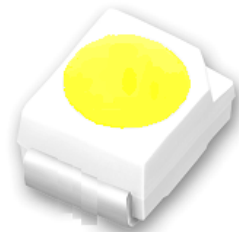


Technical Data Sheet

Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

Lead (Pb) Free Product - RoHS Compliant



Feature

- P-LCC-2 package.
- Colored diffused resin.
- Wide viewing angle 120°.
- Inner reflector and white package.
- Brightness: 1400 to 2200 mcd at 20mA.
- Precondition: Bases on JEDEC J-STD 020D Level 2.
- Qualification according to AEC-Q101 rev C.
- Automotive reflow profile (IR reflow or wave soldering)

Applications

- Automotive backlighting or indicator: Interior and exterior lighting, Dashboard, switch, reading lamp, audio and video equipments...etc.
- Backlight: LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- Optical indicator.
- General applications.

Device Selection Guide

Chip	Emitted Color	Resin Color
Material		
InGaN	White	Yellowish

Technical Data Sheet**Top LEDs****67-11-BFT-U1ABBAC2E-2T8-AM****Absolute Maximum Ratings (Ta=25℃)**

Parameter	Symbol	Rating	Unit
Forward Current	I _F	30	mA
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	100	mA
Power Dissipation	P _d	110	mW
Junction Temperature	T _j	125	℃
Operating Temperature	T _{opr}	-40 ~ +100	℃
Storage Temperature	T _{stg}	-40 ~ +110	℃
Thermal resistance	R _{th J-A}	500	K/W
	R _{th J-S}	300	K/W
ESD (Classification acc. AEC Q101)	ESD _{HBM}	2000	V
	ESD _{MM}	200	V
Soldering Temperature	T _{sol}	Reflow Soldering : 260 ℃ for 30 sec. Hand Soldering : 350 ℃ for 3 sec.	

Technical Data Sheet**Top LEDs****67-11-BFT-U1ABBAC2E-2T8-AM****Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	1400	-----	2200	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	-----	120	-----	deg	I _F =20mA
Forward Voltage	V _F	2.7	-----	3.9	V	I _F =20mA
Temperature coefficient of λ _p	TC _{λ_p}	---	0.06	---	nm/K	I _F =20mA
Temperature coefficient of λ _d	TC _{λ_d}	---	0.4	---	nm/K	I _F =20mA
Temperature coefficient of V _F	TC _V	---	-2.3	---	mV/K	I _F =20mA

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.	Max.	Unit	Condition
1	1400	1600	mcd	I _F =20mA
2	1600	1800		
3	1800	2000		
4	2000	2200		

Notes : Tolerance of Luminous Intensity : ±11%

Technical Data Sheet

Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

Bin Range of Chromaticity Coordinates

Group	Bin Code	CIE_x	CIE_y	Condition
U1	U1-1	0.307	0.312	I _F =20mA
		0.3185	0.3295	
		0.32	0.3135	
		0.31	0.297	
	U1-2	0.3185	0.3295	
		0.33	0.347	
		0.33	0.33	
		0.32	0.3135	
	U1-3	0.31	0.297	
		0.32	0.3135	
		0.3215	0.297	
		0.313	0.284	
	U1-4	0.32	0.3135	
		0.33	0.33	
		0.33	0.31	
		0.3215	0.297	

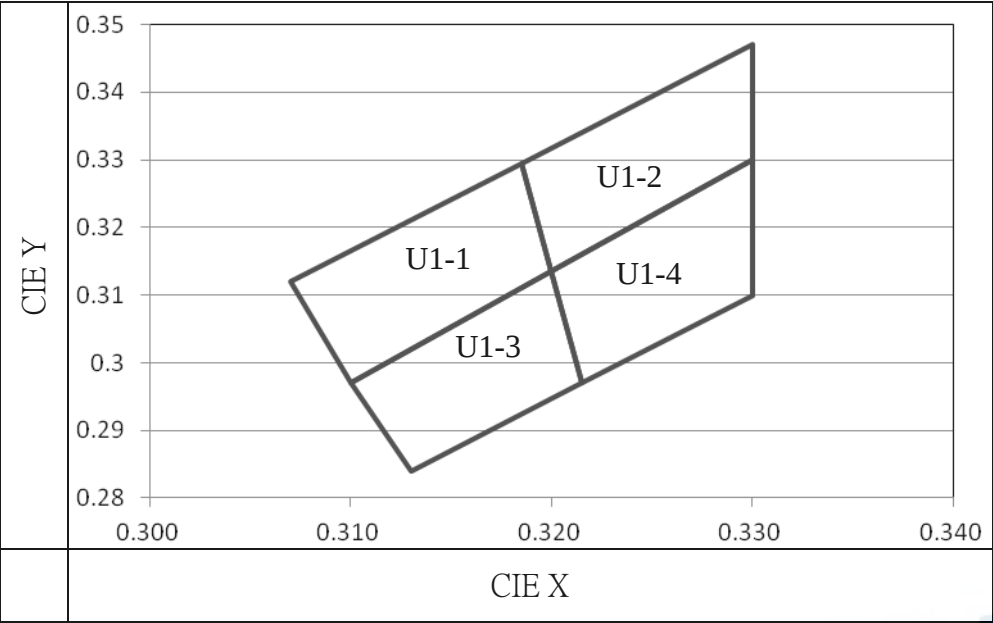
Notes : Tolerance Chromaticity Coordinates : ± 0.01

The C.I.E. 1931 Chromaticity Diagram

Technical Data Sheet

Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM



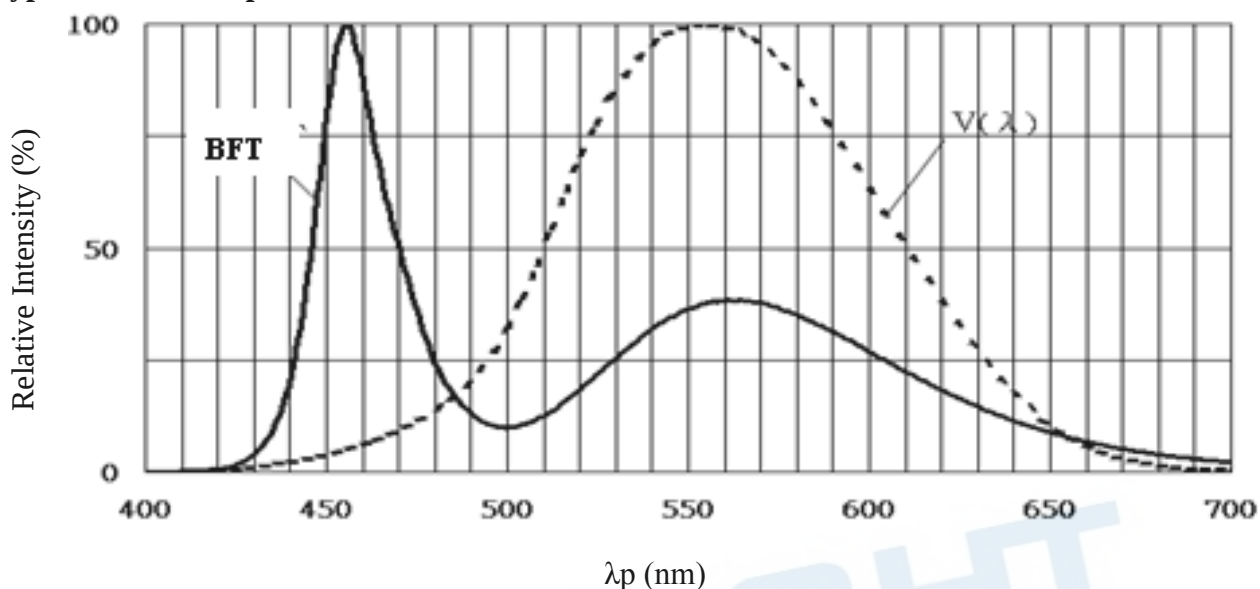
Technical Data Sheet

Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

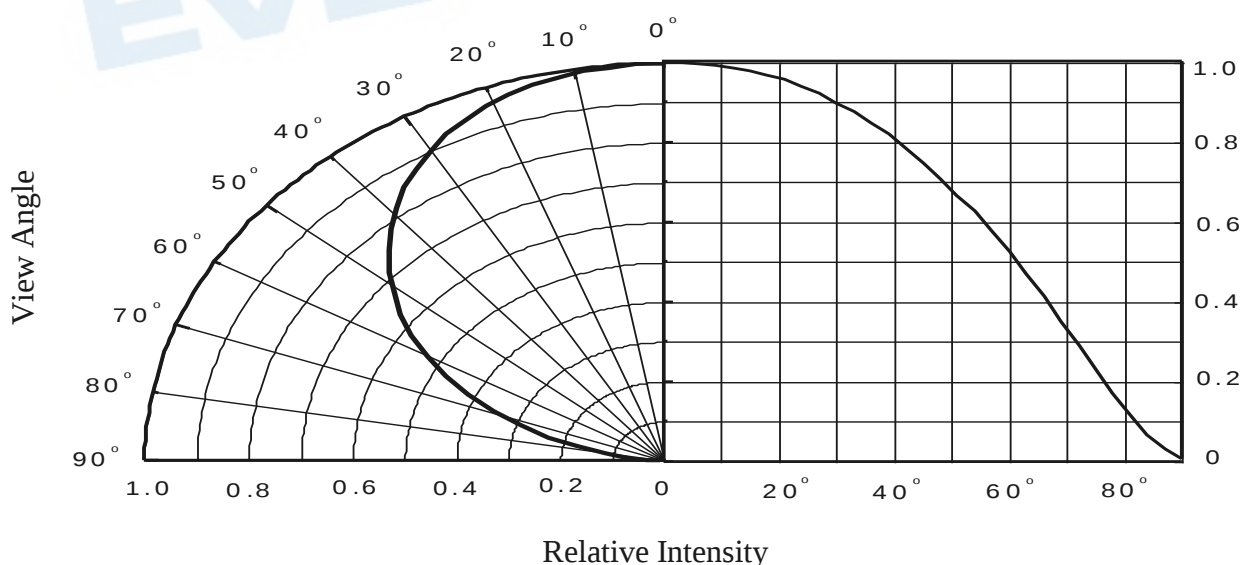
Typical Electro-Optical Characteristics Curves

Typical Curve of Spectral Distribution



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

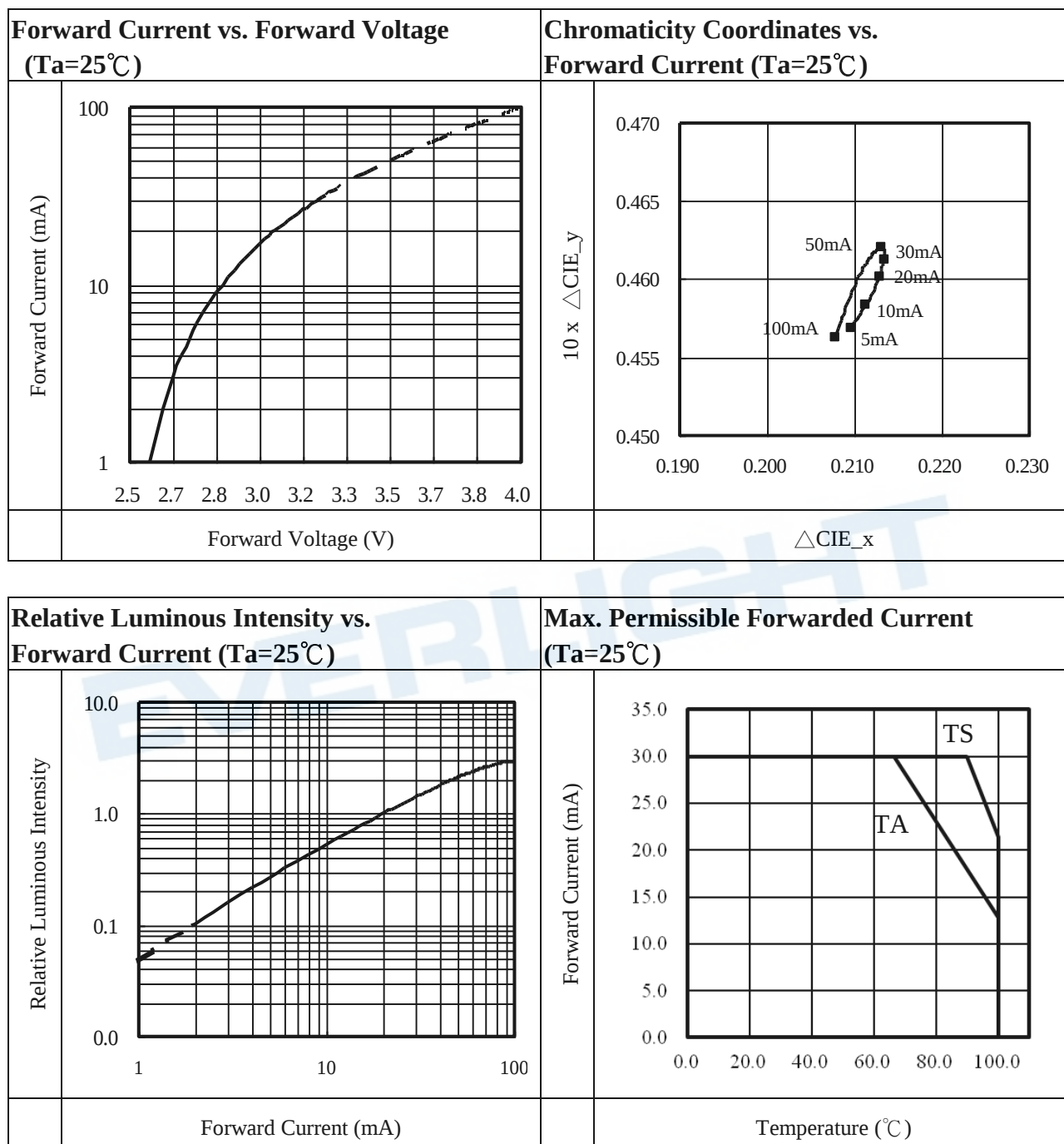
Diagram Characteristics of Radiation



Technical Data Sheet

Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

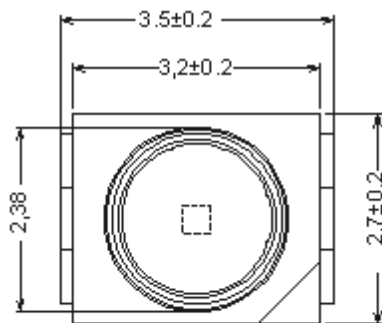


Technical Data Sheet

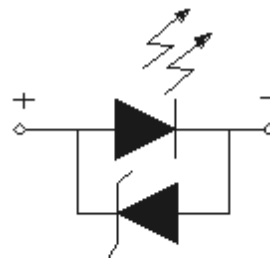
Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

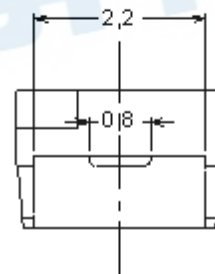
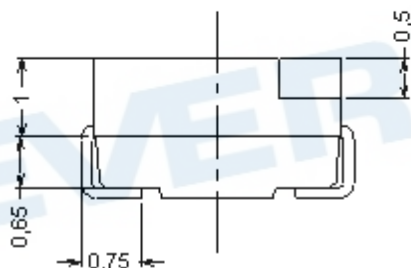
Package Dimension



Chip position



Polarity



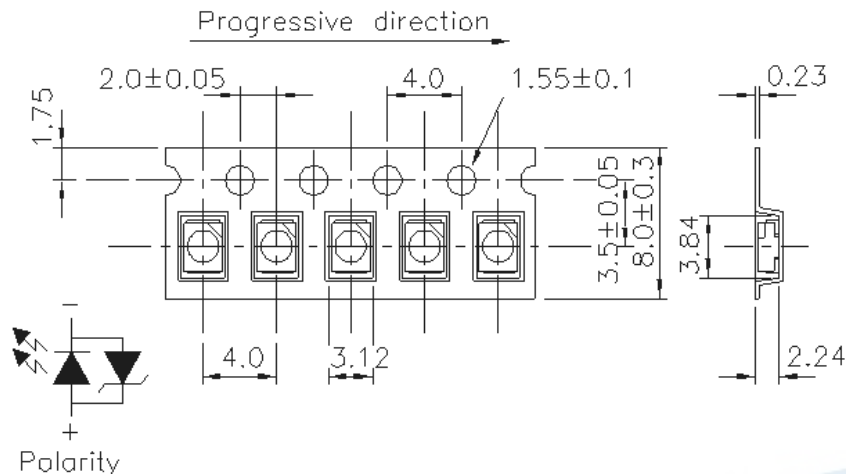
Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

Technical Data Sheet

Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



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

Label Explanation

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

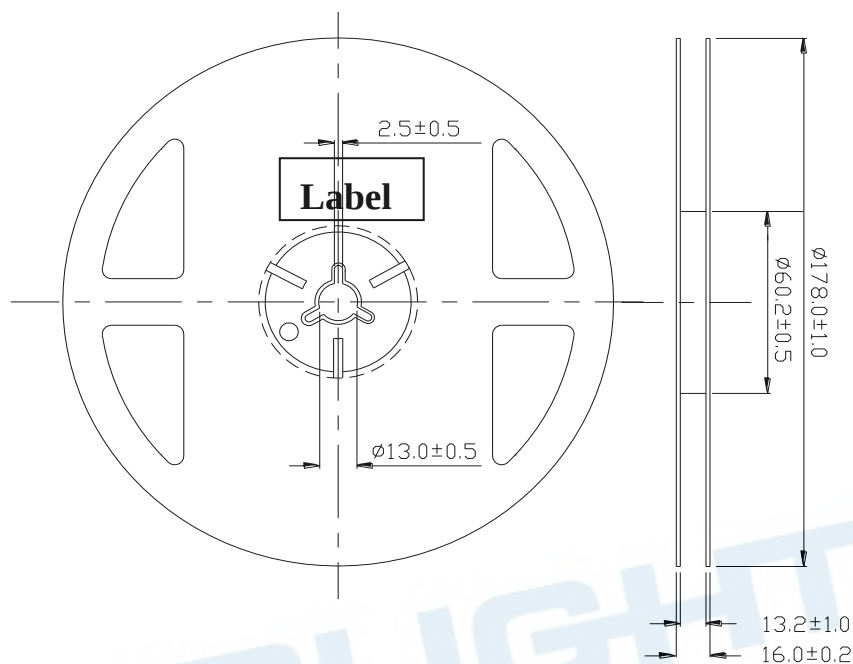


Technical Data Sheet

Top LEDs

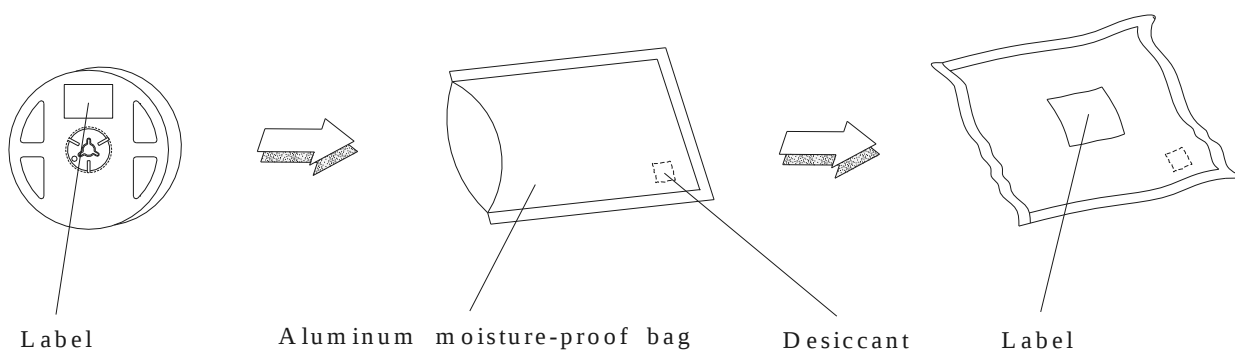
67-11-BFT-U1ABBAC2E-2T8-AM

Reel Dimensions



Note: Unit = mm

Moisture Resistant Packing Process



Technical Data Sheet

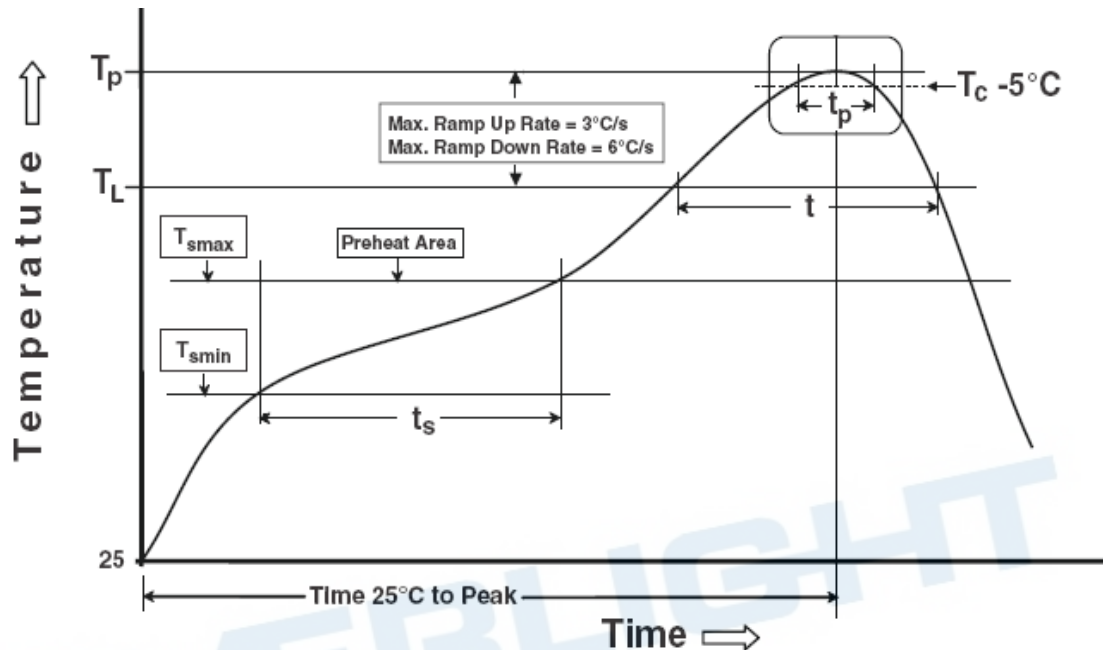
Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

Precautions for Use

1. Soldering Condition

1.1 (A) Maximum Body Case Temperature Profile for evaluation of Reflow Profile



Note:

Preheat

Temperature min (T_{smin})

Temperature max (T_{smax})

Time (T_{smin} to T_{smax}) (t_s)

Average ramp-up rate (T_{smax} to T_p)

Other

Liquidus Temperature (T_L)

Time above Liquidus Temperature (t_L)

Peak Temperature (T_p)

Time within 5°C of Actual Peak Temperature: $T_p - 5^\circ\text{C}$

Ramp- Down Rate from Peak Temperature

Time 25°C to peak temperature

Reference: IPC/JEDEC J-STD-020D

150 $^\circ\text{C}$

200 $^\circ\text{C}$

60-120 seconds

3 $^\circ\text{C}/\text{second}$ max.

217 $^\circ\text{C}$

60-150 sec

260 $^\circ\text{C}$

30 s

6 $^\circ\text{C}/\text{second}$ max.

8 minutes max.

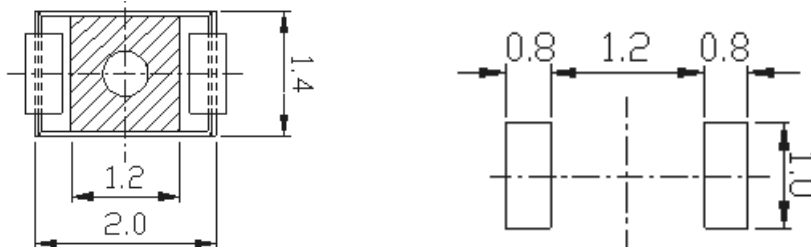
All parameters are maximum body case temperature values and cannot be considered as a soldering profile. The body temperature was measured by soldering a thermal couple to the soldering point of LEDs.

Technical Data Sheet

Top LEDs

67-11-BFT-U1ABBAC2E-2T8-AM

(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. 60°C $\pm 5^{\circ}\text{C}$ 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:

Technical Data Sheet**Top LEDs****67-11-BFT-U1ABBAC2E-2T8-AM**

Rev.	Modified date	File modified contents
1	2011/01/04	New Spec
2	2011/12/09	變更爲正式版本
3	2011/12/19	修正 CIE 座標
4.	2013/03/24	修正 CIE 座標

