

**Top View with Super Red LED**

**Features**

- PLCC-2 package.
- High flux output.
- High current capability.
- White package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Suitable for automatic placement equipment.
- Suitable for reflow and wave solder processes.
- RoHS



**M3227**

**Descriptions**

- This series is available in soft orange, green, blue and yellow.  
Due to the package design, the optimized light coupling by inter reflector.
- The feature makes the ideal for light pipe application. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

**Applications**

- Indicator and backlight for audio and video equipment.
- Indicator and backlight in office and family equipment.
- Flat backlight for LCD, switches and symbols.
- Light pipe application.
- General use.

**Device Selection Guide**

Part No.	Chip		Lens Color
	Material	Emitted Color	
TSRJ-QT3227-U2W1	AlInGaP	Super Red	Water Clear

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

Parameter	Symbol	Rating	Unit
Reverse Voltage	VR	5	V
Forward Current	IF	25	mA
Peak Forward Current (Duty 1/10@1KHz)	IFP	60	mA
Power Dissipation	Pd	60	mW
Electrostatic Discharge(HBM)	ESD	2000	V
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	Tsol	Reflow Soldering: 260 °C for 10 seconds Hand Soldering: 350 °C for 3 seconds	

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

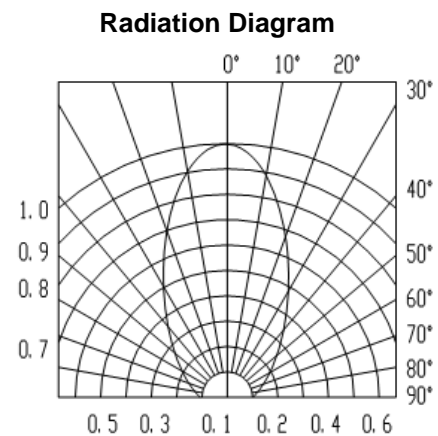
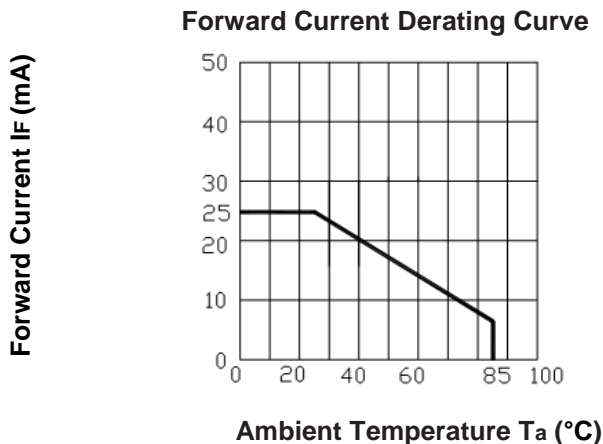
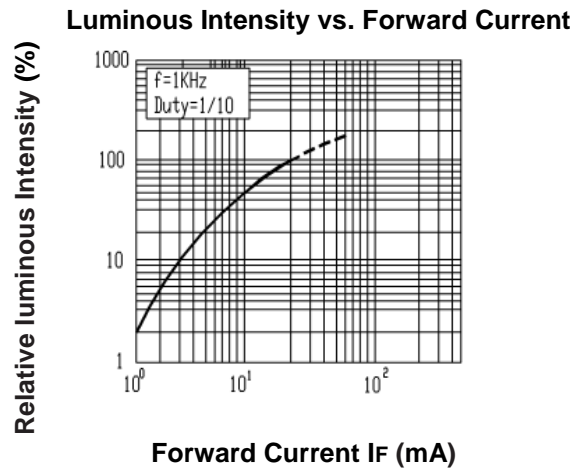
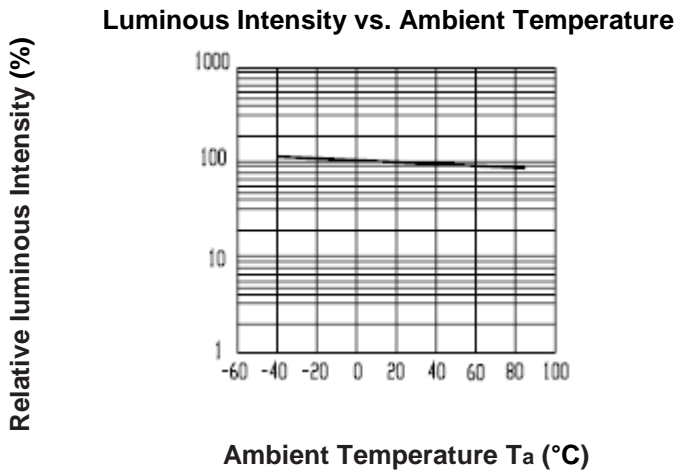
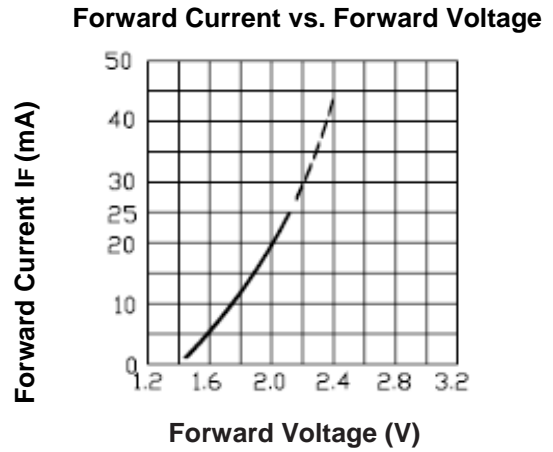
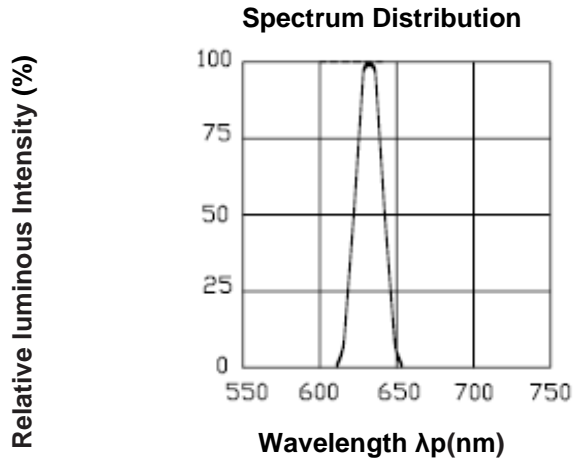
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	565	-----	1420	mcd	IF=20mA
Dominant Wavelength	λ <sub>d</sub>	617.5	-----	633.5	nm	
Peak Wavelength	λ <sub>p</sub>	-----	632.0	-----	nm	
Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	
Viewing Angle	2θ <sub>1/2</sub>	-----	60	-----	deg	
Forward Voltage	V <sub>F</sub>	1.75	2.00	2.35	V	
Reverse Current	I <sub>R</sub>	-----	-----	10	μA	VR=5V

**Notes:** Tolerance of Luminous Intensity: ±10%

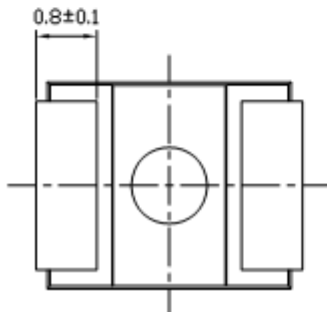
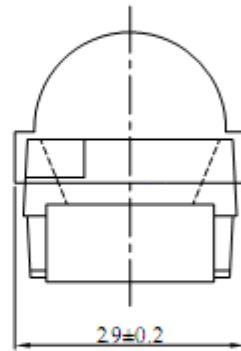
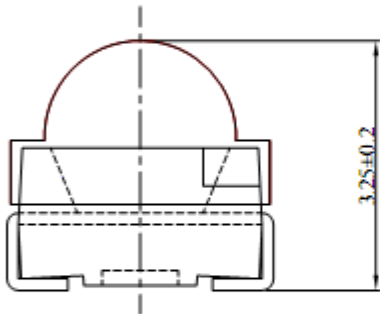
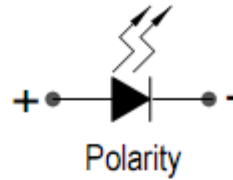
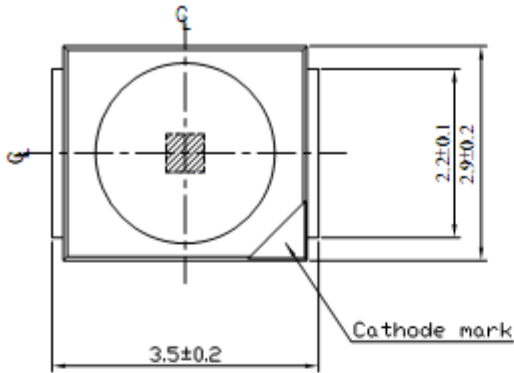
Tolerance of Dominant wavelength: ±1.0nm

Tolerance of Forward Voltage: ±0.1V

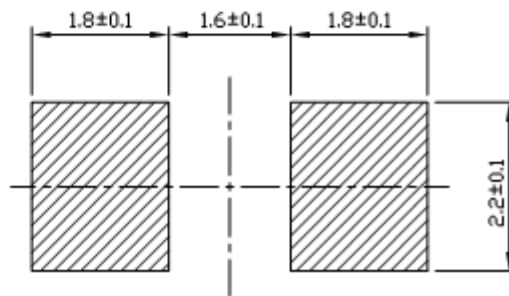
### Typical Electro-Optical Characteristics Curves (Ta=25°C)



Package Outline Dimensions (Unit=mm)

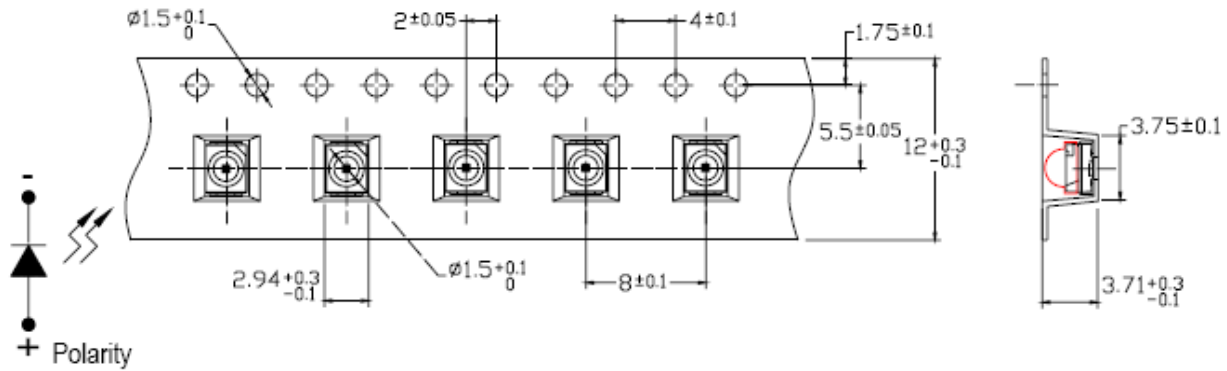


For reflow soldering (propose)



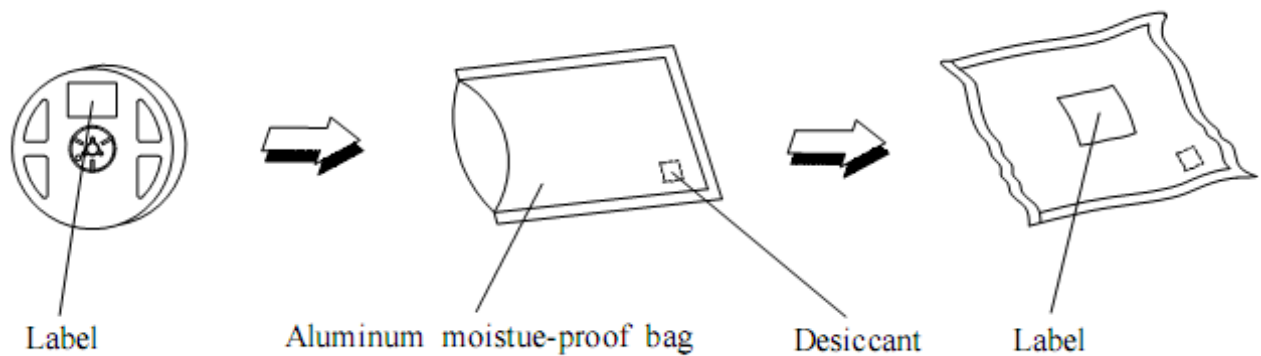
Note: The tolerances unless mentioned is  $\pm 0.1$ mm.

### Carrier Tape Dimensions (Unit=mm): Loaded quantity 800pcs per reel

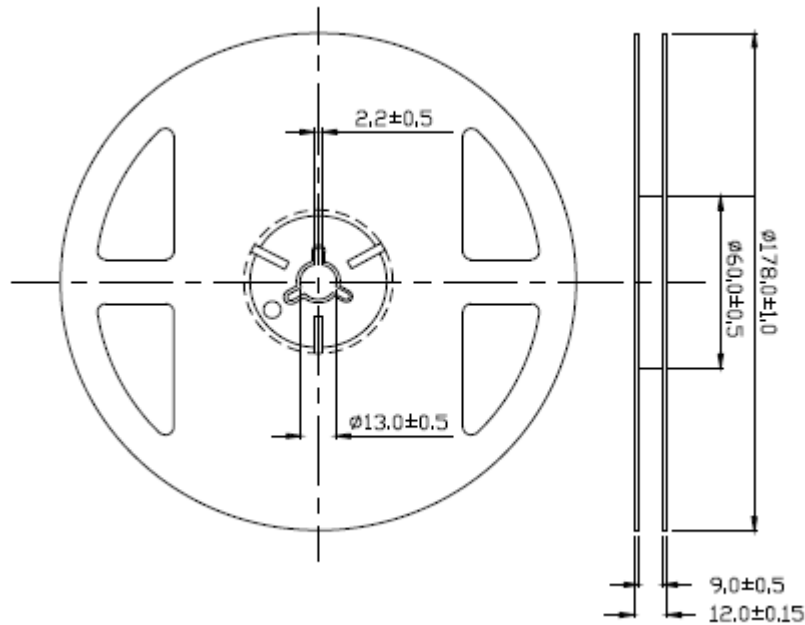


**Note:** The tolerances unless mentioned is  $\pm 0.1$ mm.

### Moisture Resistant Packaging

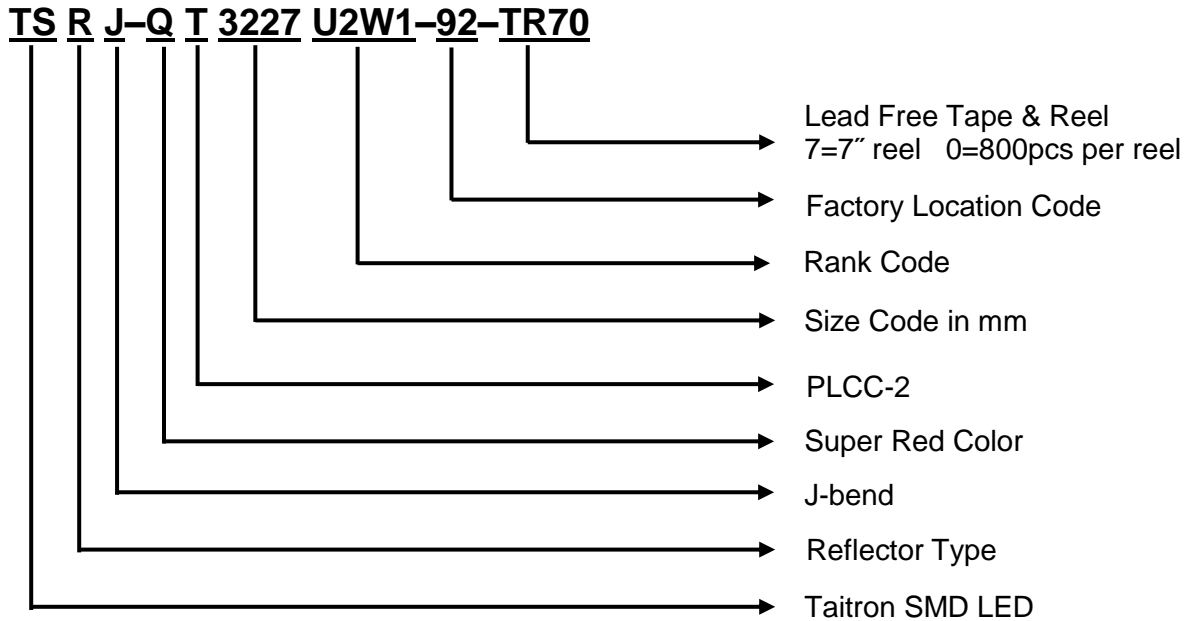


### Reel Dimensions (Unit=mm):



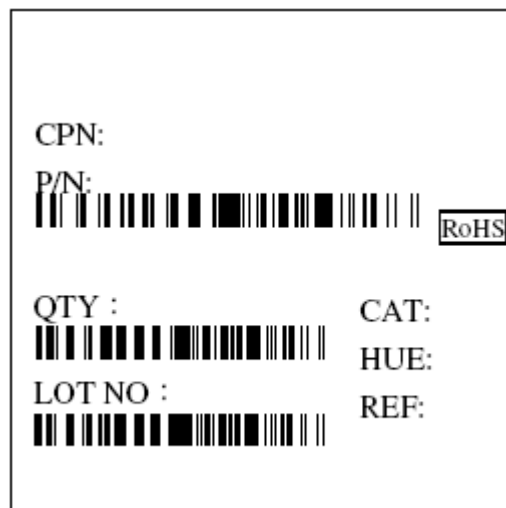
**Note:** The tolerances unless mentioned is  $\pm 0.1$ mm.

### Ordering Information



### Label Explanation

- CAT: Luminous Intensity Rank
- HUE: Dominant Wavelength Rank
- REF: Forward Voltage Rank





### Rank Combinations

#### Bin Range of Dominant Wavelength

Group	Bin Code	Min	Max	Unit	Condition
A	E4	617.5	621.5	nm	IF=20mA
	E5	621.5	625.5		
	E6	625.5	629.5		
	E7	629.5	633.5		

#### Bin Range of Luminous Intensity

Bin Code	Min	Max	Unit	Condition
U2	565	715	mcd	IF=20mA
V1	715	900		
V2	900	1120		
W1	1120	1420		

#### Bin Range of Forward Voltage

Group	Bin Code	Min	Max	Unit	Condition
B	0	1.75	1.95	V	IF=20mA
	1	1.95	2.15		
	2	2.15	2.35		

**Notes:** Tolerance of Luminous Intensity:  $\pm 10\%$

Tolerance of Dominant wavelength:  $\pm 1.0\text{nm}$

Tolerance of Forward Voltage:  $\pm 0.1\text{V}$

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