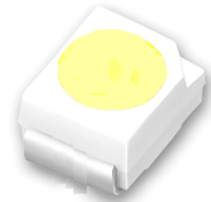


## Technical Data Sheet

### Top LEDs

**67-11-BLT-K0Q1R2A9A-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: 71 to 180 mcd at 2mA.
- 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-BLT-K0Q1R2A9A-2T8-AM**

**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	5	V
Forward Current	$I_F$	30	mA
Peak Forward Current (Duty 1/10 @ 1KHz)	$I_{FP}$	100	mA
Power Dissipation	$P_d$	120	mW
Junction Temperature	$T_j$	125	°C
Operating Temperature	$T_{opr}$	-40 ~ +100	°C
Storage Temperature	$T_{stg}$	-40 ~ +110	°C
Thermal resistance	$R_{th\ J-A}$	600	K/W
	$R_{th\ J-S}$	400	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.	

## Technical Data Sheet

### Top LEDs

#### 67-11-BLT-K0Q1R2A9A-2T8-AM

#### Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	71	-----	180	mcd	I <sub>F</sub> =2mA
Viewing Angle	2θ <sub>1/2</sub>	-----	120	-----	deg	I <sub>F</sub> =2mA
Forward Voltage	V <sub>F</sub>	2.5	-----	3.5	V	I <sub>F</sub> =2mA
Temperature coefficient of λ <sub>p</sub>	TC <sub>λ<sub>p</sub></sub>	-----	-----	10	μA	V <sub>R</sub> =5V
Temperature coefficient of λ <sub>d</sub>	TC <sub>λ<sub>d</sub></sub>	-----	0.03	-----	nm/K	I <sub>F</sub> =2mA
Temperature coefficient of VF	TC <sub>V</sub>	-----	0.02	-----	nm/K	I <sub>F</sub> =2mA

Note:

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

Technical Data Sheet

Top LEDs

**67-11-BLT-K0Q1R2A9A-2T8-AM**

**Bin Range of Luminous Intensity**

Bin Code	Min.	Max.	Unit	Condition
Q1	71	90	mcd	I <sub>F</sub> =2mA
Q2	90	112		
R1	112	140		
R2	140	180		

Notes : Tolerance of Luminous Intensity : ±11%

EVERLIGHT

Technical Data Sheet

Top LEDs

**67-11-BLT-K0Q1R2A9A-2T8-AM**

Bin Range of Chromaticity Coordinates

Bin Code	CIE_x	CIE_y	Condition
B5-1	0.291	0.285	I <sub>F</sub> = 2mA
	0.287	0.295	
	0.297	0.305	
	0.300	0.295	
B5-2	0.300	0.295	
	0.297	0.305	
	0.307	0.315	
	0.309	0.304	
B5-3	0.296	0.276	
	0.291	0.285	
	0.300	0.295	
	0.303	0.285	
B5-4	0.303	0.285	
	0.300	0.295	
	0.309	0.304	
	0.311	0.294	

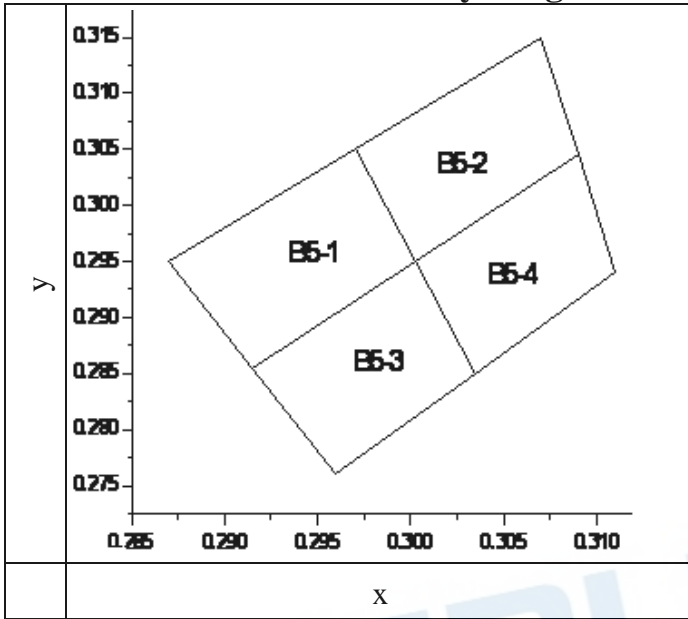
Notes : Tolerance Chromaticity Coordinates : ±0.01

Technical Data Sheet

Top LEDs

**67-11-BLT-K0Q1R2A9A-2T8-AM**

The C.I.E. 1931 Chromaticity Diagram



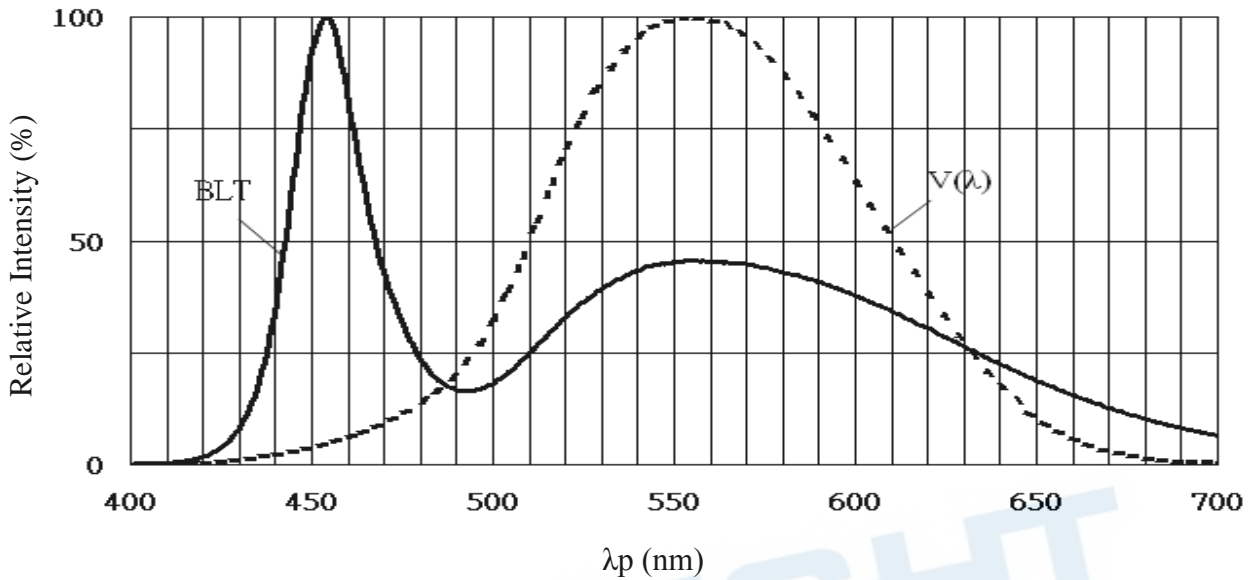
Technical Data Sheet

Top LEDs

**67-11-BLT-K0Q1R2A9A-2T8-AM**

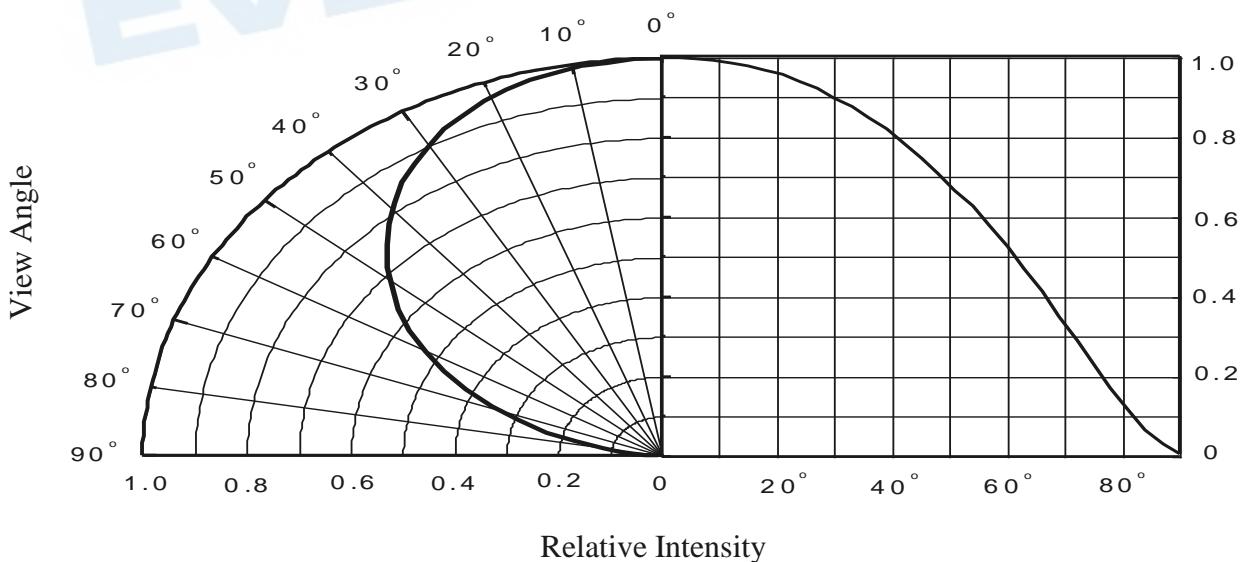
Typical Electro-Optical Characteristics Curves

Typical Curve of Spectral Distribution



Note: V(λ)=Standard eye response curve

Diagram Characteristics of Radiation

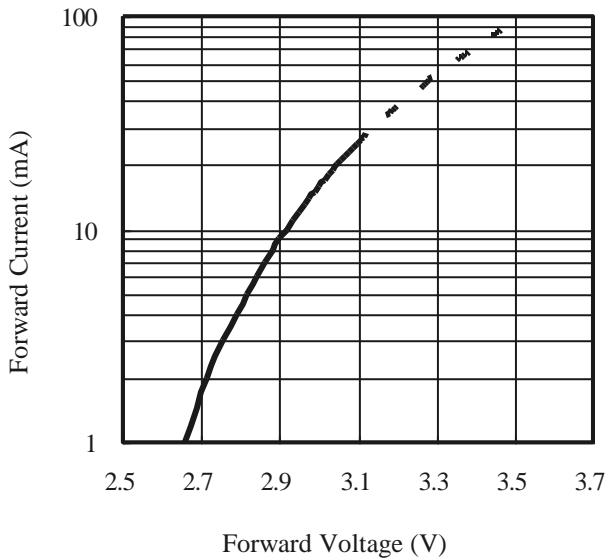


Technical Data Sheet

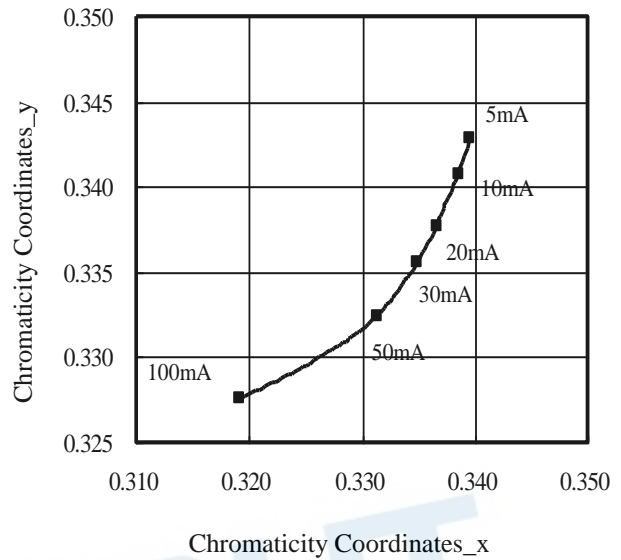
Top LEDs

**67-11-BLT-K0Q1R2A9A-2T8-AM**

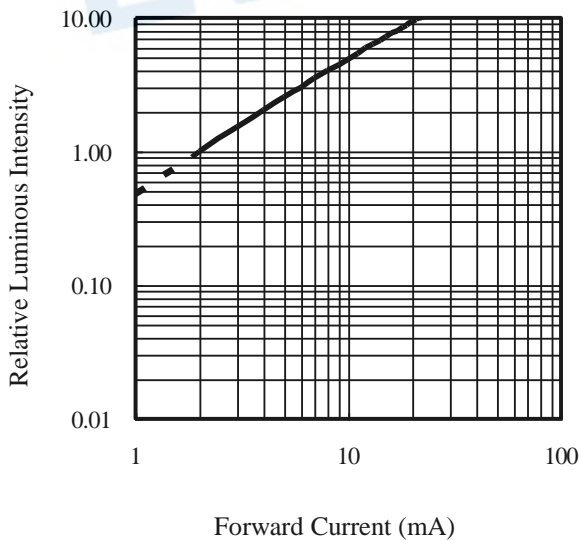
**Forward Current vs. Forward Voltage**  
(Ta=25°C)



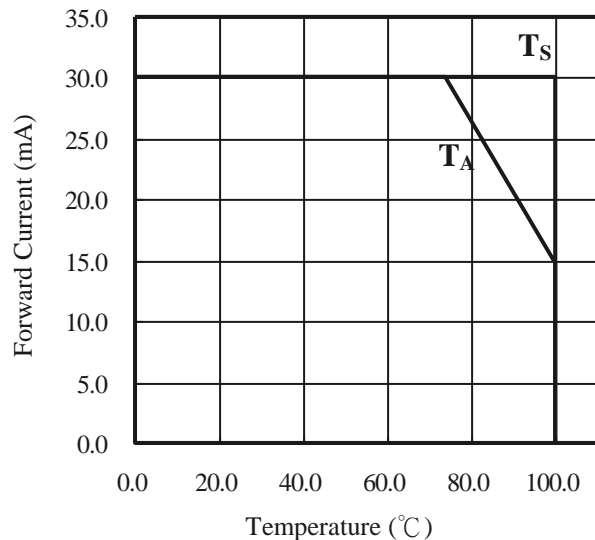
**Chromaticity Coordinates vs. Forward Current** (Ta=25°C)



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



**Forward current vs. Ambient and Solder Temperature**



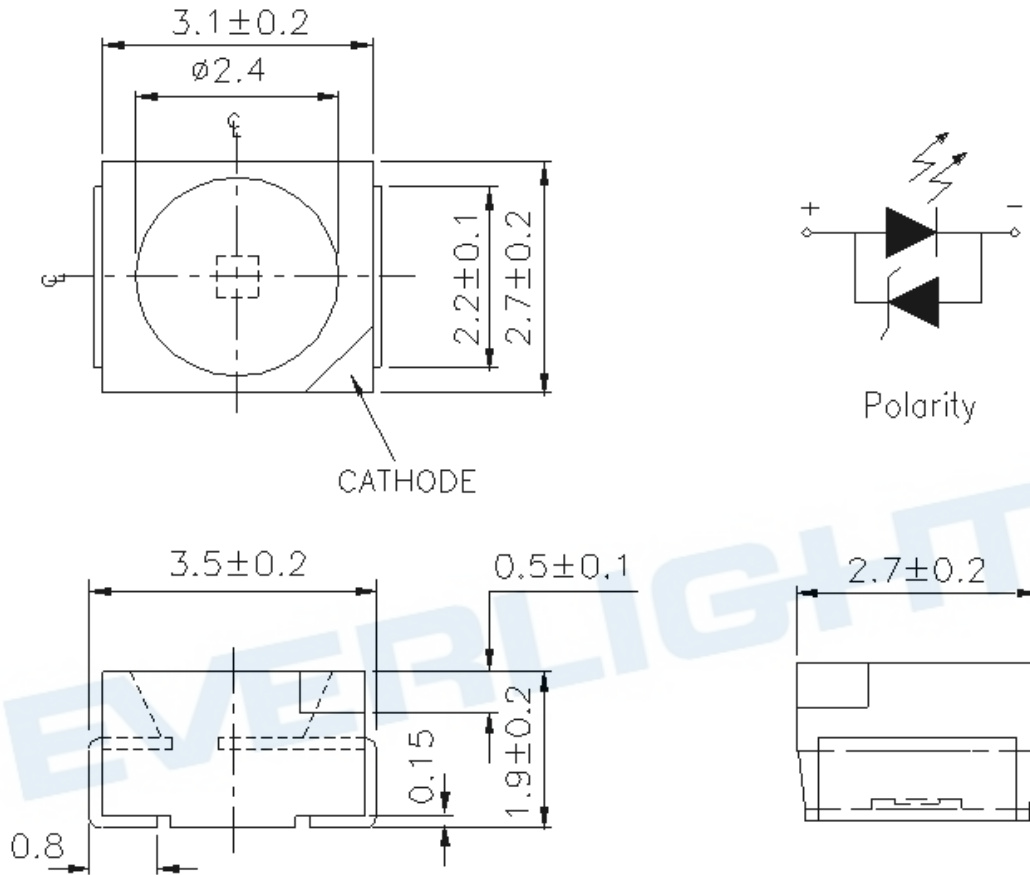


**Technical Data Sheet**

**Top LEDs**

**67-11-BLT-K0Q1R2A9A-2T8-AM**

**Package Dimension**



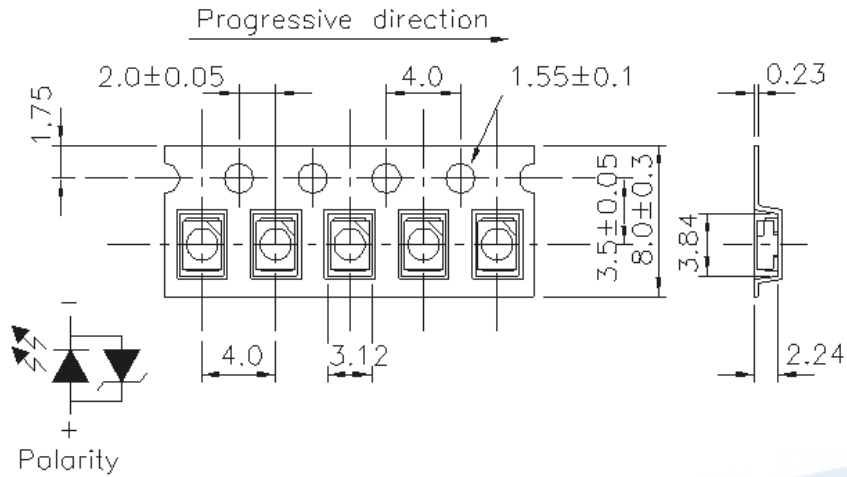
Note: Tolerances unless mentioned  $\pm 0.1$ mm. Unit = mm

Technical Data Sheet

Top LEDs

**67-11-BLT-K0Q1R2A9A-2T8-AM**

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note: Tolerances unless mentioned  $\pm 0.1$ 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

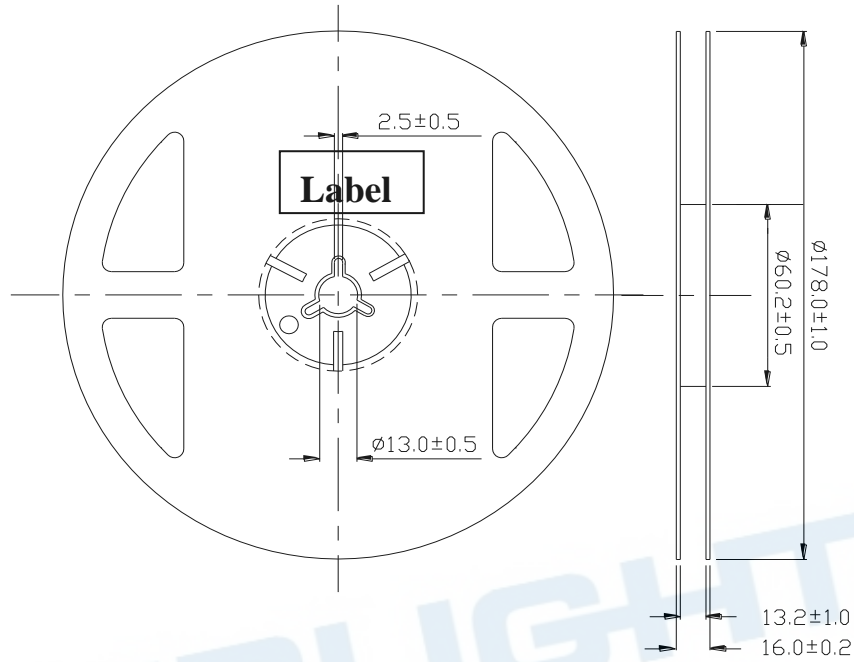


**Technical Data Sheet**

**Top LEDs**

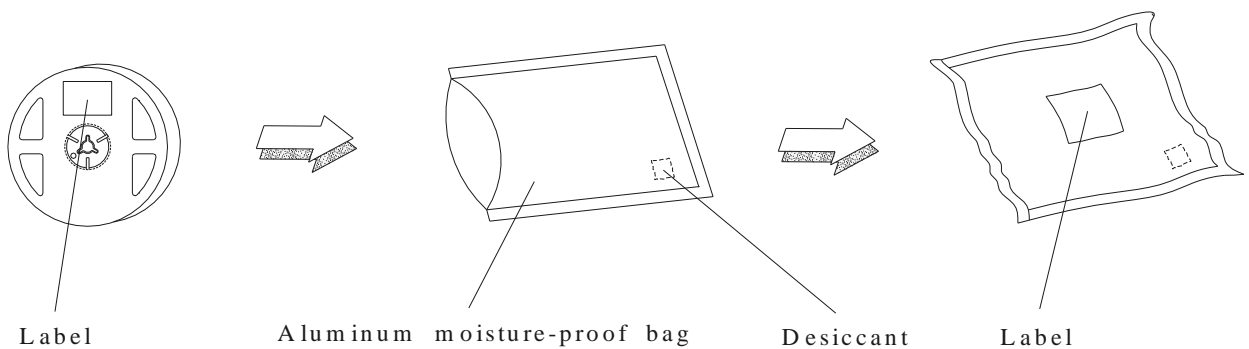
**67-11-BLT-K0Q1R2A9A-2T8-AM**

**Reel Dimensions**



Note: Unit = mm

**Moisture Resistant Packing Process**



**Technical Data Sheet**

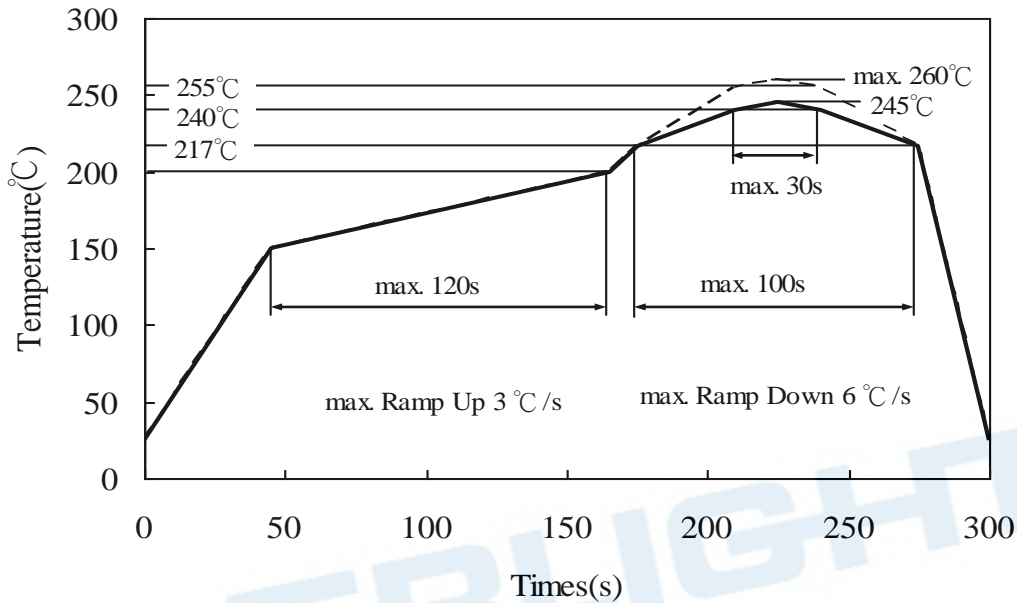
**Top LEDs**

**67-11-BLT-K0Q1R2A9A-2T8-AM**

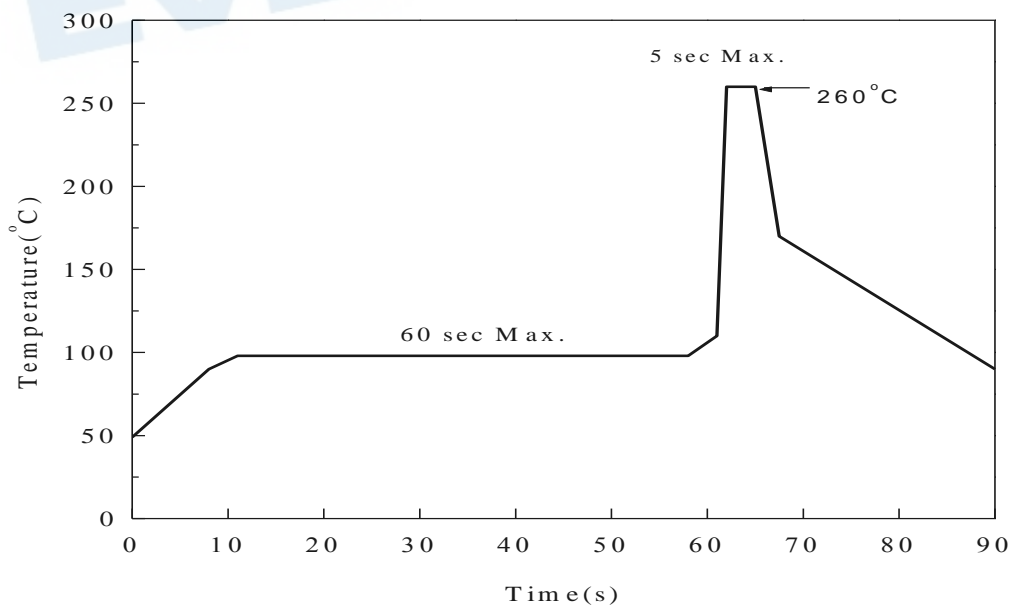
**Precautions for Use**

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

**a. IR reflow**



**b. Wave soldering reflow**

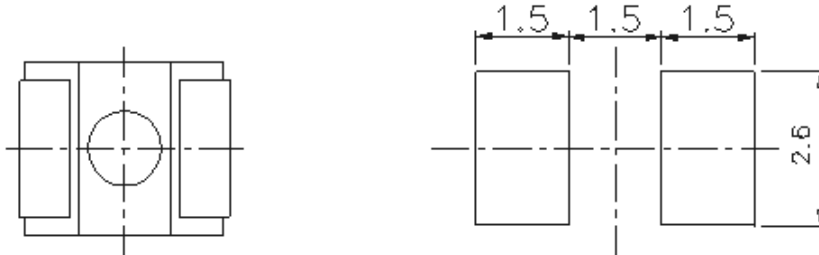


## Technical Data Sheet

### Top LEDs

#### 67-11-BLT-K0Q1R2A9A-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  $30^{\circ}\text{C}$  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.  $60\text{deg} \pm 5\text{deg}$  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  $350^{\circ}\text{C}$ , 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.



Technical Data Sheet

Top LEDs

67-11-BLT-K0Q1R2A9A-2T8-AM

Revision History:

Rev.	Modified date	File modified contents
1	2010/12/1	New Spec



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