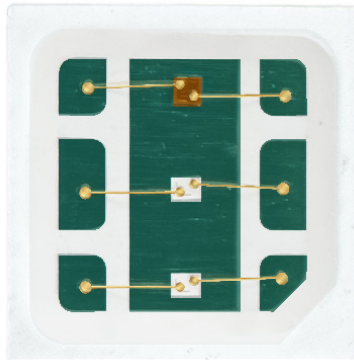


LED PACKAGE FOR GENERAL LIGHTING



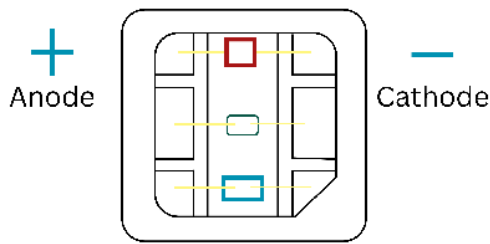
1 Features

- Small package with high efficiency
- Low voltage operation, instant light
- Long operating life
- Lead-free product
- RoHS compliant

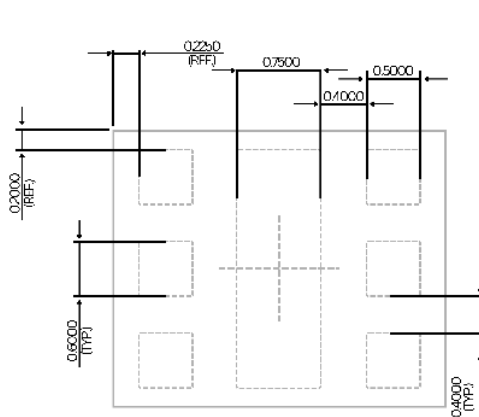
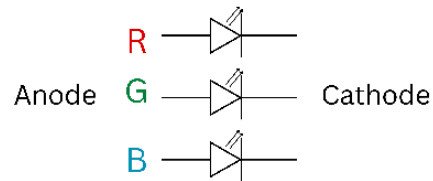
2 Applications

- Architectural / Decorative Lighting
- Landscape lighting lamp

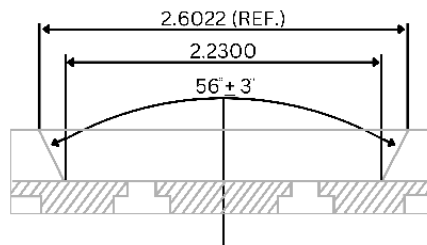
3 Package Dimensions



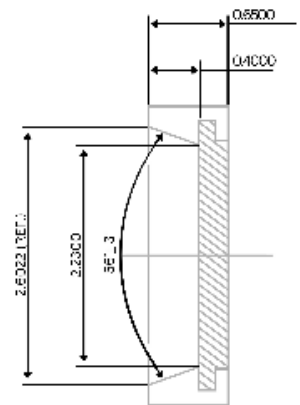
Top view



Bottom view



Side view (Section B-B)



Side view (Section C-C)

NOTE1: All dimensions are in mm

NOTE2: Tolerance is $\pm 0.15\text{mm}$ unless otherwise noted.

4 Electrical / Optical Specification

$T_A=25^{\circ}\text{C}$

ITEM	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward Voltage	$I_F=20\text{mA (R)}$	V_F	2.0	---	2.3	V
	$I_F=20\text{mA (G)}$	V_F	2.9	---	3.2	V
	$I_F=20\text{mA (B)}$	V_F	2.9	---	3.2	V
Reverse Current	$V_R=-5\text{V}$	I_R	---	---	10	μA
View Angle	$I_F=20\text{mA}$	$2\theta_{1/2}$	---	120	---	deg.
Electrostatic Discharge	HBM	ESD	---	---	2000	V

5 Absolute Maximum Ratings

$T_A=25^{\circ}\text{C}$

ITEM	SYMBOL	RATING	UNIT
Forward Current	I_F	60	mA
Pulse Forward Current	I_{FP}	90	mA
Power Dissipation	P_O	0.06	W
Reverse Voltage	V_R	5	V
Work Pin Temperature	T_{opr}	-40 to +105	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-40 to +105	$^{\circ}\text{C}$
Junction Temperature	T_J	115	$^{\circ}\text{C}$
Soldering Temperature	T_{sld}	260 $^{\circ}\text{C}$ for 10sec	

NOTE1: Frequency 10KHZ, duty ratio $\leq 10\%$

NOTE2: The maximum allowable temperature of the pin depends on the current value applied to the LED, and the reference chart of " forward current and pin temperature " is required.

6 Mass Production List ($I_F=20\text{mA}; T_A=25^{\circ}\text{C}$)

ITEM	COLOR RENDERING INDEX	$\lambda_d(\text{nm})$ Min.	$\lambda_d(\text{nm})$ Typ.	$\lambda_d(\text{nm})$ Max.	IV (mcd) Min.	IV (mcd) Max.
3030-RGB	0	620	---	625	600	800
		520	---	525	1500	1600
		465	---	470	300	500

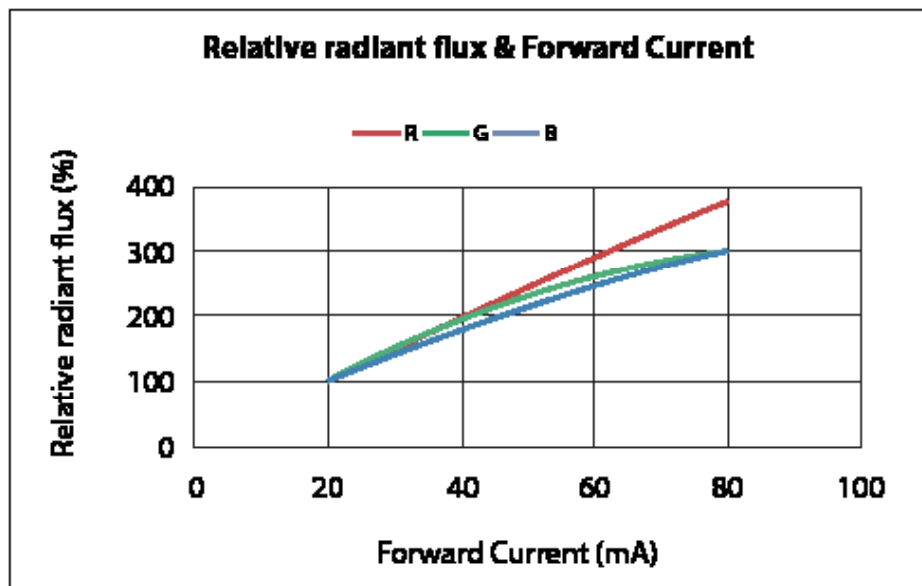
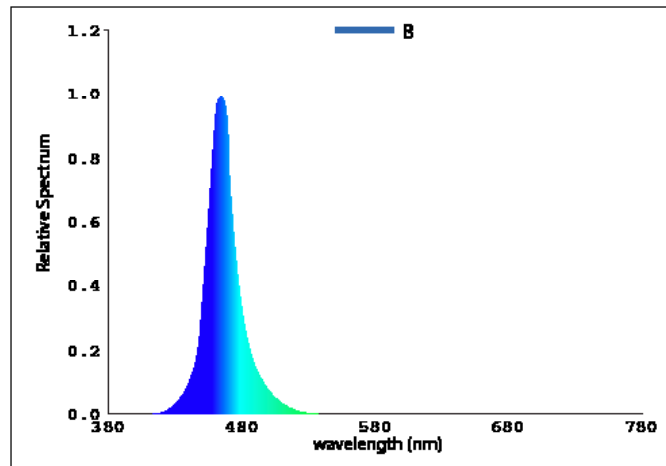
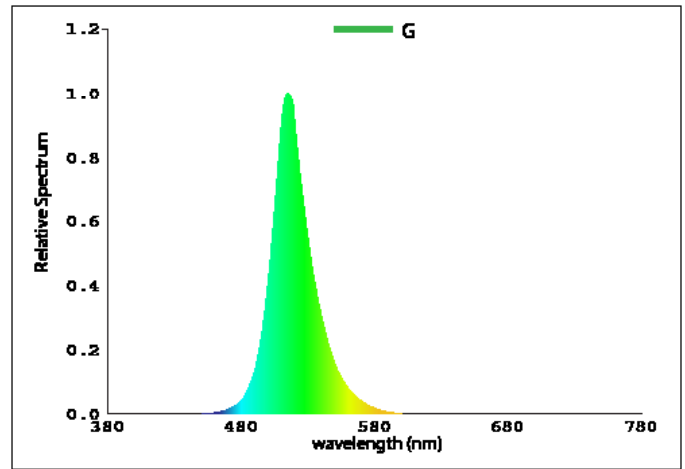
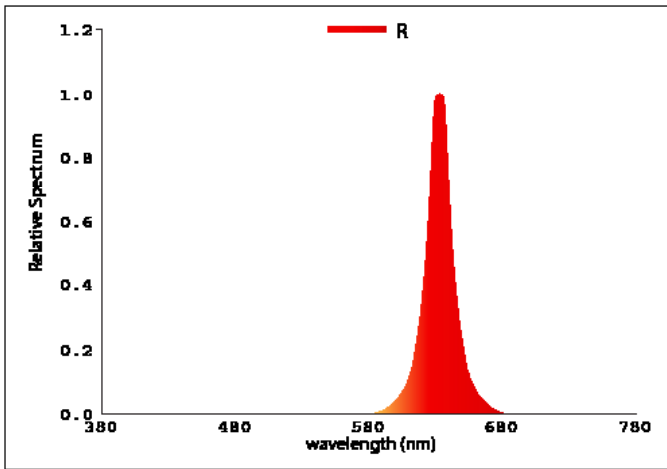
NOTE: Testing tolerances

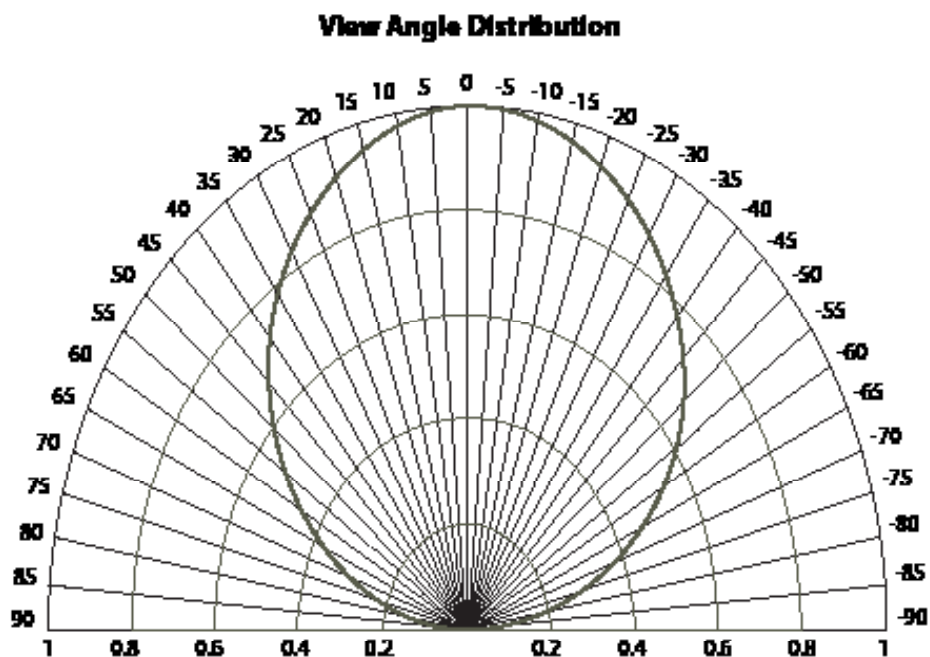
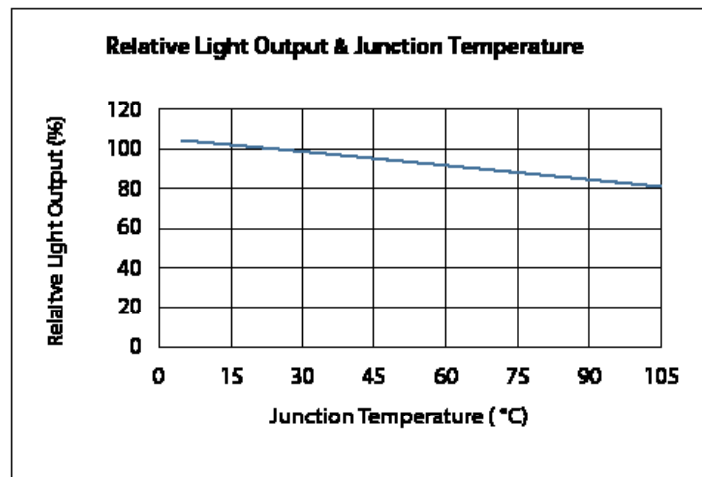
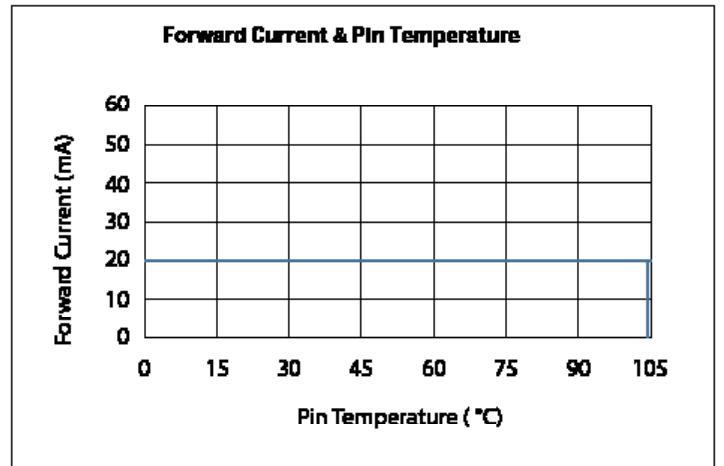
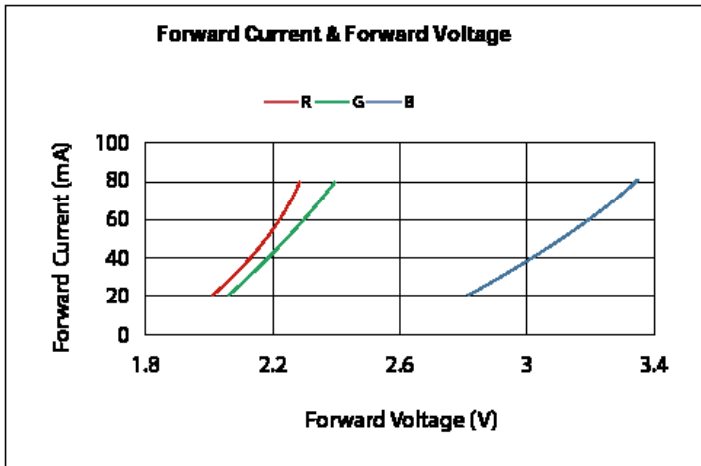
$V_F \pm 3\%$

$\lambda_d \pm 5\%$

$V_F \pm 3\%$

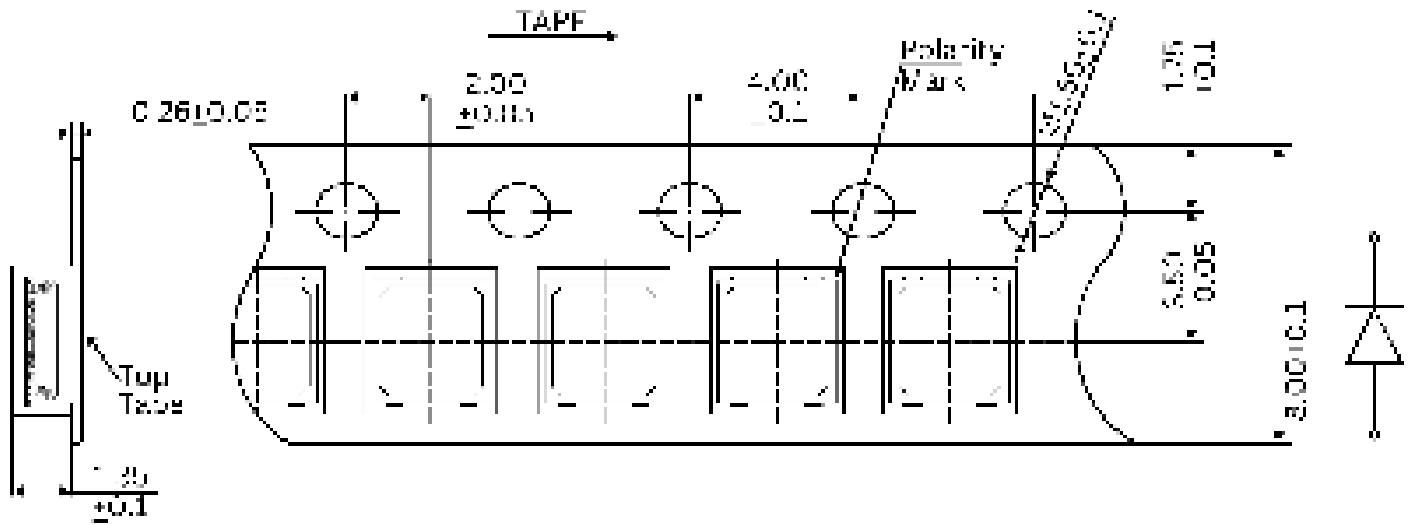
7 Typical Electrical / Optical Characteristic Curves ($I_F=20\text{mA}; T_A=25^\circ\text{C}$)



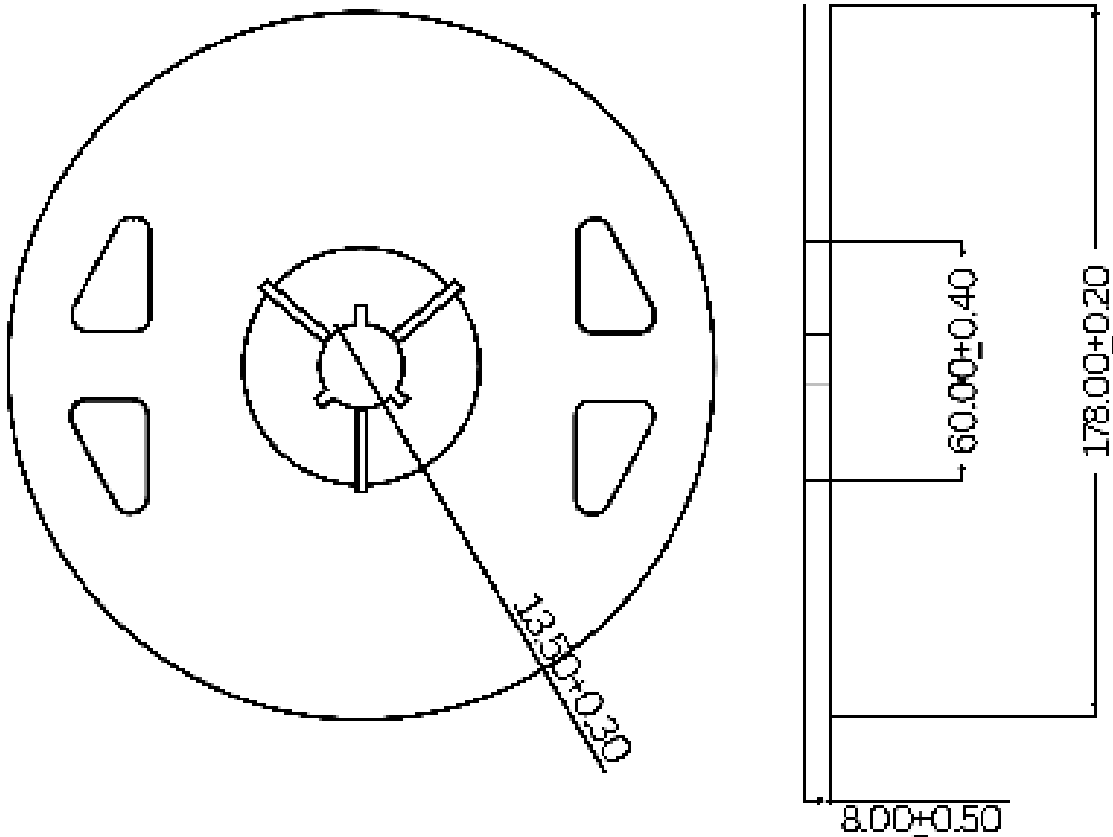


8 Packaging Specifications

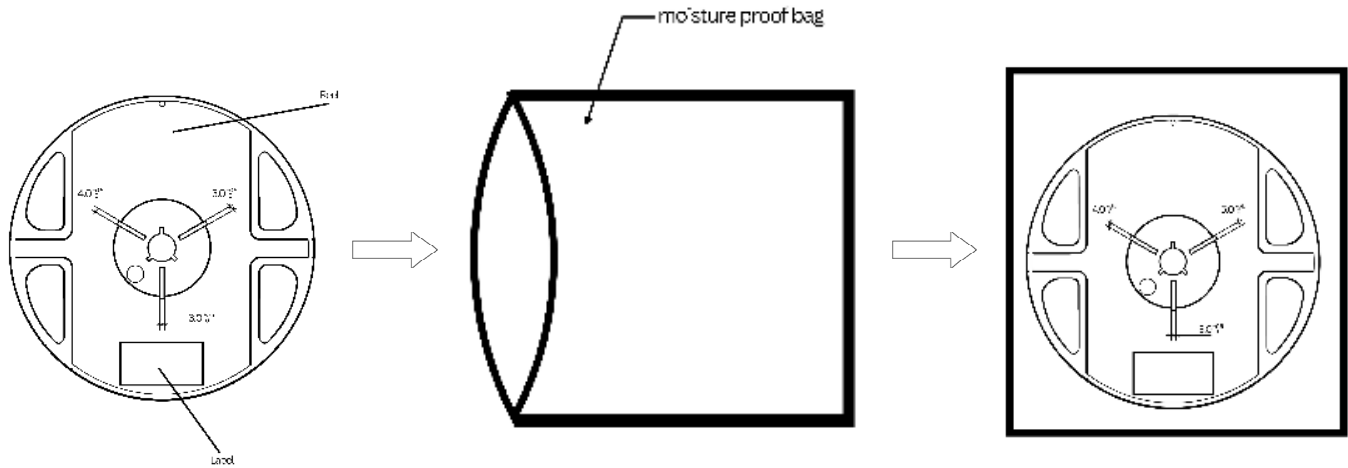
DIMENSIONS OF TAPE



DIMENSIONS OF REEL

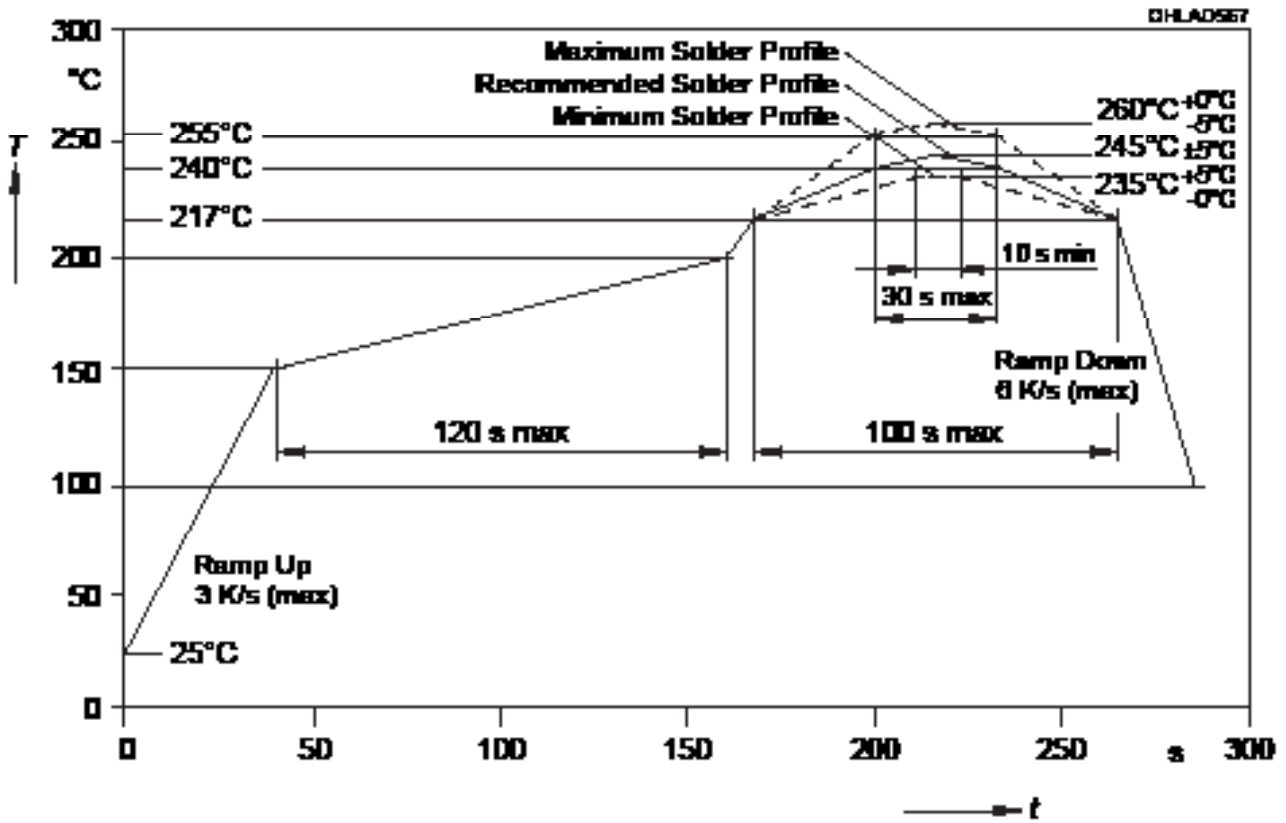


PACKAGING SPECIFICATIONS



9 SMT Reflow Soldering Instructions

R-Reflow Soldering Profile for lead-free soldering



NOTE1: Reflow soldering should not be done more than twice.

NOTE2: When welding, the material is heated and can not press the surface of the colloid.

10 Cautions

1. The LEDs encapsulated material is silicone, giving a softer surface of the LED colloid. Making the colloid surface harder will affect the reliability of the LED.
2. Where LED Bin specifications of the material are consistent (such as V F, XY, brightness, etc.), the same specification materials should be used together.
3. Packaging and storage
 - 3-1. Avoid the possibility of moisture entry into the LEDs when opening packaging. Store SMD LEDs in a drying cabinet with built-in desiccant at 5-30°C, no more than 50% humidity. If stored for longer than 3 months, the LEDs will require re-dehumidifying (at 65°C for 24 hours).
 - 3-2. The LEDs are surface mount. When the LED is welded, internal separation of the LED may occur. This may affect luminescence efficiency, luminance or color variation. Please note these important points:
 - a. After packaging has been opened the LEDs should be welded as soon as possible (within 12 hours).
 - b. Any remaining material must be sealed and placed in an environment of 5-40°C and no more than 30% humidity.
 - c. If packaging has been open for more than 24 hours (<168 hours), or if the humidity card has changed from blue to pink, LEDs will require re-dehumidifying at 65°C for 24 hours. If packaging has been open for more than 168 hours, it will be necessary to dismantle the tape and remove moisture at 150°C for 2 hours.
 - 3-3. The LED electrode and bracket are made of silver-plated copper alloy, which means the silver layer can be affected by corrosive gases. Avoid corrosive environments which may cause LED discoloration, reduced photoelectric performance and weldability of the LED. Avoid exposure to sudden changes in temperature and humidity, especially high humidity environments.
4. LEDs require electrostatic protection when being handled, such as electrostatic bracelets, anti-static gloves and footwear. All devices, equipment and instruments must be fully grounded.
5. The LED is mainly bonded with silica gel, which has strong oxygen and moisture permeability. Any external glue used in LED application should be of similar construction to silica gel with the following characteristics:
 - Bromine <900 PPM
 - Chlorine < 900 PPM
 - Bromine & Chlorine combined <1500 PPM