

1206 Reverse Package Super Red LED

Features

- Package in 8mm tape on 7" diameter reel
- Compatible with automatic placement equipment
- Compatible with infrared and vapor phase reflow solder process
- Mono-color type
- RoHS



M3216



Descriptions

- The SMD series enable smaller board size, higher packing density, reduced storage space, and finally small equipment to be obtained.
- Besides, light weight makes them ideal for miniature applications, etc.

Applications

- Automotive: backlighting in dashboards and switches.
- Telecommunication: Indicator and backlighting in the telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
TSP3-QF3216A3	AllnGaP	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	ESD	2000	V
Typical Thermal Resistance Junction to Ambient	R θ -JA	867	°C/W
Typical Thermal Resistance Junction to Lead	R θ -JL	745	°C/W
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	Reflow Soldering: 260 °C for 10 seconds Hand soldering: 350 °C for 3 seconds	

Note:

1. Thermal resistance from junction to ambient and from junction to lead P.C.B mounted on recommend copper pad areas.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	38	57	-----	mcd	IF=20mA
Viewing Angle	2θ _{1/2}	-----	130	-----	deg	
Peak Wavelength	λ _p	-----	632	-----	nm	
Dominant Wavelength	λ _d	-----	624	-----	nm	
Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	
Forward Voltage	V _F	1.7	2.0	2.4	V	
Reverse Current	I _R	-----	-----	10	uA	VR=5V

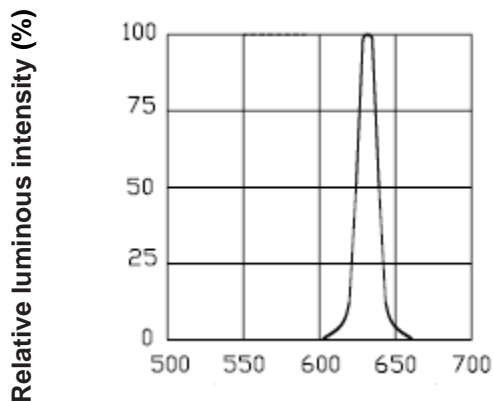
Notes: Tolerance of Luminous Intensity: ±10%

Tolerance of Dominant wavelength: ±1.0nm

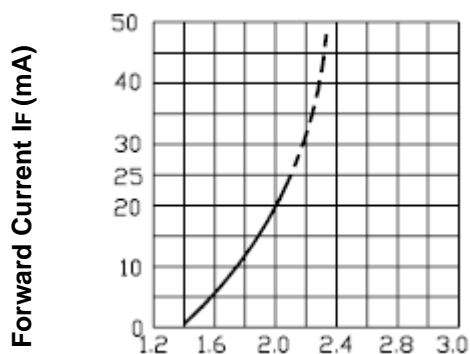
Tolerance of Forward Voltage: ±0.1V

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

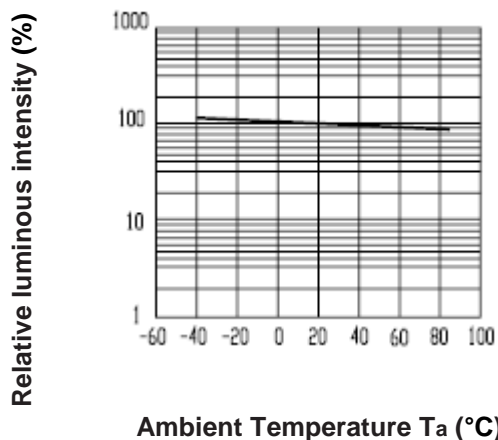
Spectrum Distribution



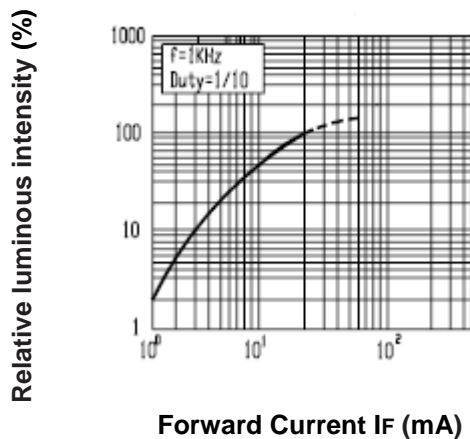
Forward Current vs. Forward Voltage



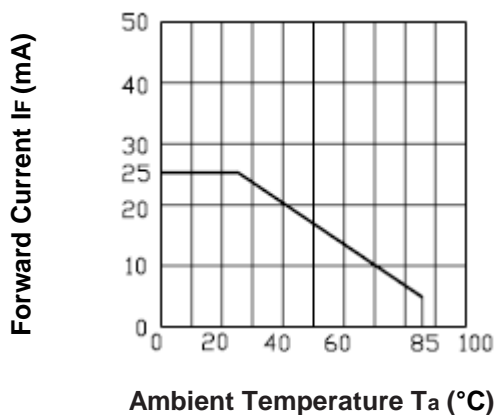
Luminous Intensity vs. Ambient Temperature



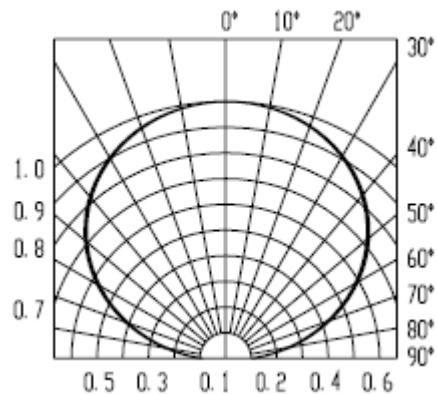
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



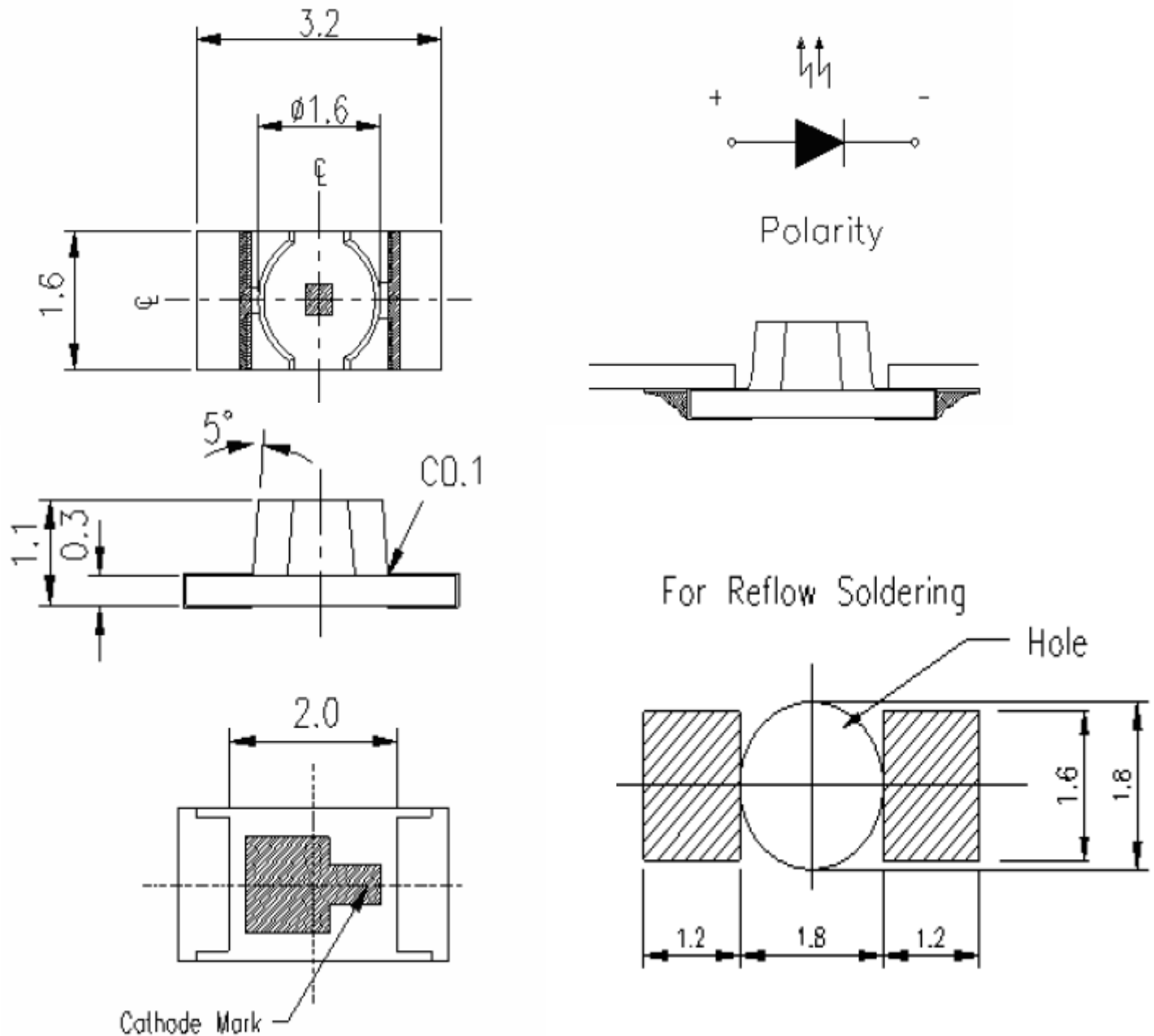
Radiation Diagram



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Package Outline Dimensions (Unit=mm)

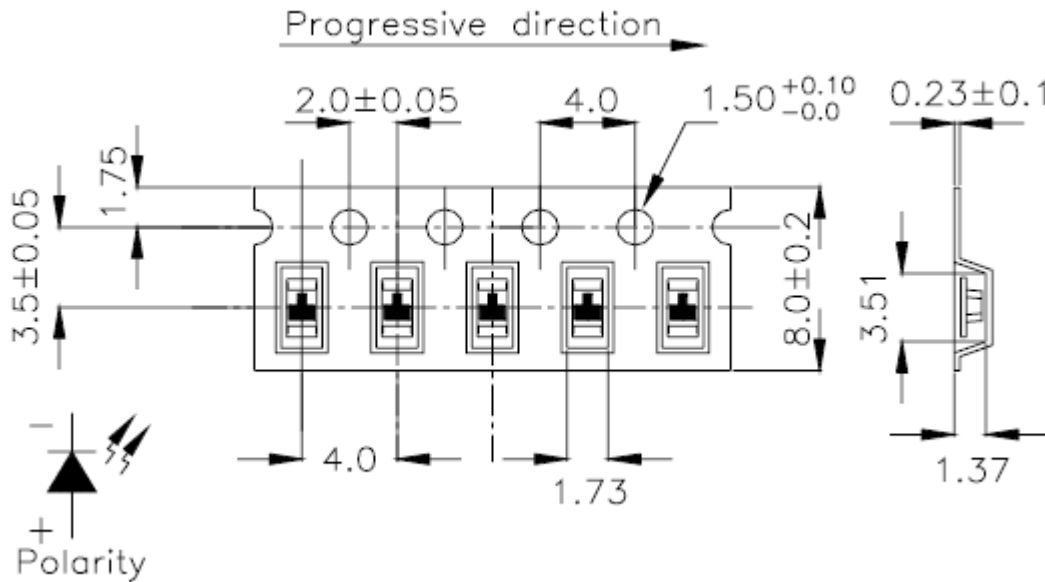


Note: The tolerances unless mentioned is ± 0.1 mm, Angle is $\pm 0.5^\circ$, Unit = mm

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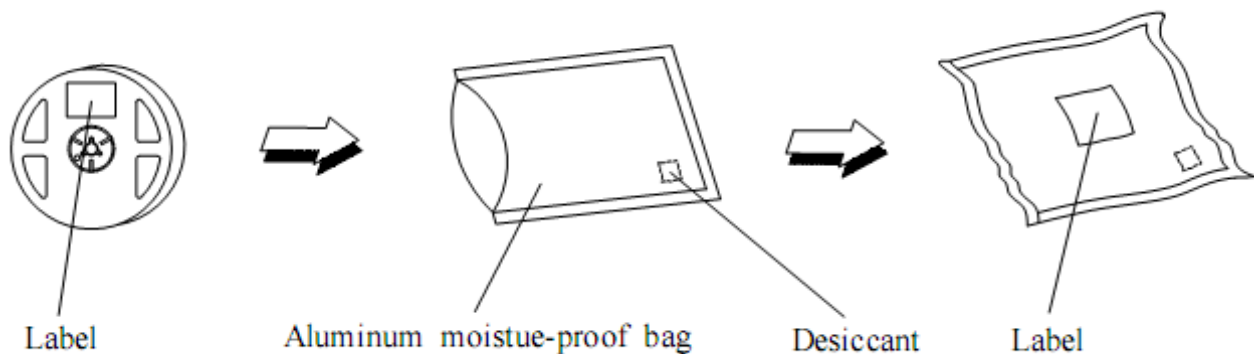
TSP3-QF3216A3

Carrier Tape Dimensions (Unit=mm): Loaded quantity 2000pcs per reel



Note: The tolerances unless mentioned is ± 0.1 mm, Angle is $\pm 0.5^\circ$, Unit = mm

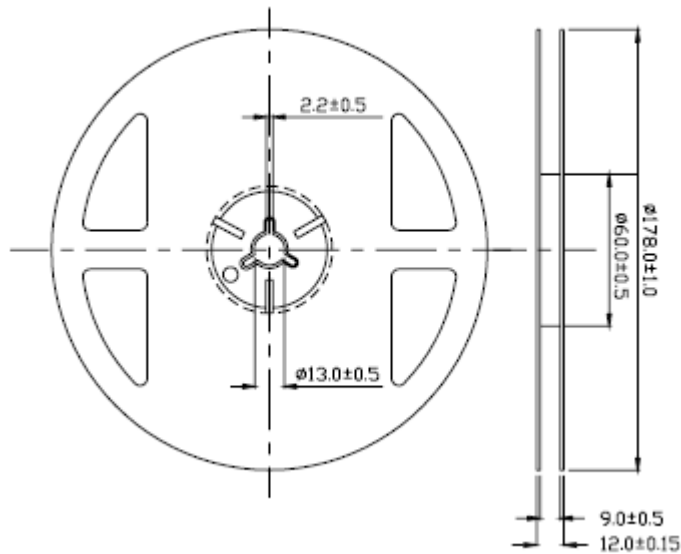
Moisture Resistant Packaging



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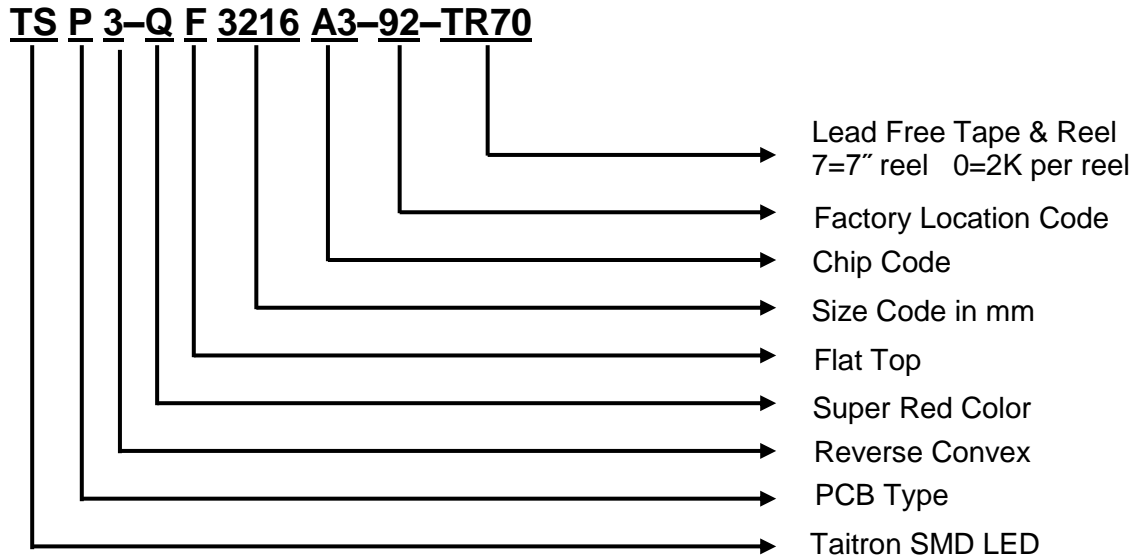
TSP3-QF3216A3

Reel Dimensions (Unit=mm):



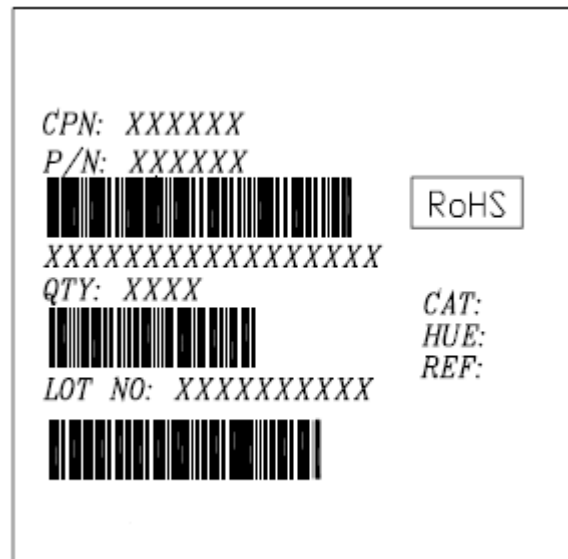
Note: The tolerances unless mentioned is ± 0.1 mm.

Ordering Information



Label Explanation

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



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