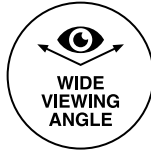
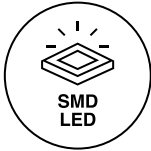


# CMD6722 Series PLCC-4 Bicolor (Red/Green) Surface Mount LED



## Application

- Wearable and Portable Devices
- Automotive Features
- Navigations Systems
- Home and Smart Appliance
- Backlit Keypads
- Medical Devices
- Health Care Application
- Industrial Control Systems
- Status Indicator

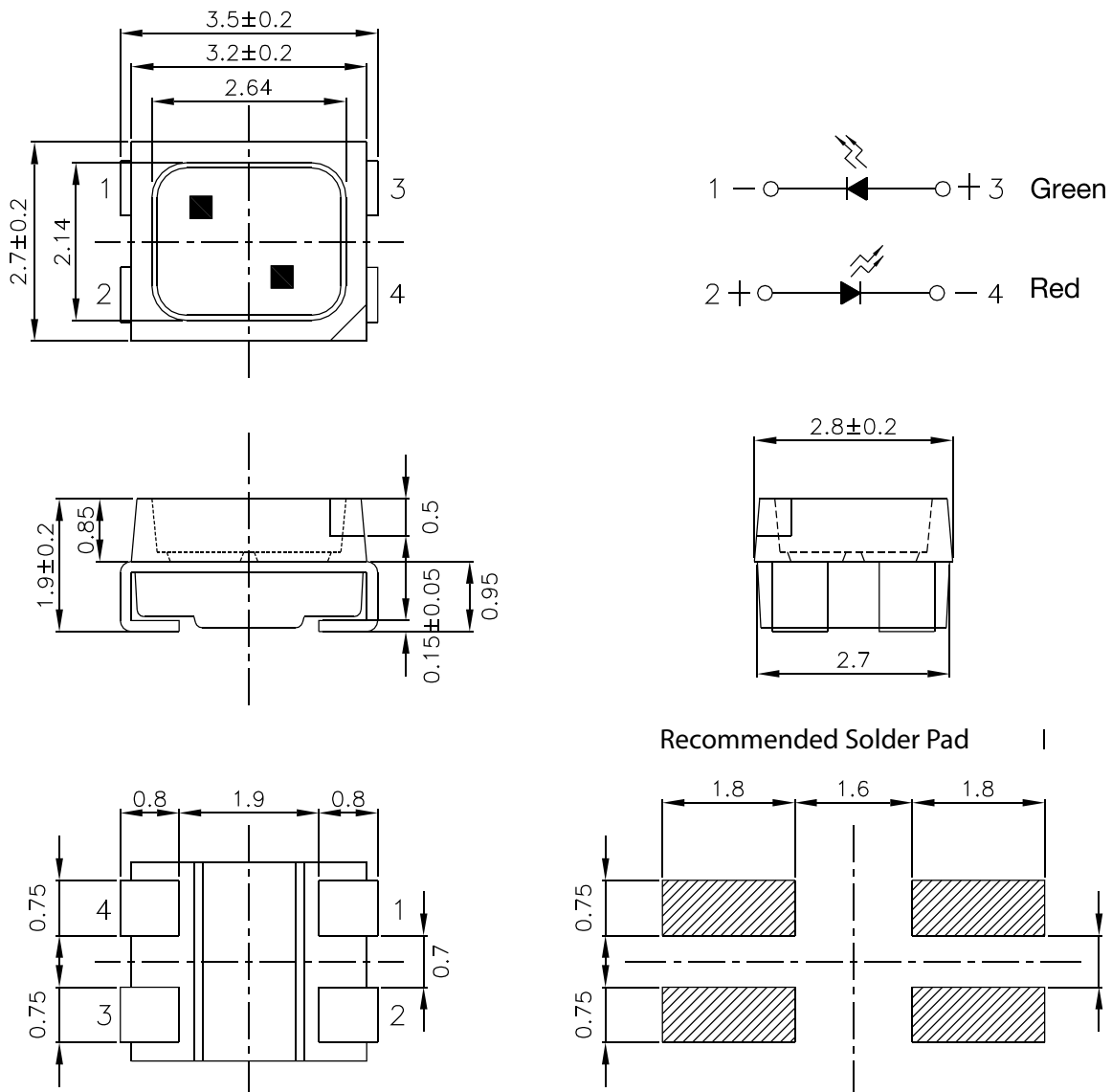
## Key Features

- Available in bi-color red/green
- PLCC-4 package size
- Tape and reel packaged for high-speed autoinsertion
- Suitable for vapor-phase reflow
- Compact form enables high density placement
- Wide viewing angle
- Packaged 2000 pieces per reel
- Consistent high brightness
- Colorless clear window
- Stringent process controls assure quality
- Extensive qualification testing to meet strictest requirements
- Pb-free
- Compliant with RoHS and REACH

## Ordering Data

Series	Emitted Color
CMD6722	VRVGCTR8
VRVGCTR8	Red/Green VR = RED VG = GREEN
SRUGCTR8	Red/Green SR = RED UG = GREEN

## Product Dimensions



### Notes:

1. All dimensions are in mm
2. The tolerance unless mentioned is  $\pm 0.1$  mm

## Product Specifications

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

Parameter	Symbol	Rating	Unit	
Reverse Voltage	$V_R$	5	V	
Forward Current	$I_F$	VR/SR	30/25	mA
		VG/UG	30/25	
Peak Forward Current(Duty 1/10 @ 1KHz)	$I_{FP}$	VR/SR	60/60	mA
		VG/UG	60/60	
Power Dissipation	$P_d$	VR/SR	100/60	mW
		VG/UG	100/60	
Electrostatic Discharge(HBM)	ESD	VR/SR	2000/2000	V
		VG/UG	2000/2000	
Operating Temperature	$T_{opr}$	-40 ~ +85	°C	
Storage Temperature	$T_{stg}$	-40~ +95	°C	
Soldering Temperature	$T_{sol}$	Reflow soldering: 260 °C for 10 sec. Hand soldering: 350 °C for 3 sec.		

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

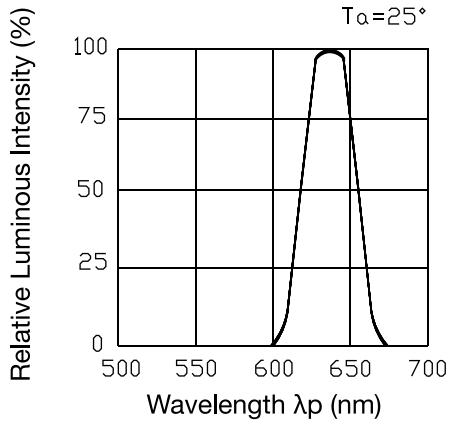
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition	
Luminous Intensity	$I_v$	VR/SR	7.2/24	----/41	28.5/-	mcd	$I_F=20mA$
		VG/UG	11.5/16	----/24	45/-	mcd	
Viewing Angle	2θ1/2	-----	120	-----	deg	$I_F=20mA$	
Peak Wavelength	$\lambda_p$	VR/SR	-----	640/650	-----	nm	$I_F=20mA$
		VG/UG	-----	570/575	-----		
Dominant Wavelength	$\lambda_d$	VR/SR	615/-	----/634	635/-	nm	$I_F=20mA$
		VG/UG	565/-	----/573	577/-		
Spectrum Radiation Bandwidth	$\Delta\lambda$	VR/SR	-----	45/20	-----	nm	$I_F=20mA$
		VG/UG	-----	30/20	-----		
Forward Voltage	$V_F$	VR/SR	1.7/-	----/2	2.4/2.4	V	$I_F=20mA$
		VG/UG	1.7/-	----/2	2.4/2.4		
Reverse Current	$I_R$	-----	-----	10	μA	$V_R=5V$	

#### Notes:

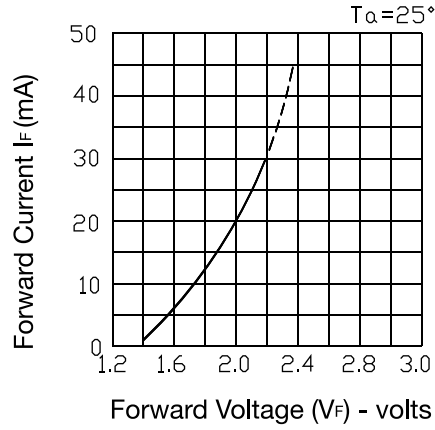
- 1.Tolerance of Luminous Intensity: ±11%
- 2.Tolerance of Dominant Wavelength: ±1nm
- 3.Tolerance of Forward Voltage: ±0.1V

Typical Electro-Optical Characteristics Curve (VR)

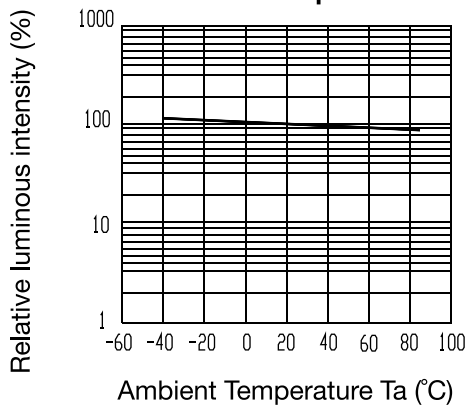
**Spectrum Distribution**



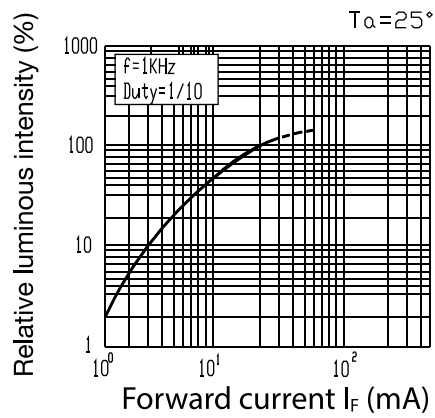
**Forward Current Vs. Forward Voltage**



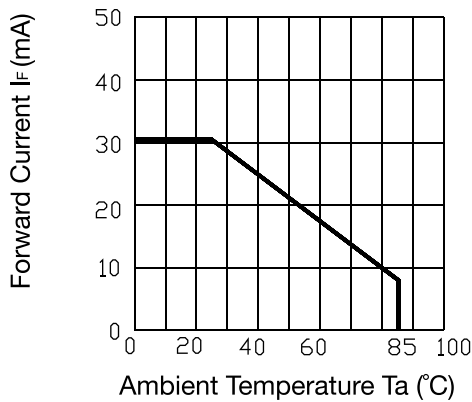
**Luminous Intensity Vs. Ambient Temperature**



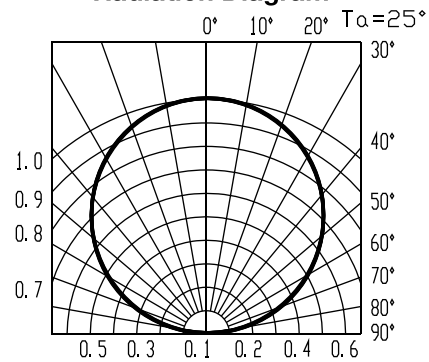
**Luminous Intensity Vs. Forward Current**



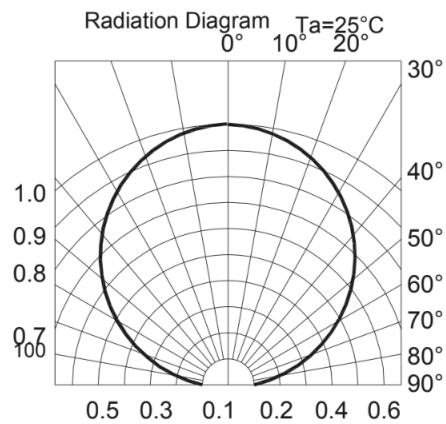
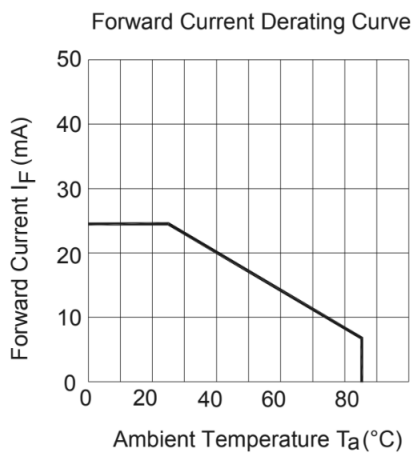
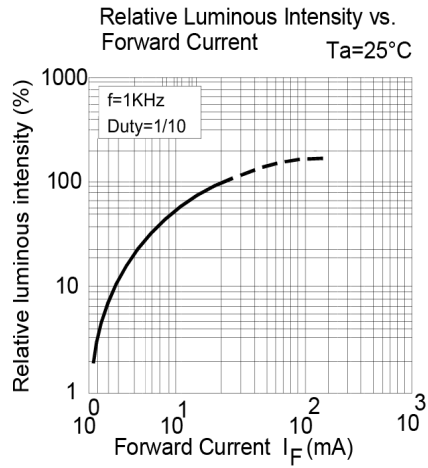
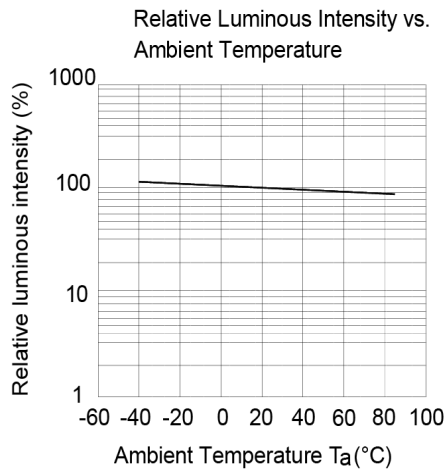
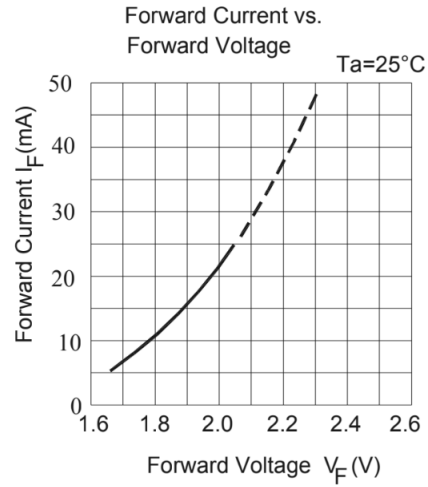
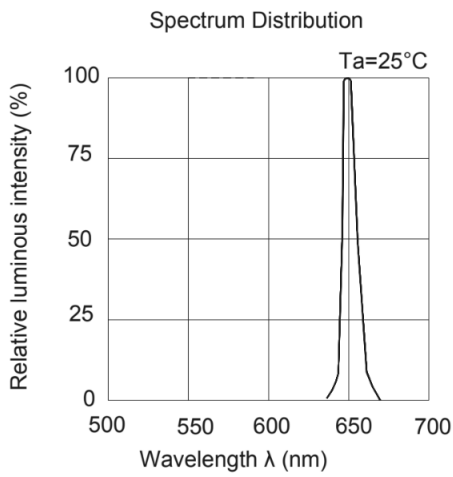
**Forward Current Derating Curve**



**Radiation Diagram**

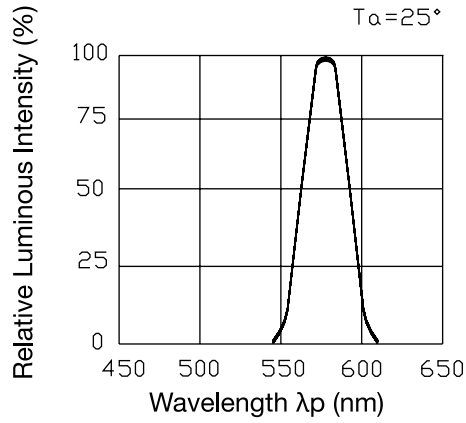


Typical Electro-Optical Characteristics Curve (SR)

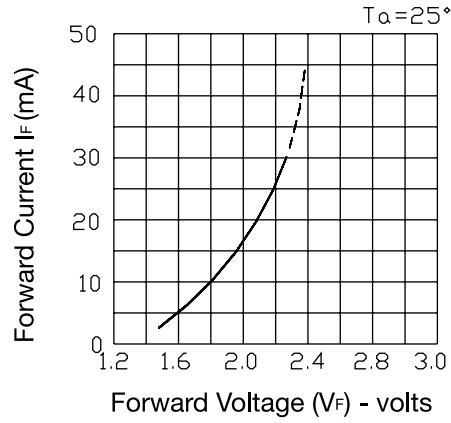


Typical Electro-Optical Characteristics Curves (VG)

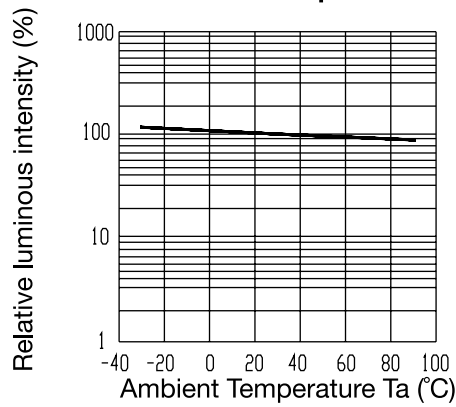
**Spectrum Distribution**



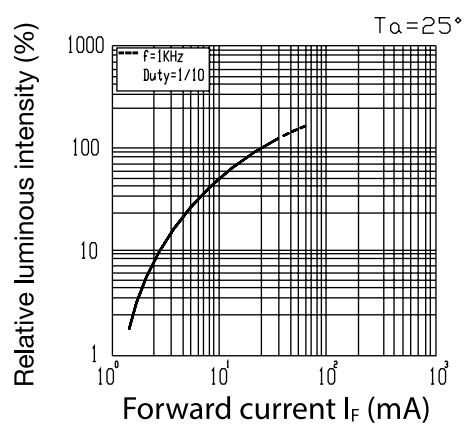
**Forward Current Vs. Forward Voltage**



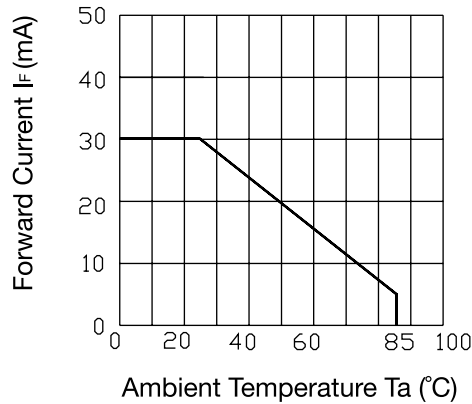
**Luminous Intensity Vs. Ambient Temperature**



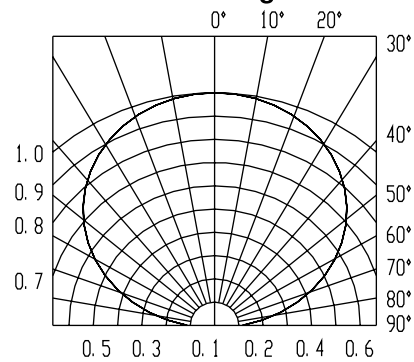
**Luminous Intensity Vs. Forward Current**



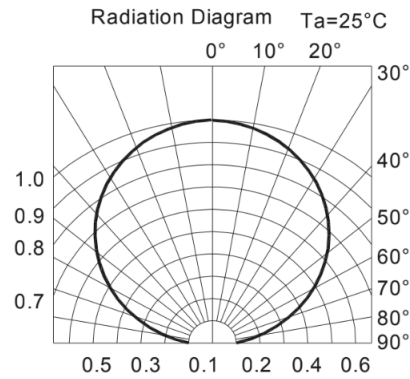
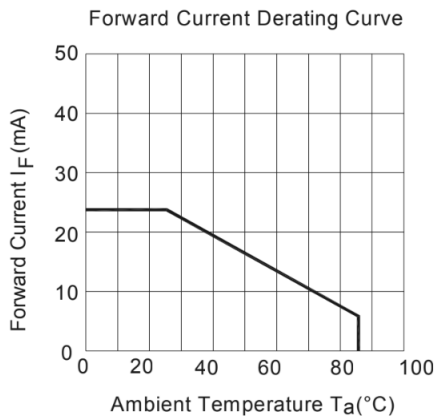
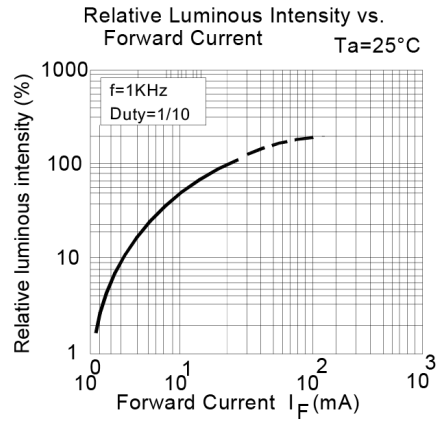
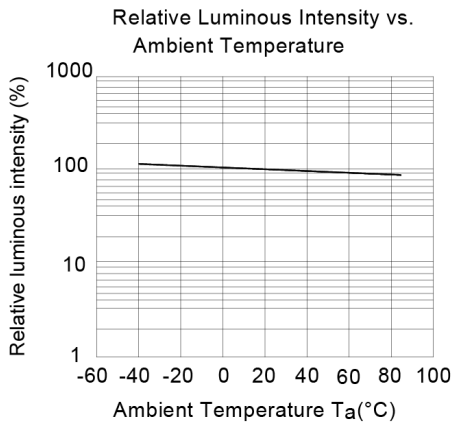
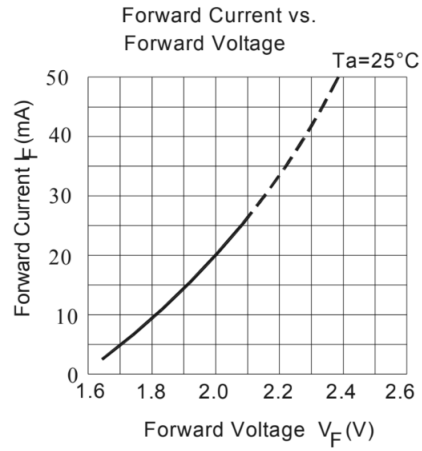
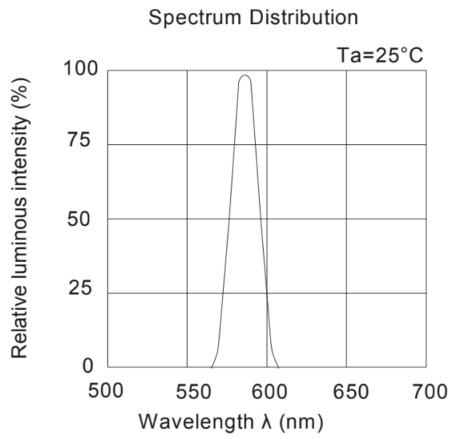
**Forward Current Derating Curve**



**Radiation Diagram**



Typical Electro-Optical Characteristics Curves (UG)



## Reliability Data

The reliability of products shall be satisfied with items listed below. Confidence level: 90%

LTPD: 10%

No	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp: 260±5°C	6 min	22 PCS	0/1
2	Temperature Cycle	H: +100°C 15 min ∫ 5 min L: -40°C 15 min	300 Cycles	22 PCS	0/1
3	Thermal Shock	H: +100°C 5 min ∫ 10 sec L: -10°C 5 min	300 Cycles	22 PCS	0/1
4	High Temperature Storage	Temp: 100°C	1000 Hrs	22 PCS	0/1
5	Low Temperature Storage	Temp:-40°C	1000 Hrs	22 PCS	0/1
6	DC Operating Life	IF=20mA	1000 Hrs	22 PCS	0/1
7	High Temperature High Humidity	85°C/85%RH	1000 Hrs	22 PCS	0/1

Reel Qty (pieces)

Part Number	Qty
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CMD6722SRUGCTR8	2000
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## Precautions

- Over-current-proof

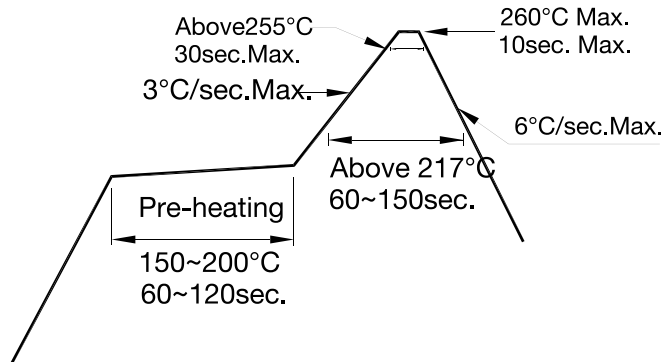
- Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change ( Burn out will happen ).

- Storage

- Do not open moisture proof bag before the products are ready to use.
- Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.
- After opening the package: The LED's floor life is 168 hrs under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.
- If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment : 60±5°C for 24 hours.

- Soldering Condition

- Pb-free solder temperature profile



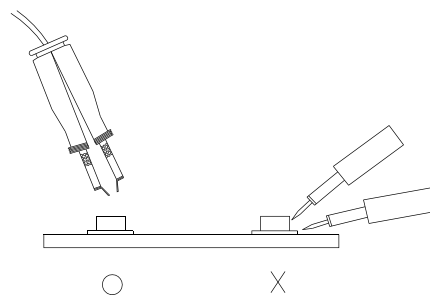
- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.

- Soldering Iron

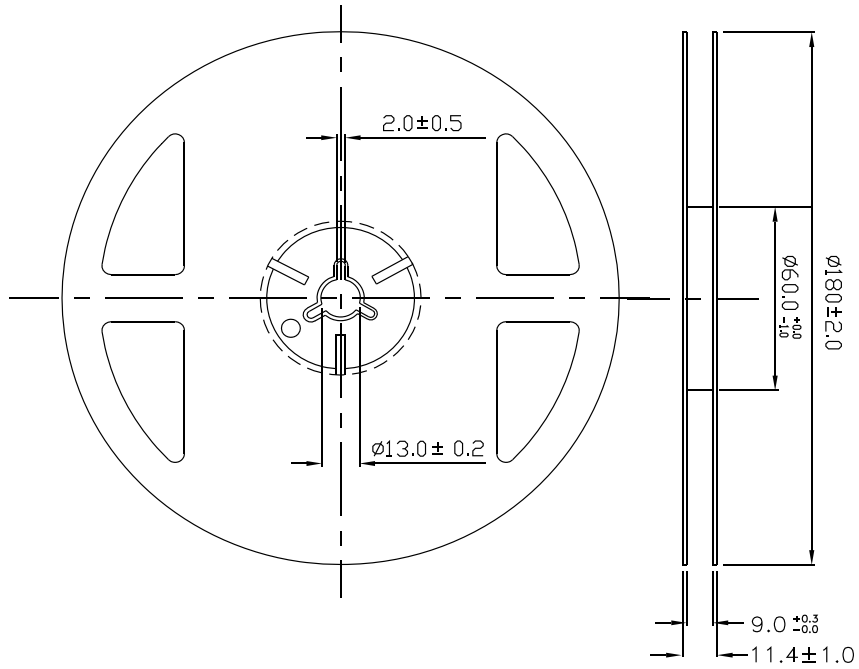
- Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

- Repairing

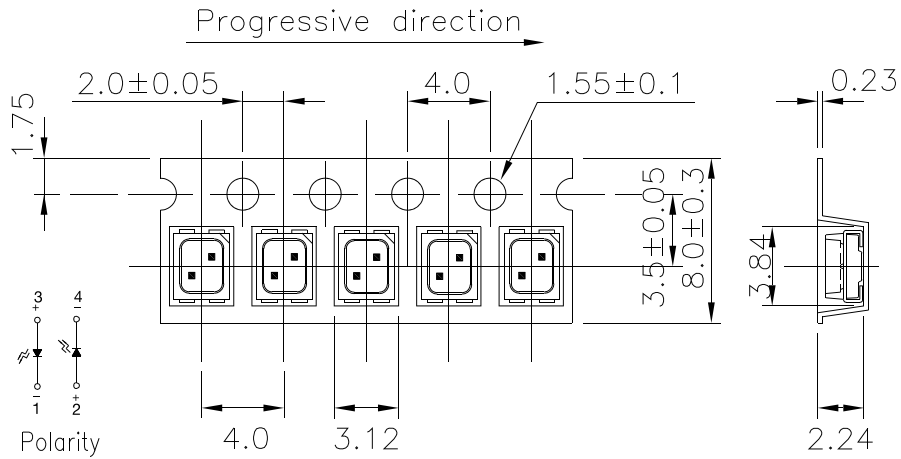
- Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



## Tape and Reel Dimensions



### Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



#### Notes:

1. The tolerance unless mentioned is  $\pm 0.1$ mm

## Compliances and Approvals

