0.5W High Power LED

Features

- Super high brightness surface mount LED
- Compatible with automatic placement equipment
- Class 1 ESD sensitive
- RoHS

M3228

Applications

- Automotive interior lighting
- Indoor and outdoor displays
- Backlighting (LCD, displays, switches, office equipment)
- Indicator
- General use

Device Selection Guide

Part No.	Chip Emitted Color	Lens Color
TPXJ-QF3228-10-5Y4Z	Super Red	Water Clear

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	**VR**	5	V
Forward Current (Note 1 & 3)	**IF**	150	mA
Peak Forward Current (Note 2)	**IFP**	300	mA
Power Dissipation	**PD**	457.5	mW
Operating Temperature	**Topr**	-40 ~ +85	°C
Storage Temperature	**Tstg**	-40 ~ +100	°C
Junction Temperature	**Tj**	125	°C
Soldering Temperature	**Tsol**	260 °C /5 seconds	
Thermal Resistance (Junction/Ambient)	**θja**	100	K/W
Thermal Resistance (Junction/Slug)	**θjs**	60	K/W

Notes: 1. Design of heat dissipation should be considered.

2. Duty ratio=1/10, pulse width=0.1ms

3. The allowable operating current at different operation temperature, please take reference from Fig. 5 on page 4.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	3550	-----	5600	mcd	IF=150 mA
Total Flux/ Iv	-----	-----	2.3	-----	-----	
Viewing Angle	2θ1/2	-----	120	-----	deg	
Dominant Wavelength	λd	620	-----	635	nm	
Forward Voltage	VF	1.85	-----	3.05	V	
Reverse Current	IR	-----	-----	10	uA	VR=5V

Notes: Tolerance of Luminous Intensity: ±15%

Tolerance of dominant Wavelength: ±1.0nm

Tolerance of Forward Voltage: ±0.1V

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

Fig.1 Spectrum Distribution

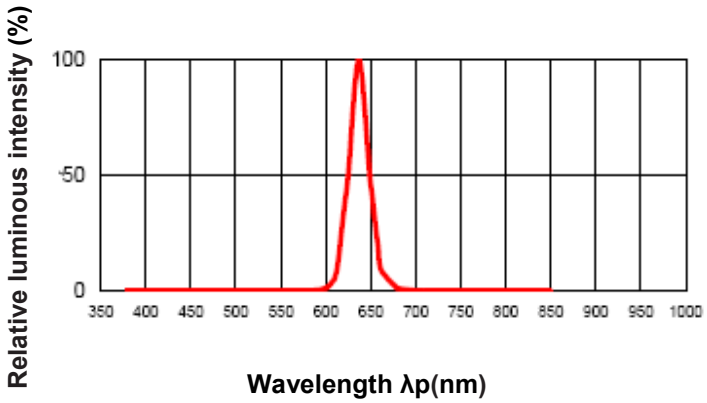


Fig.2 Forward Current vs. Forward Voltage

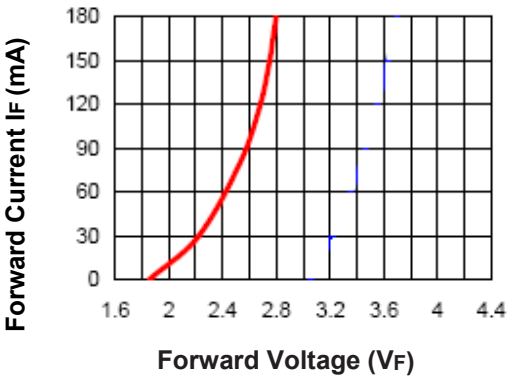


Fig.3 Luminous Intensity at IF=20mA vs. Ambient Temperature

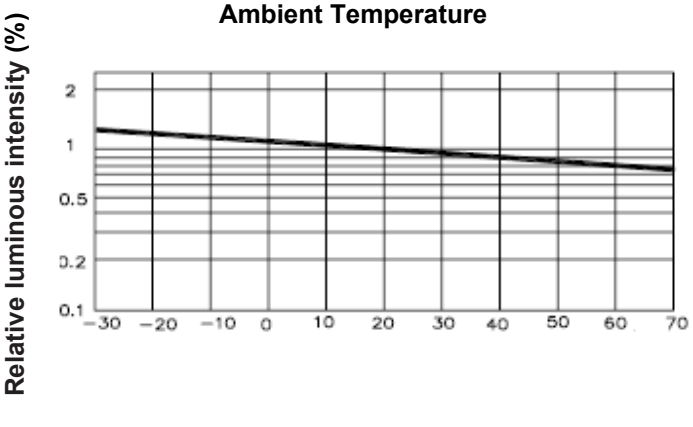


Fig. 4 Luminous Intensity vs. Forward Current

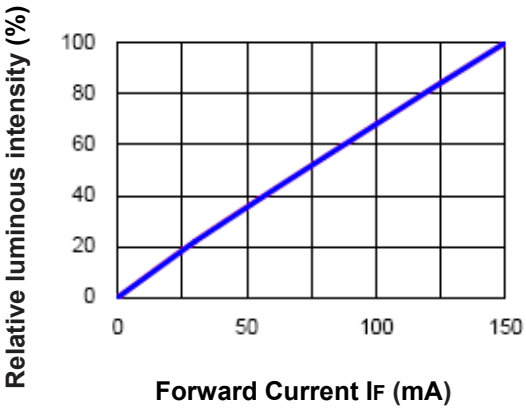


Fig.5 Forward Current Derating Curve

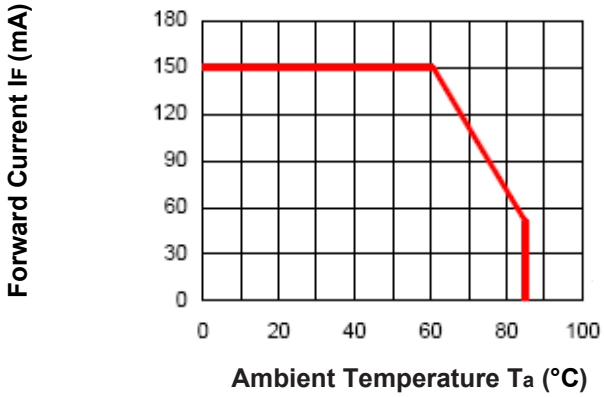
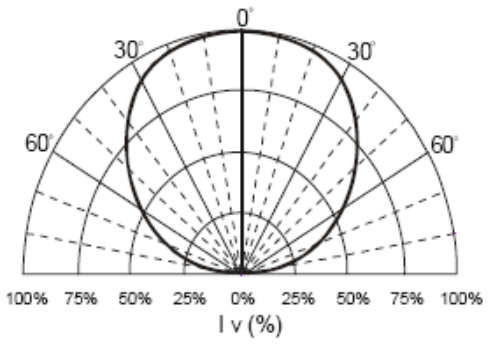
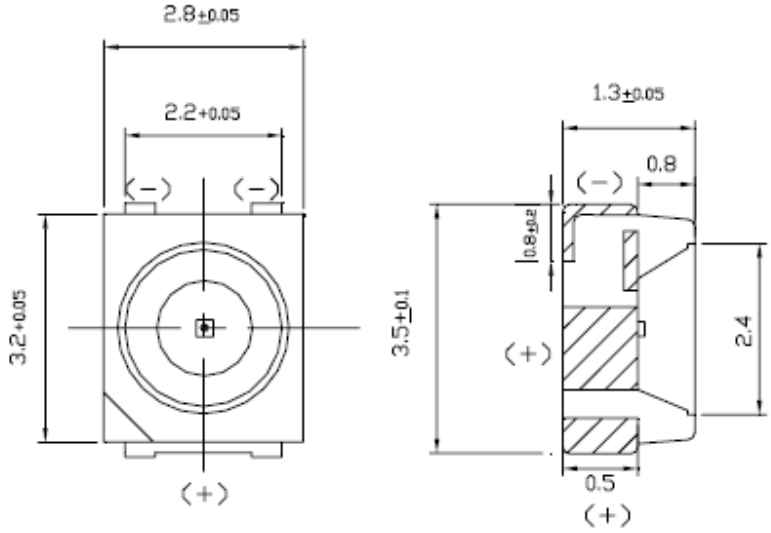


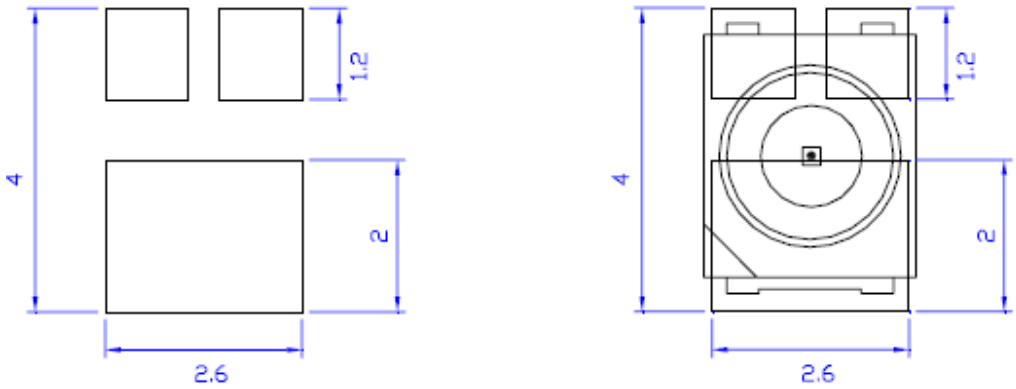
Fig.6 Radiation Diagram



Package Outline Dimensions (Unit=mm)

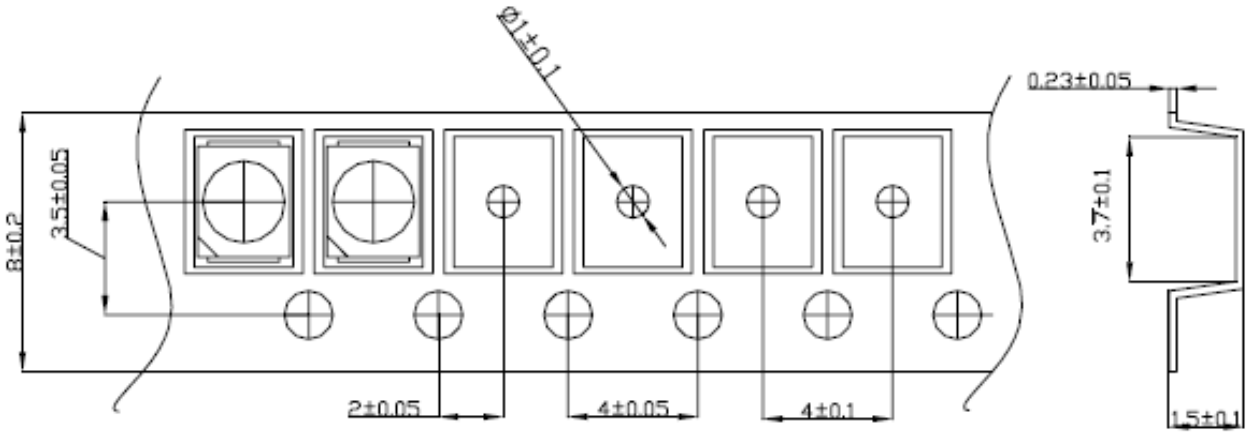


Recommend Soldering Pad



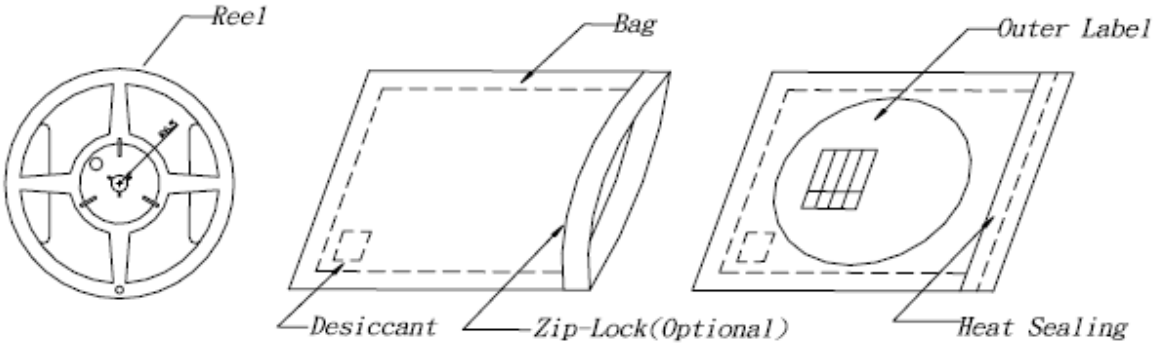
Note: The tolerances unless mentioned is ±0.20mm.

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

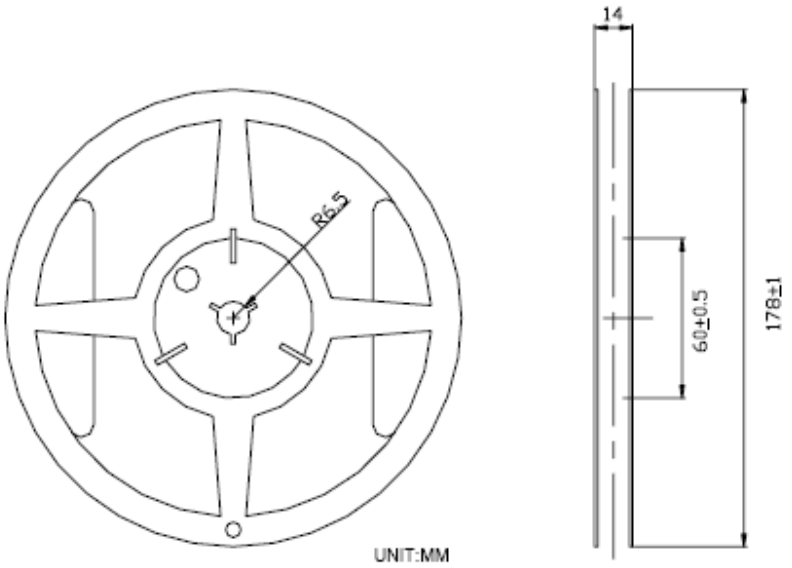


Note: The tolerances unless mentioned is ±0.10mm.

Moisture Resistant Packaging

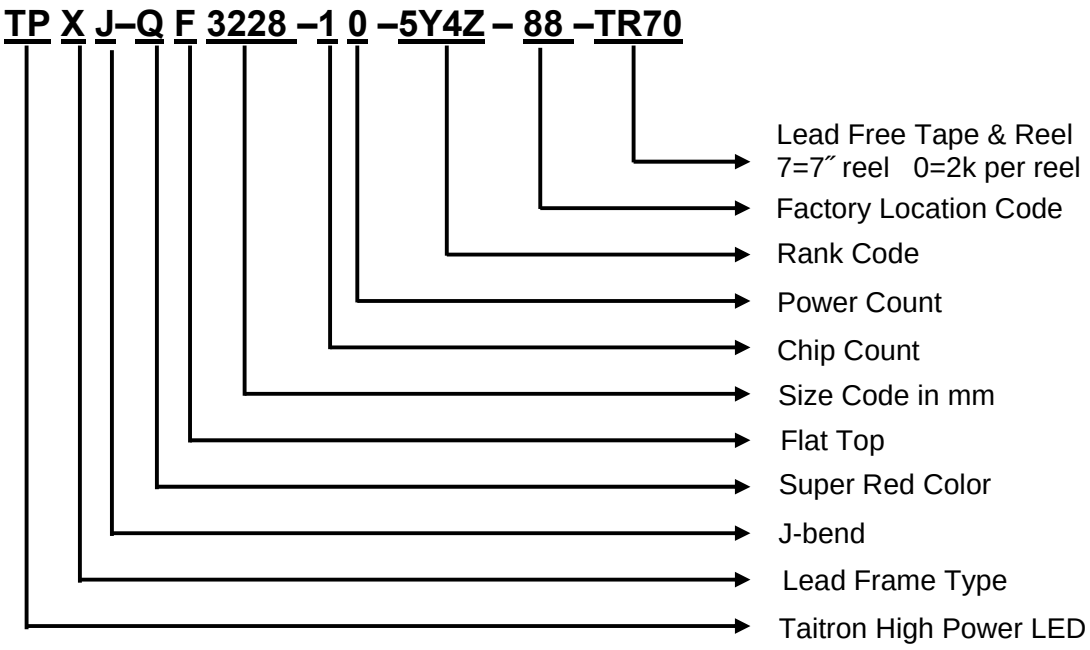


Reel Dimensions (Unit=mm):



Note: The tolerances unless mentioned is ±0.1mm.

Ordering Information



Rank Combinations

Bin Range of Luminous Intensity

Bin Code	Min	Max	Unit	Condition
5Y	3550	4500	mcd	IF=150 mA
4Z	4500	5600		

Bin Range of Dominant Wavelength

Bin Code	Min	Max	Unit	Condition
RZ	620	625	nm	IF=150 mA
R7	625	630		
R8	630	635		

Bin Range of Forward Voltage

Bin Code	Min	Max	Unit	Condition
3	1.85	2.15	V	IF=150 mA
4	2.15	2.45		
5	2.45	2.75		
6	2.75	3.05		

Notes: Tolerance of Luminous Intensity: ±15%

Tolerance of dominant Wavelength: ±1.0nm

Tolerance of Forward Voltage: ±0.1V

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