specifications

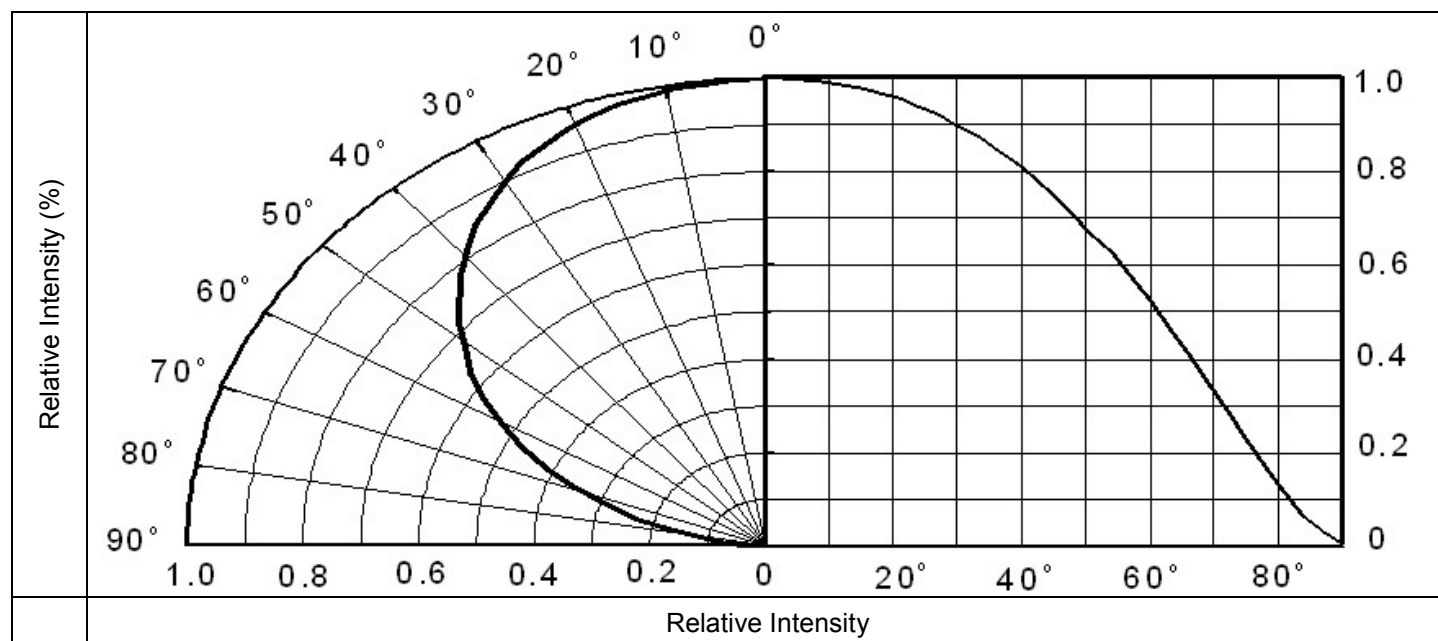
Bin Code	CIE_x	CIE_y	Condition
64B	0.312	0.3306	I _F =20mA
	0.3169	0.3353	
	0.3177	0.3277	
	0.3131	0.3232	
64C	0.3109	0.3211	
	0.3177	0.3277	
	0.3185	0.3203	
	0.312	0.3139	
64D	0.312	0.3139	
	0.3185	0.3203	
	0.3192	0.3131	
	0.3131	0.307	
60B	0.3169	0.3353	
	0.3246	0.3424	
	0.3249	0.3344	
	0.3177	0.3277	
60C	0.3177	0.3277	
	0.3249	0.3344	
	0.3253	0.3266	
	0.3185	0.3203	
60D	0.3185	0.3203	
	0.3253	0.3266	
	0.3256	0.3191	
	0.3192	0.3131	
56B	0.3246	0.3424	
	0.3325	0.3493	
	0.3324	0.341	
	0.3249	0.3344	
56C	0.3249	0.3344	
	0.3324	0.341	
	0.3323	0.3329	
	0.3253	0.3266	
56D	0.3253	0.3266	
	0.3323	0.3329	
	0.3323	0.3251	
	0.3256	0.3191	

Typical Electro-Optical Characteristics Curves(Ta=25°C)
Typical Curve of Spectral Distribution

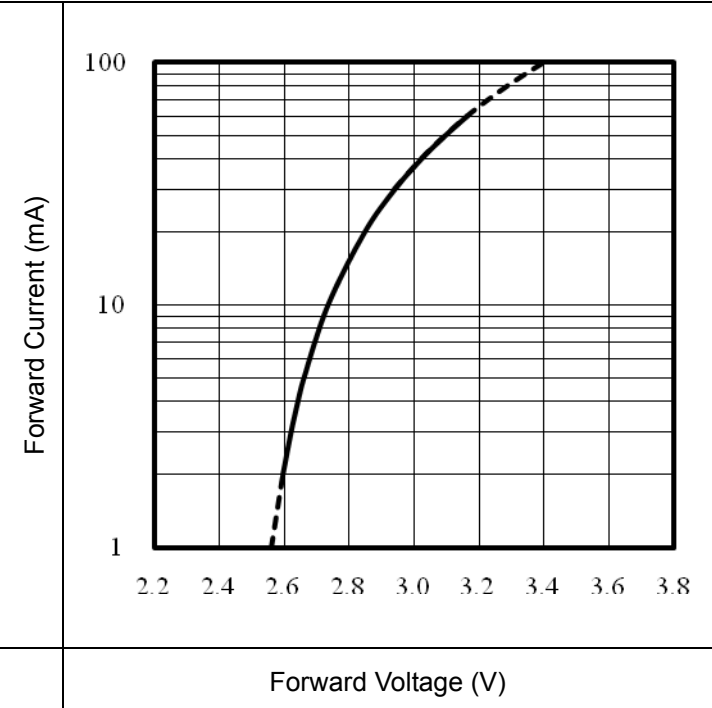


Note: $V(\lambda)$ =Standard eye response curve;

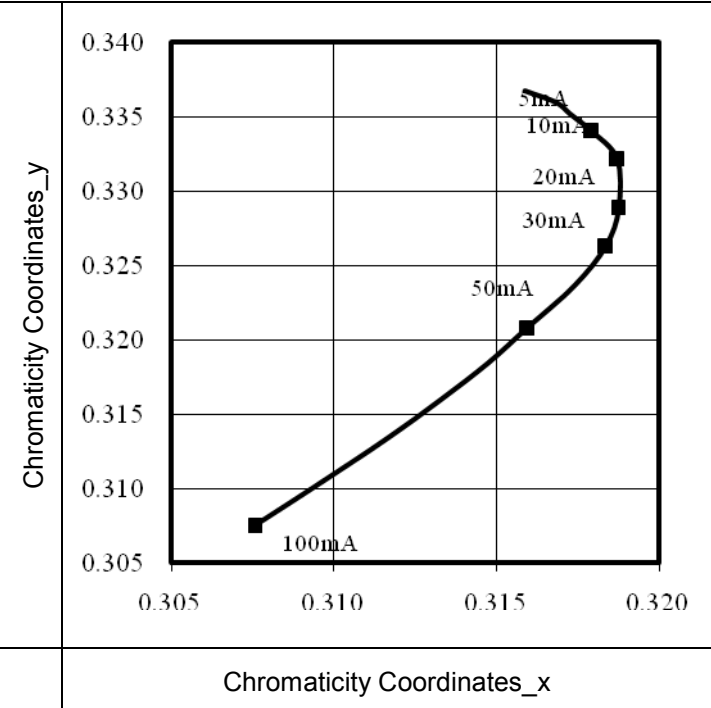
Diagram Characteristics of Radiation



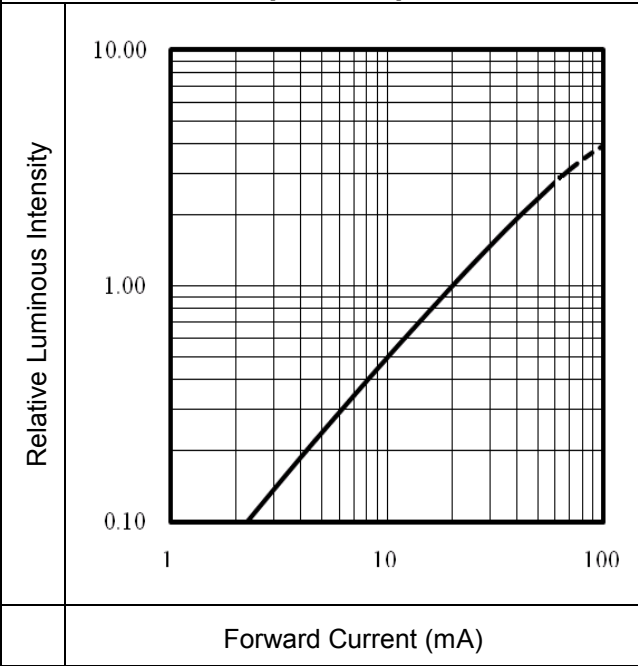
Forward Current vs. Forward Voltage
(Ta=25°C)



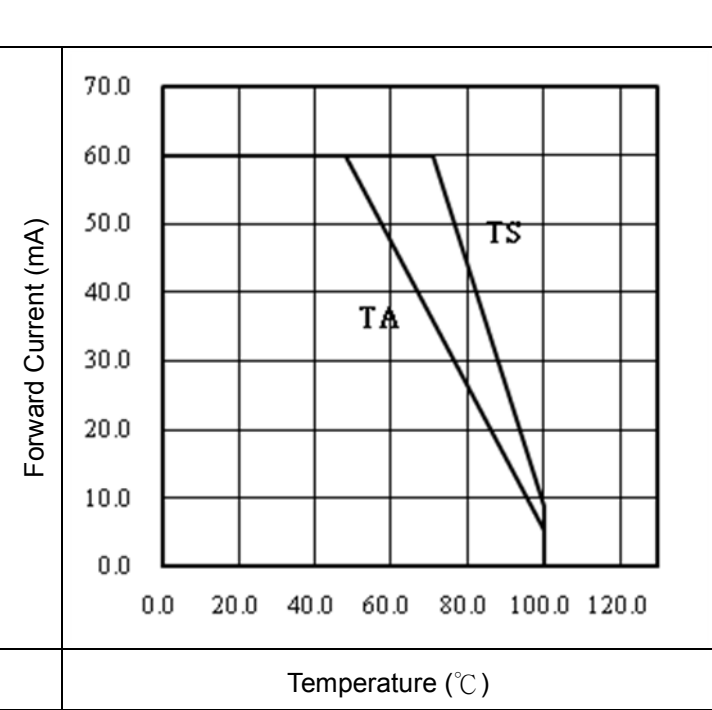
Chromaticity Coordinates vs.
Forward Current (Ta=25°C)



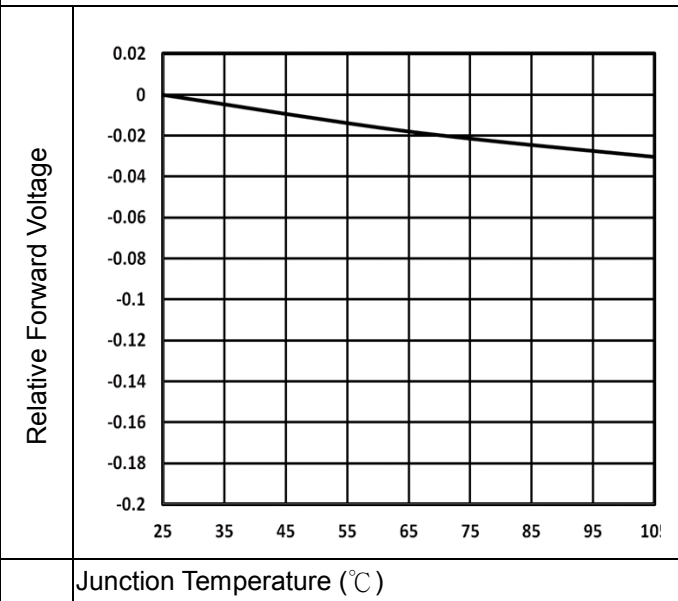
Relative Luminous Intensity vs.
Forward Current (Ta=25°C)



Max. Permissible Forwarded Current

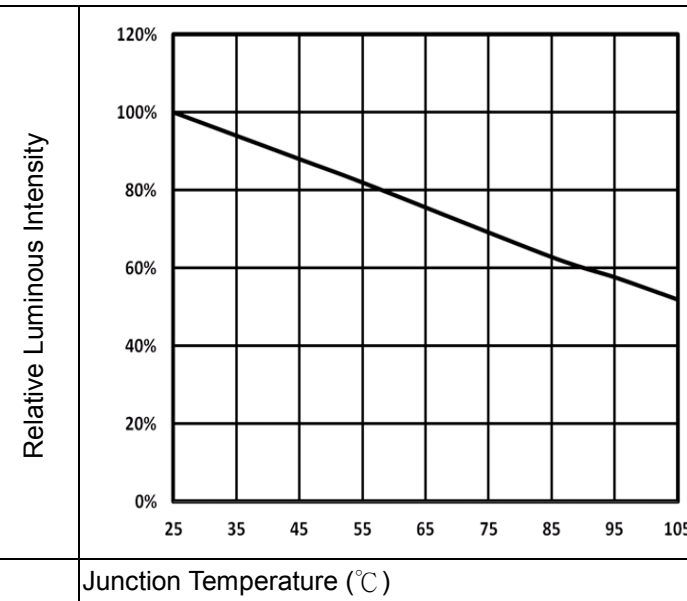


Relative Forward Voltage vs. Junction Temperature



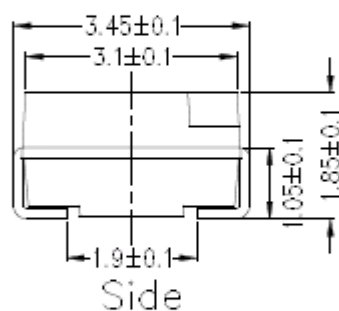
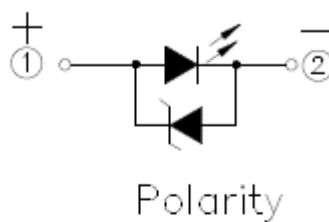
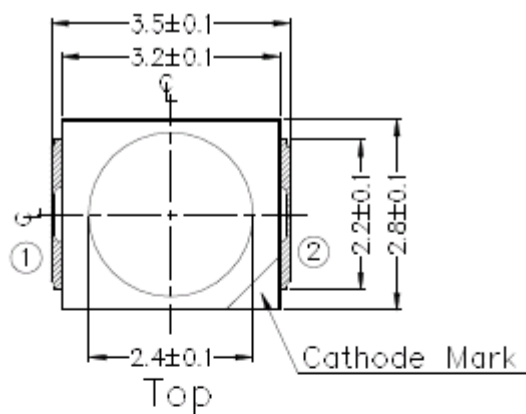
Note: $\Delta V_F = V_F - V_F(25^\circ\text{C}) = f(T_j)$; $I_F = 20\text{mA}$

Relative Luminous Intensity vs. Junction Temperature

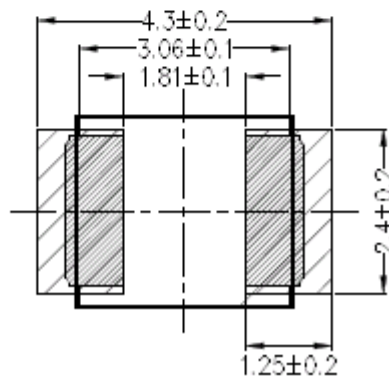
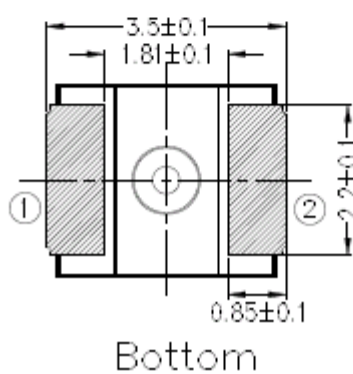


Note: $f(T_j) = I_v / I_v(25^\circ\text{C})$; $I_F = 20\text{mA}$

Package Dimension



Recommended solder pad



Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

Moisture Resistant Packing Materials Label Explanation

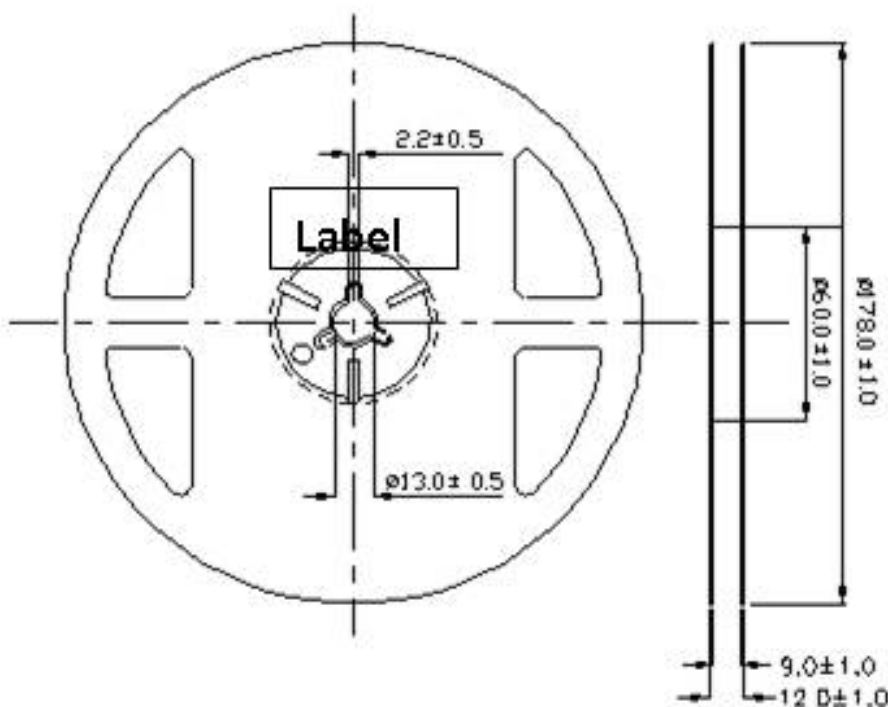
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Chromaticity Coordinates Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

RoHS **Pb** EVERLIGHT 5

CPN: XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX
P/N: XXXXXXXXXXXX
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX
QTY: 0123456789 HUE: XXXXXXXXXXXX
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX
REFERENCE: BTPYYMDDXXXXX
MSL-X MADE IN XXXXXX

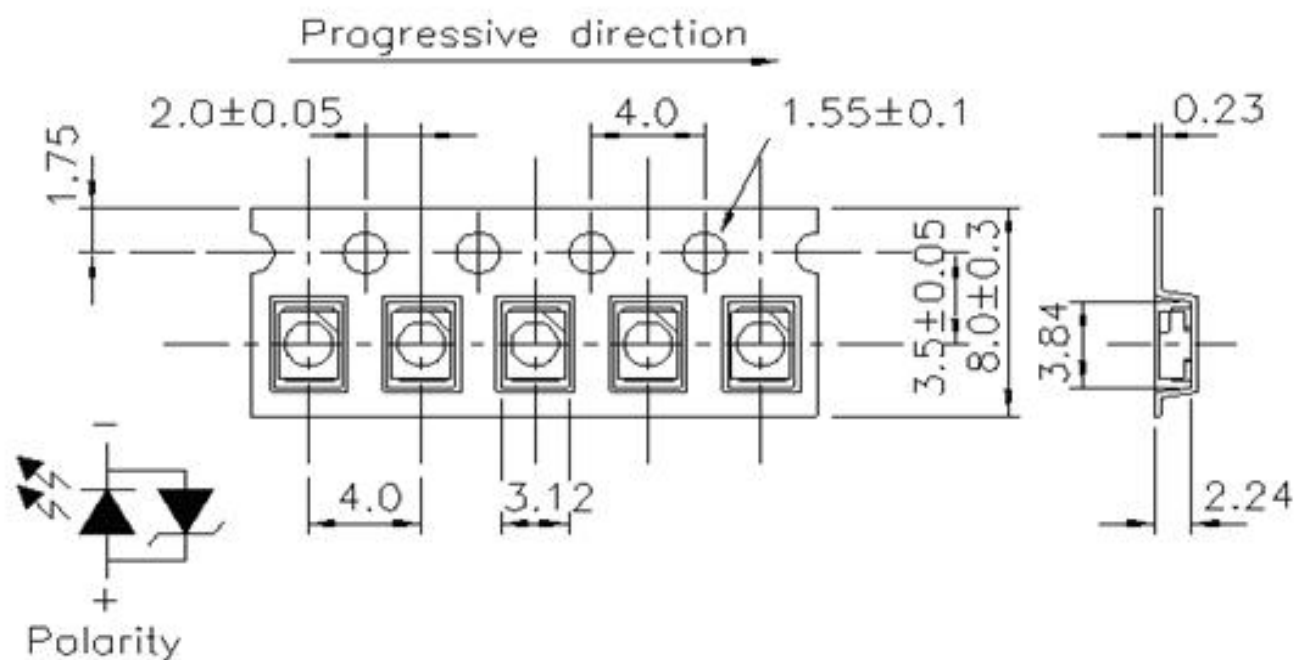


Reel Dimensions



Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

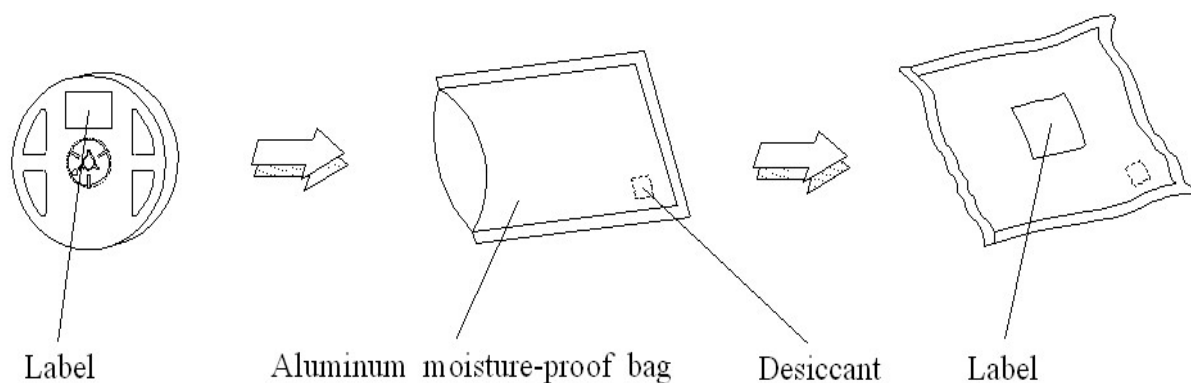
Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note:

1. Tolerances unless mentioned ± 0.1 mm. Unit = mm
2. Minimum packing amount is 2000 pcs per reel

Moisture Resistant Packing Process

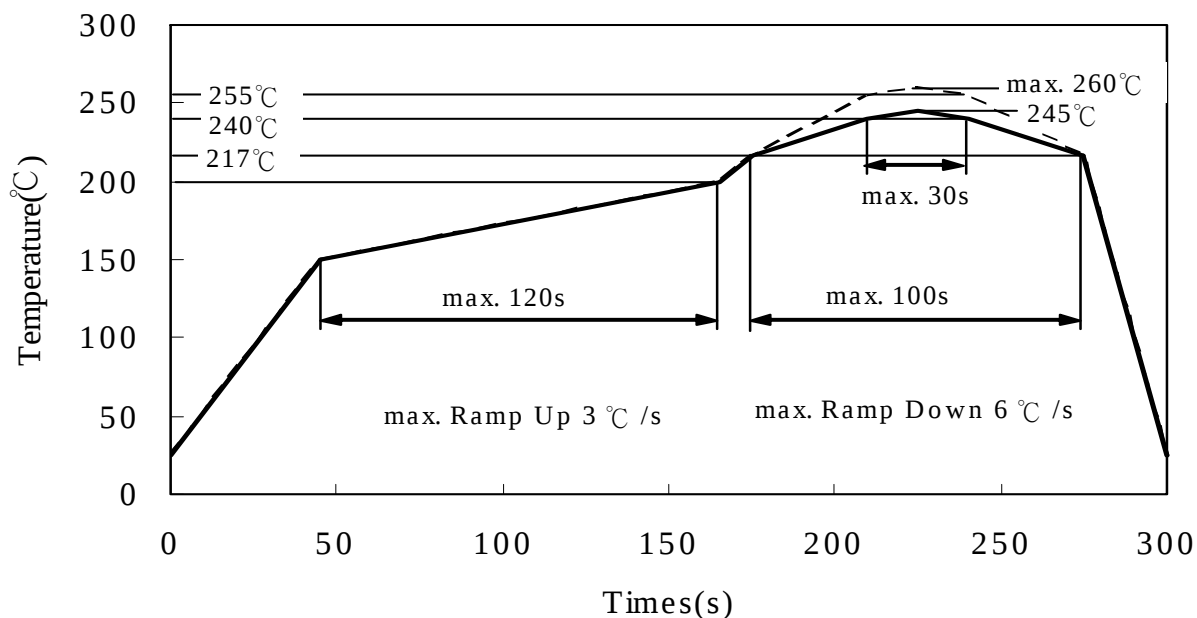


Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

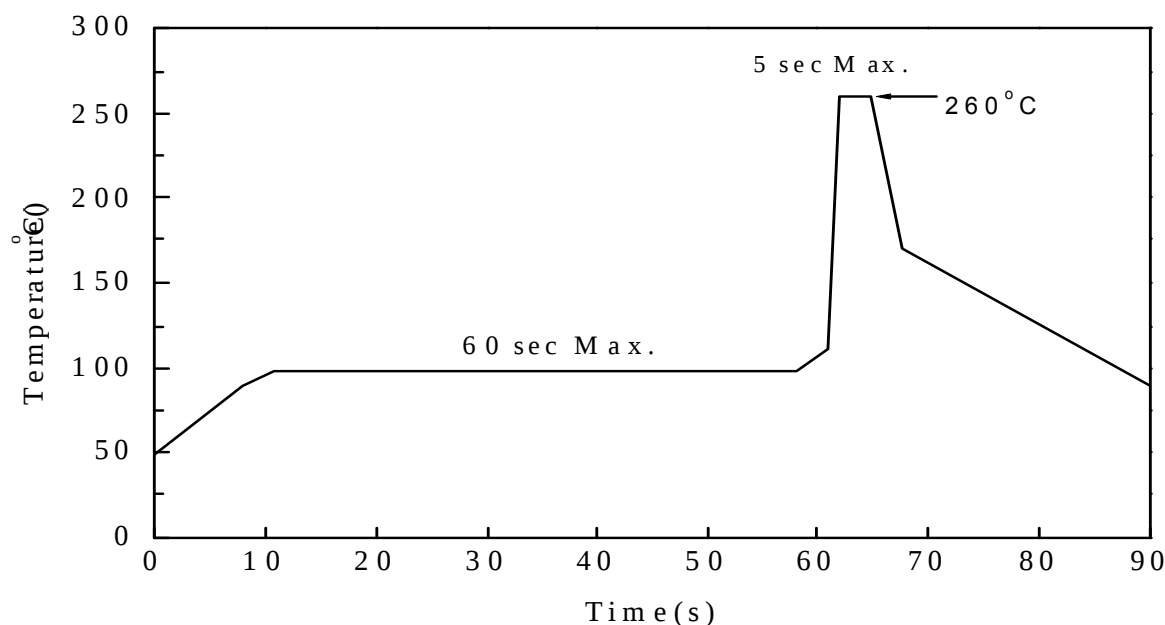
Precautions for Use

1. Soldering Condition (Reference: IPC/JEDEC J-STD-020D)

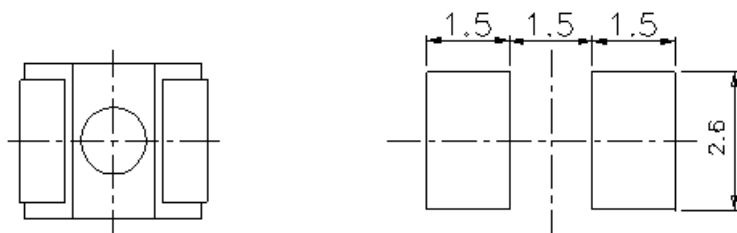
a. IR reflow



b. Wave soldering reflow



(B) Recommend soldering pad



Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

2. Current limiting

A resistor should be used to limit current spikes that can be caused by voltage fluctuations. Otherwise damage could occur.

3. Storage

- 3.1 Moisture proof bag should only be opened immediately prior to usage.
- 3.2 Environment should be less than 30°C and 60% RH when moisture proof bag is opened.
- 3.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.
- 3.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60deg +/-5deg for 24 hours.

4. Iron Soldering

Hand soldering is not recommended for regular production. These guidelines are for rework only. Soldering iron tip should contact each terminal no more than 3 sec at 350°C, using soldering iron with nominal power less than 25W. Allow min. 2 sec. between soldering intervals.

5. Usage

Do not exceed the values given in this specification.

Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact Everlight before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the specification described in this document.

Revision History:

Rev.	Modified date	File modified contents
1	2014/12/23	New Spec
2	2016/01/14	Change the QR Code
3	2016/01/28	To add the Flux(lm) typ.