

Top View LEDs

BLA-3014PZ1UHBC-C3F4E4048D2832(SB)



Features

Lead (Pb) Free Product - RoHS Compliant

- RoHS compliant.
- PLCC-2 package.
- Wide viewing angle 120°.
- Inner reflector and white package.
- Qualification according to AEC-Q102.
- Precondition: Bases on JEDEC J-STD 020D Level 2.
- Automotive reflow profile (Reflow or wave soldering)
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free (Br<900 ppm ,Cl <900 ppm, Br+Cl <1500 ppm).

Applications

- Automotive backlighting or indicator: Dashboard, switch, audio and video equipment...etc.
- Backlight: LCD, switches, symbol, mobile phone and illuminated advertising.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- Optical indicator.
- General applications.
- Automotive interior lighting

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	White	Yellowish

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Forward Current	I _F	180	mA
Peak Forward Current (Duty 1/10 @100Hz)	I _{FP}	270	mA
Power Dissipation	P _d	594	mW
Junction Temperature	T _j	125	℃
Operating Temperature	T _{opr}	-40 ~ +100	℃
Storage Temperature	T _{stg}	-40 ~ +110	℃
Thermal Resistance	R _{th J-S}	19	K/W
Electrostatic Discharge(HBM)	ESD	5000	V
Soldering Temperature	T _{sol}	Reflow Soldering : 260 ℃ for 30 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	40	---	50	lm	I _F = 120mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	
Forward Voltage	V _F	2.80	---	3.30	V	

Note:

1. Tolerance of Luminous Intensity: ±5%
2. Tolerance of Chromaticity Coordinates is ±0.005
3. Tolerance of Forward Voltage: ±0.05V

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
E40	40	42	lm	I _F =120mA
E42	42	44		
E44	44	46		
E46	46	48		
E48	48	50		

Note:
Tolerance of Luminous Intensity: ±5%

Bin Range of Forward Voltage

Bin Code	Min.	Max.	Unit	Condition
D28	2.80	2.90	V	I _F =120mA
D29	2.90	3.00		
D30	3.00	3.10		
D31	3.10	3.20		
D32	3.20	3.30		

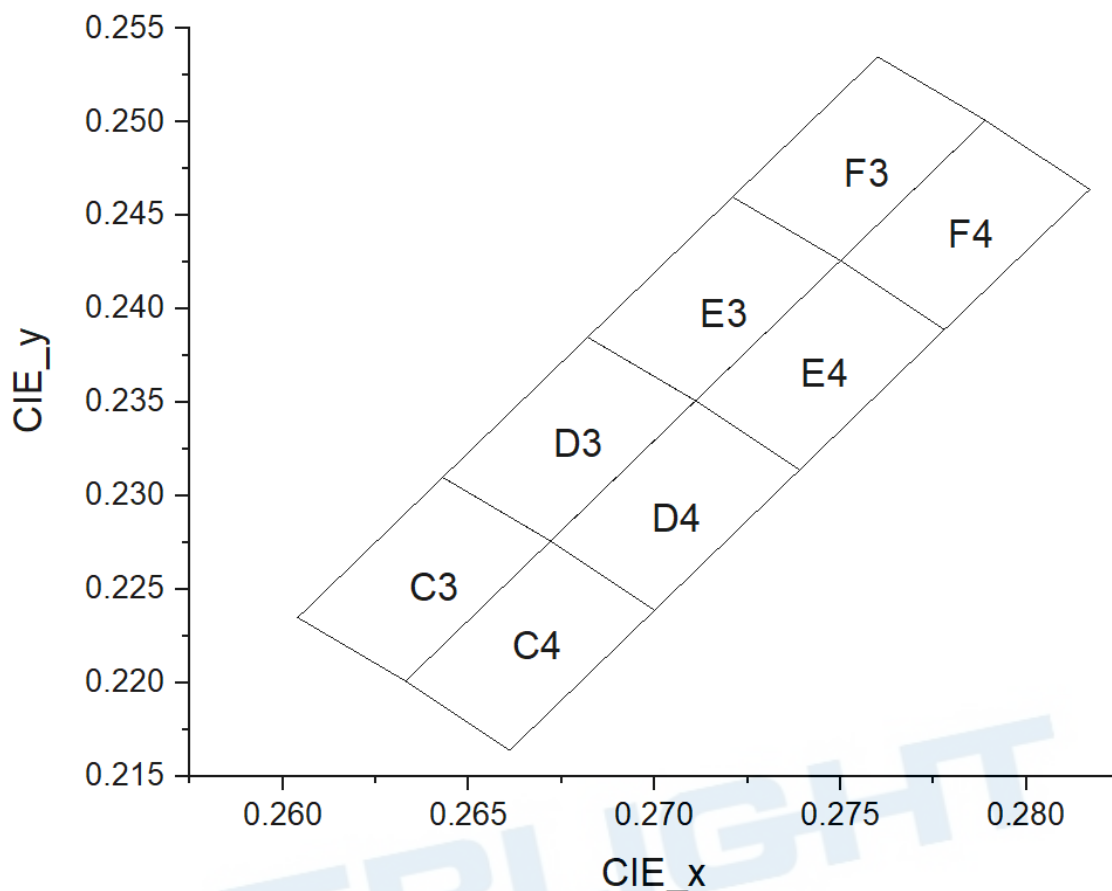
Note:
Tolerance of Forward Voltage: ±0.05V

Bin Range of Wavelength(WD&WP):

Bin Code	Min.	Max.	Unit	Condition
P44	444.00	448.00	nm	I _F =120mA
P48	448.00	452.00		

Note : Tolerance of λ_p: ±2nm
WP:440-455nm

The C.I.E. 1931 Chromaticity Diagram

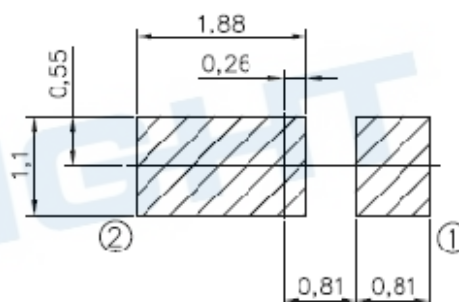
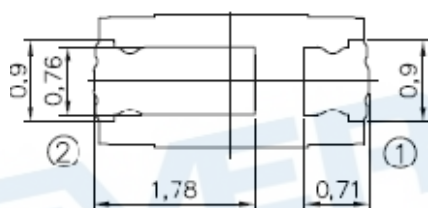
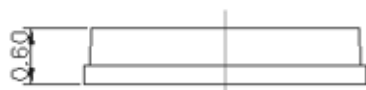
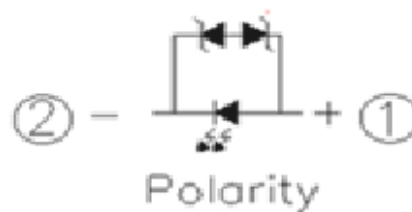
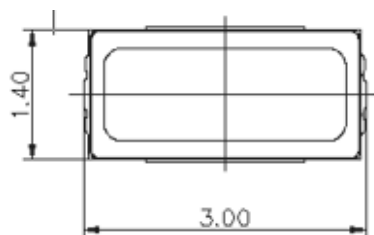


Bin Range of Chromaticity Coordinates Specifications

Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
C3	0.2633	0.2201	C4	0.2661	0.2164
	0.2604	0.2235		0.2633	0.2201
	0.2643	0.2310		0.2672	0.2276
	0.2672	0.2276		0.2700	0.2239
D3	0.2672	0.2276	D4	0.2700	0.2239
	0.2643	0.2310		0.2672	0.2276
	0.2682	0.2385		0.2711	0.2351
	0.2711	0.2351		0.2739	0.2314
E3	0.2711	0.2351	E4	0.2739	0.2314
	0.2682	0.2385		0.2711	0.2351
	0.2721	0.2460		0.2750	0.2426
	0.2750	0.2426		0.2778	0.2389
F4	0.2750	0.2426	F4	0.2778	0.2389
	0.2721	0.2460		0.2750	0.2426
	0.2760	0.2535		0.2789	0.2501
	0.2789	0.2501		0.2817	0.2464

Notes: Tolerance of Chromaticity Coordinates: ± 0.005

Package Dimension

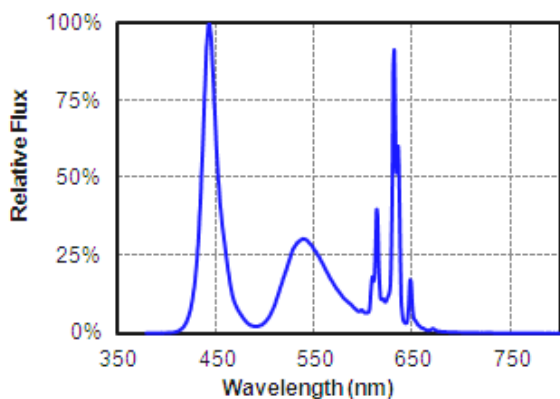


Note: Tolerances unless mentioned $\pm 0.1\text{mm}$. Unit = mm

Typical Electro-Optical-Thermal Characteristics Curves

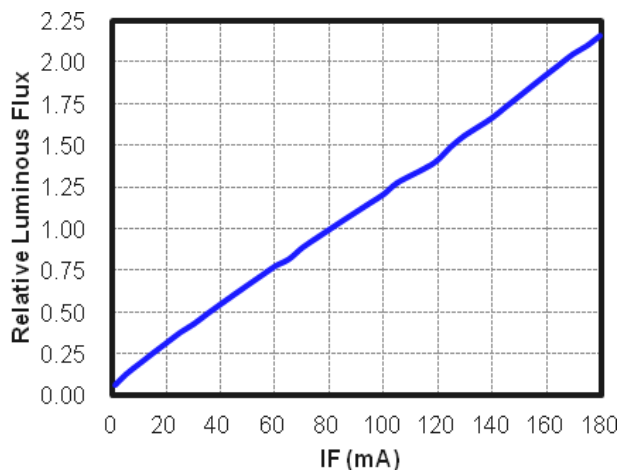
1. Spectrum Distribution

($T_a=25^{\circ}\text{C}$, $I_F=120\text{mA}$)



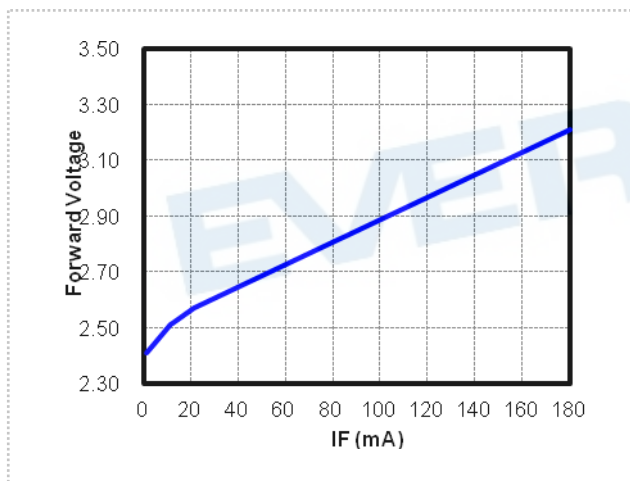
2. Relative Luminous Flux vs. Forward Current

($T_a=25^{\circ}\text{C}$)



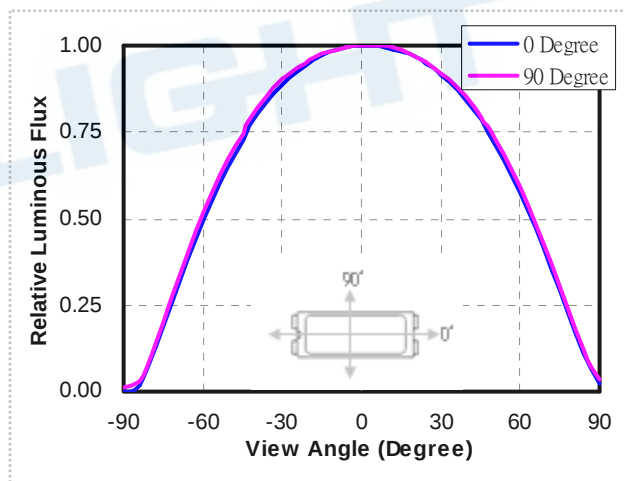
3. Relative Forward Voltage vs. Forward Current

($T_a=25^{\circ}\text{C}$)



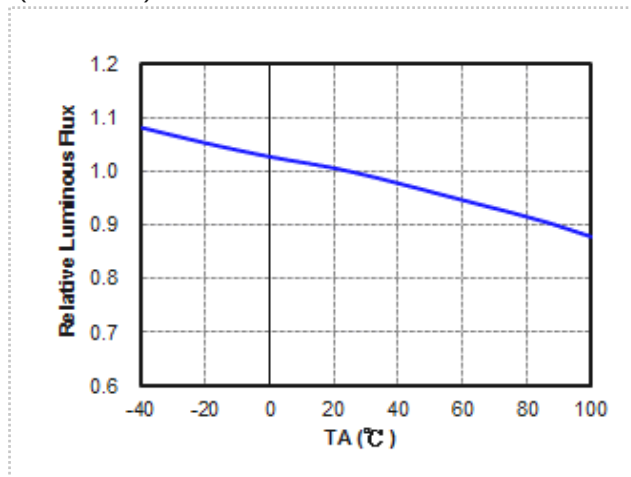
4. Radiation Diagram

($T_a=25^{\circ}\text{C}$, $I_F=120\text{mA}$)

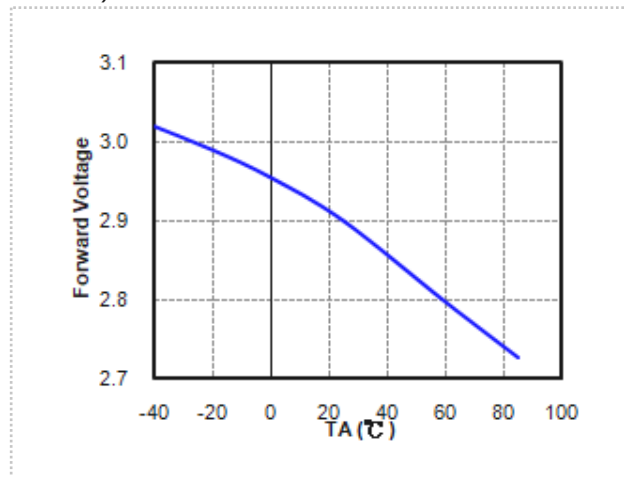


Typical Electro-Optical-Thermal Characteristics Curves

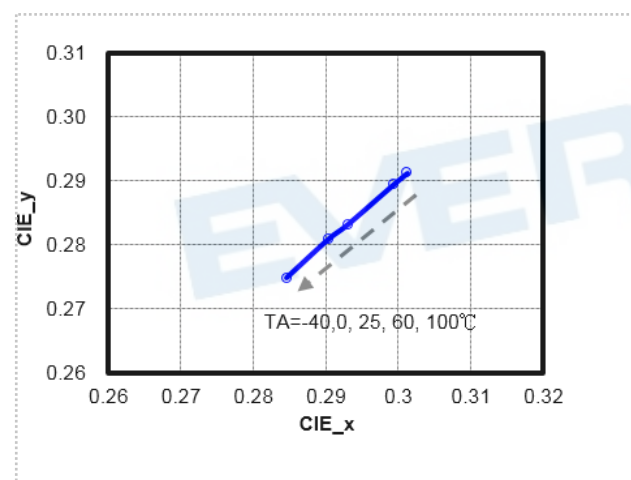
5. Relative Luminous Flux vs. Ambient Temperature
($I_F=120\text{mA}$)



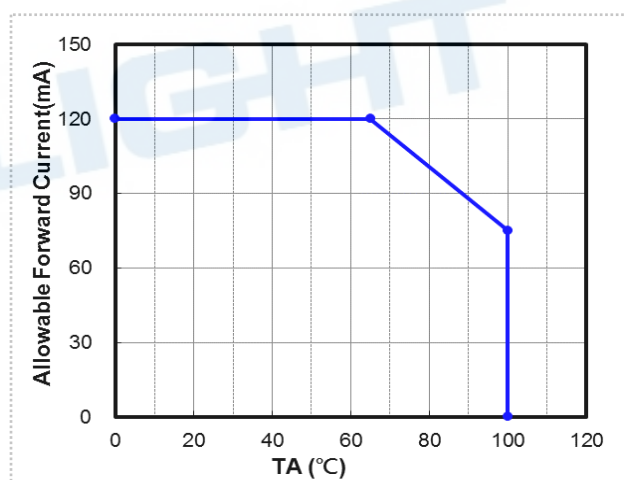
6. Forward Voltage vs. Ambient Temperature
($I_F=120\text{mA}$)



7. Chromaticity Coordinates vs. Ambient Temperature
($I_F=120\text{mA}$)



8. Forward Current De-rating Curve



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

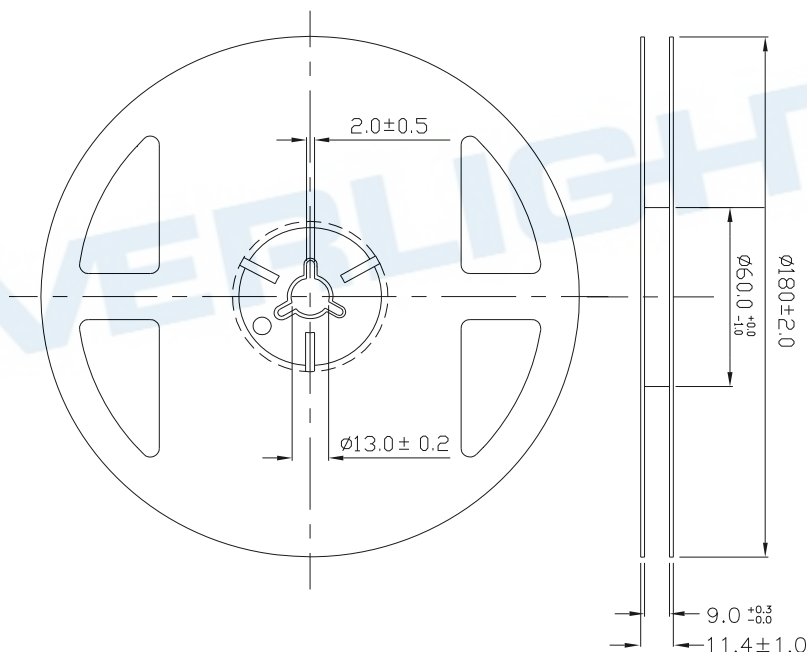
CPN: XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX
P/N: XXXXXXXXXXXX
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX

QTY: 0123456789 HUE: XXXXXXXXXXXX
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX
REFERENCE: BTPYYMDDXXXXX

MSL-X MADE IN XXXXXX

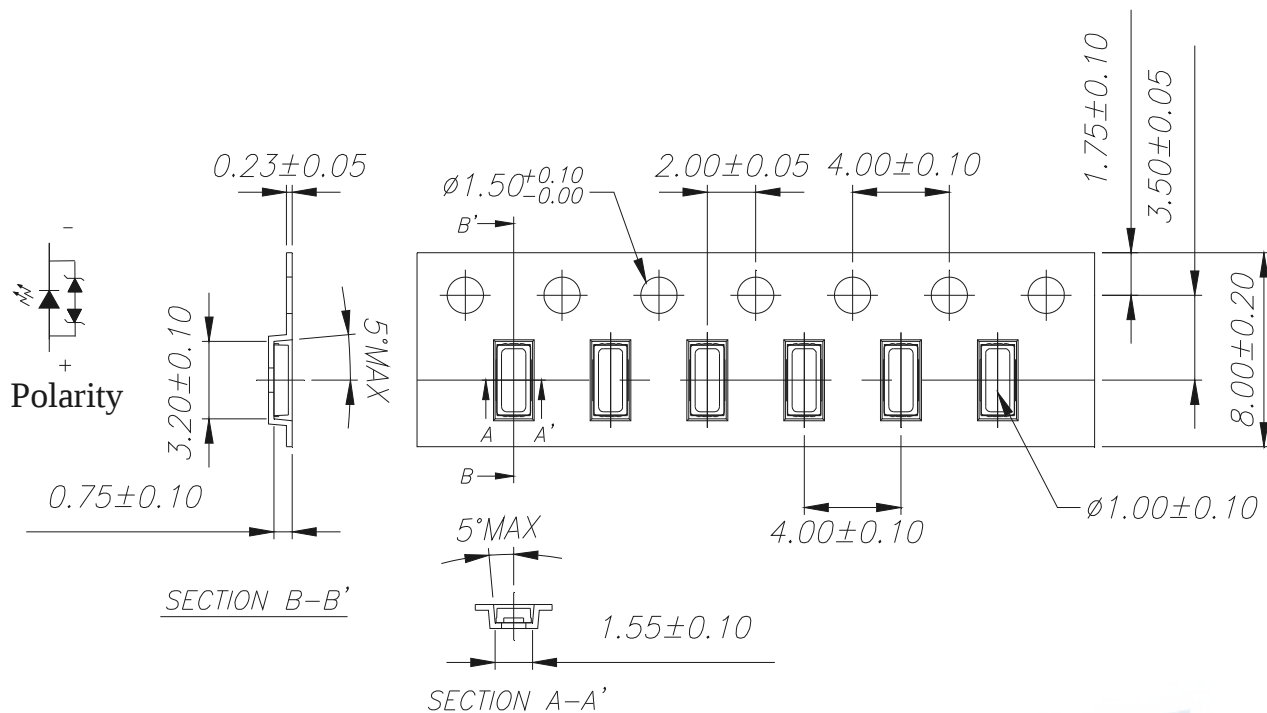


Reel Dimensions



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

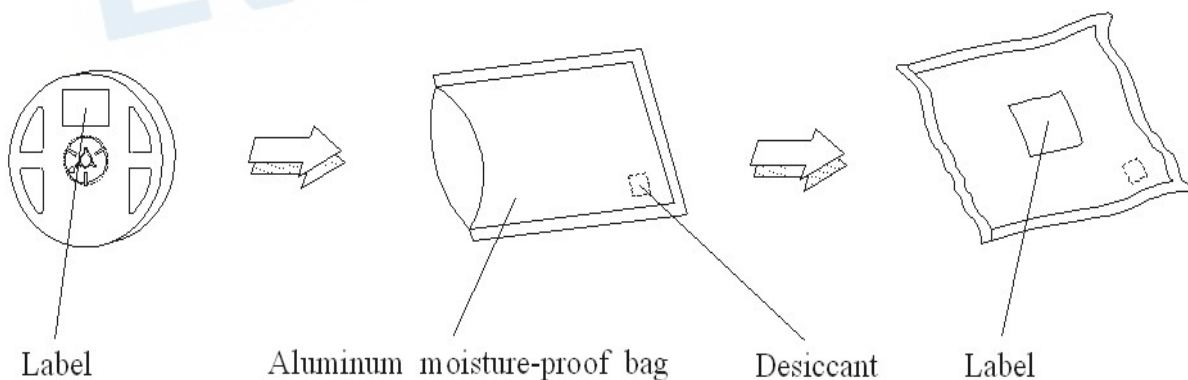
Carrier Tape Dimensions: Loaded Quantity 500/1000/1500/2000 pcs Per Reel



Note:

1. Tolerances unless mentioned $\pm 0.1 \text{ mm}$. Unit = mm

Moisture Resistant Packing Process



Note: Tolerances unless mentioned $\pm 0.1 \text{ mm}$. Unit = mm

Reliability Test Items and Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

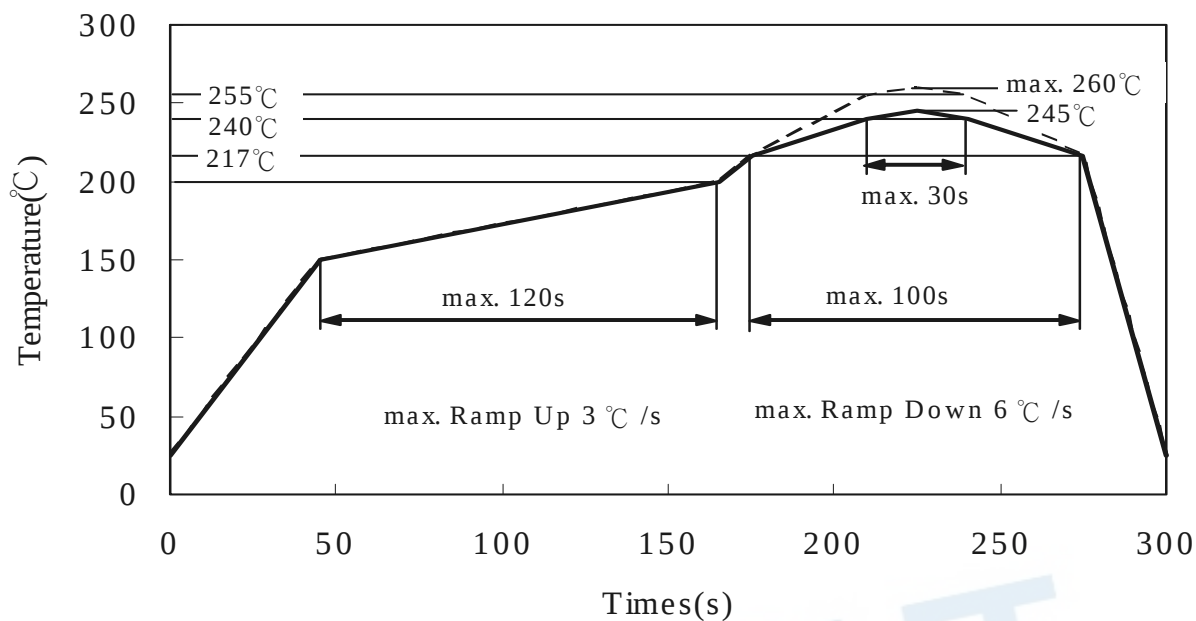
LTPD : 10%

No.	Items	Test Condition		Test Hours/Cycles	Criteria (at std. IF)
		Temp./ Humidity	IF (mA)		
1	Reflow Soldering	Temp. : 260°C±5°C/30sec.	N/A	3 times	$\Delta I_v < \pm 10\%$ $\Delta VF < \pm 10\%$
2	Temperature Cycle	-40°C ~ 85°C 15min. (15min.) 15min.	N/A	1000 cycles	I _v > 70%, VF ± 10%,
3	Steady State Operating Life of High Temperature	TA=85°C	75	1000 hrs	
4	Steady State Operating Life of High Humidity Heat	TA=85°C / 85%RH ON 30min / OFF 30min	120	1000 hrs	
5	H2S	40°C 90% , 10~15 ppm H2S	N/A	336 hrs	
6	Flowing Mixed Gas	TA=25°C/75%RH H2S concentration 10x10 ⁻⁹ , SO2 concentration 200x10 ⁻⁹ , NO2 concentration 200x10 ⁻⁹ , Cl2 concentration 10x10 ⁻⁹	N/A	500 hrs	
7	DEW	30°C ~ 65°C 4hrs. (3hrs.) 4hrs 90%RH	120	1008hrs	
8	Pulse Temperature Cycle (PTC)	-40°C ~ 85°C 10min. (20min.) 10min. 5min ON/OFF	120	1000 cycles	

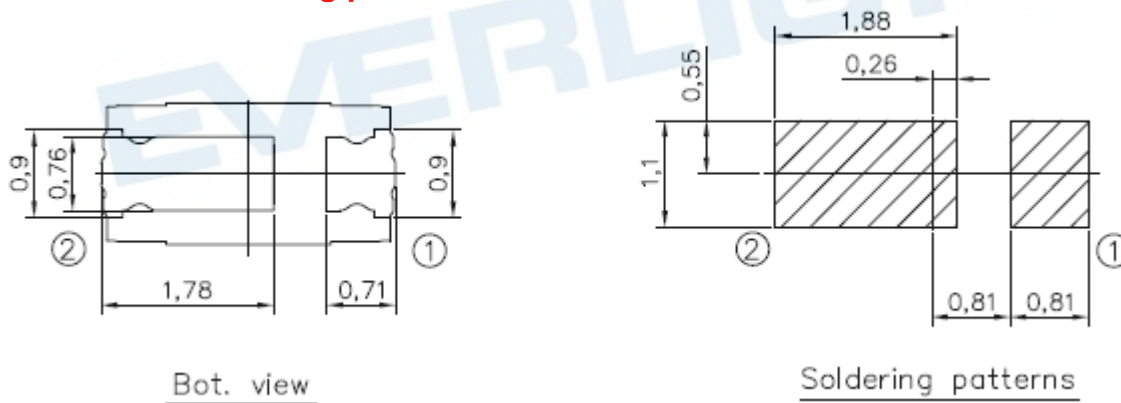
Precautions for Use

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

(A) reflow



(B) Recommend soldering pad



Note: Tolerances unless mentioned $\pm 0.1\text{mm}$. 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.