

0.8mm Height Flat Top 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 compliance



Applications

- Automotive: Backlighting in dashboards and switch
- Telecommunication: indicator and backlighting in telephone and fax
- Flat backlight for LCD, switches and symbols



Descriptions

- The SMD series enables smaller board size, higher packing density, reduced storage space, and small equipment
- Light weight makes them ideal for miniature applications
- Applications include automotive, telecommunications and backlighting

Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
TSP1-XF1608H8A4	AlGaInP	Super Yellow	Water Clear

Absolute Maximum Ratings (T_a=25°C)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Power Dissipation	P_d	60	mW
Electrostatic Discharge	ESD	2000	V
Soldering Temperature	T_{so}	260 (for 5 seconds)	°C
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +90	°C

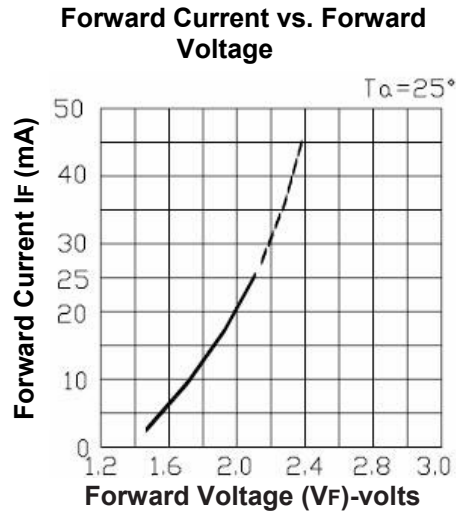
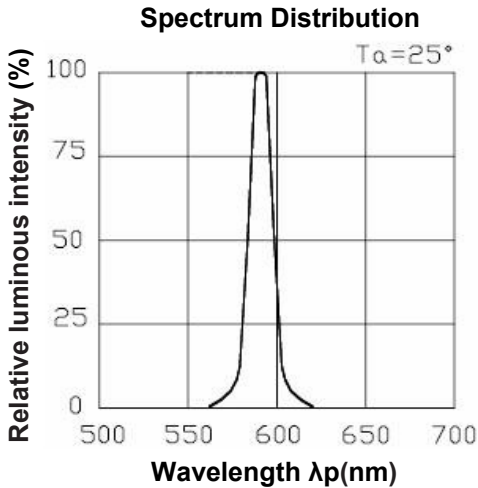
Electro-Optical Characteristics (T_a=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_v	53	80	----	mcd	I _F =20mA
Viewing Angle	2θ_{1/2}	----	100	----	deg	
Peak Wavelength	λ_p	----	591	----	nm	
Dominant wavelength	λ_d	----	589	----	nm	
Spectrum Radiation Bandwidth	Δλ	----	15	----	nm	
Forward Voltage	V_F	----	2.0	2.4	V	
Reverse Current	I_R	----	----	10	μA	V _R =5V

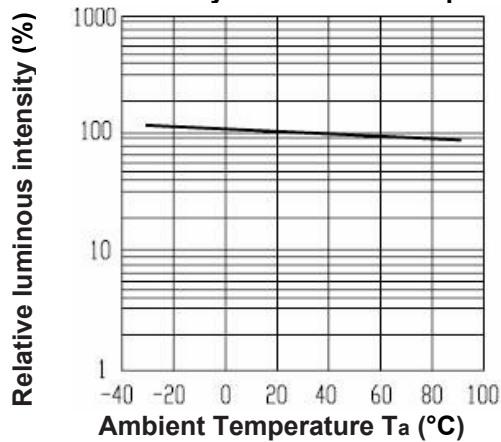
Notes:

1. Tolerance of Luminous Intensity ±10%
2. Tolerance of Dominant Wavelength ±1nm
3. Tolerance of Forward Voltage ±0.05V

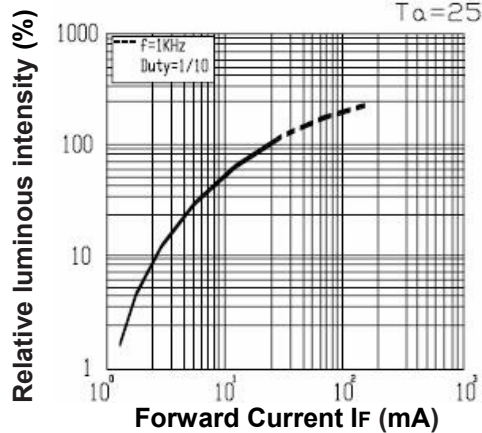
Typical Electro-Optical Characteristics Curves



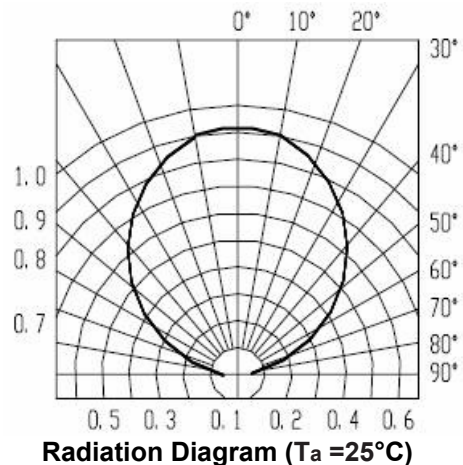
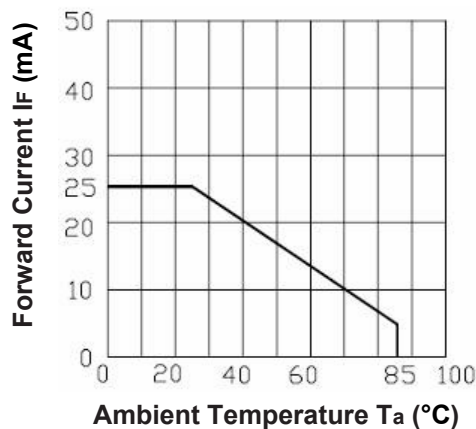
Luminous Intensity vs. Ambient Temperature



Luminous Intensity vs. Forward Current
 $T_a = 25^\circ$



Forward Current Derating Curve



Reliability Test Items and Conditions

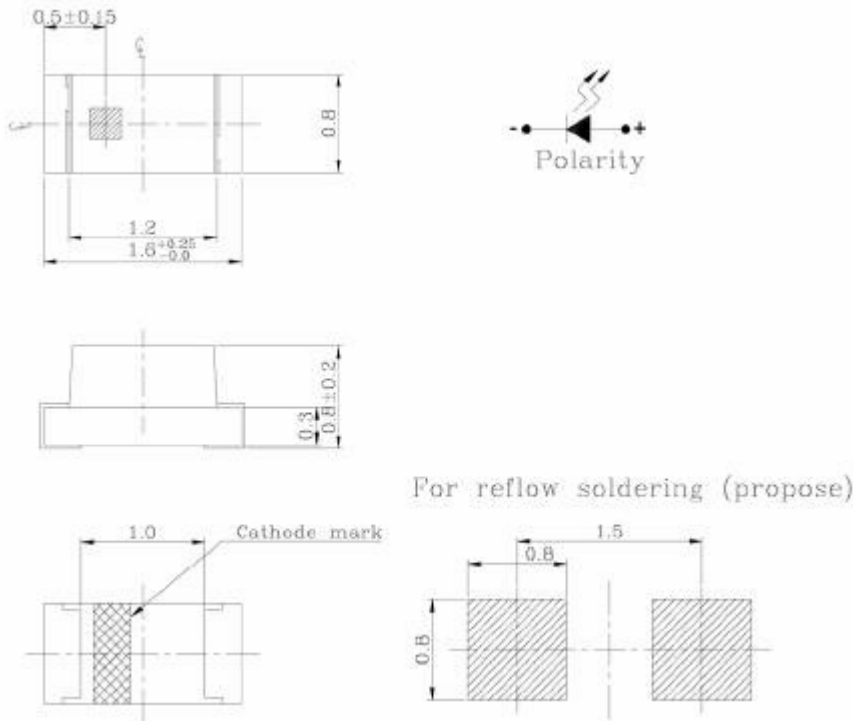
The reliability of products shall be satisfied with items listed below.

Confidence level: 90%,

LTPD: 10%

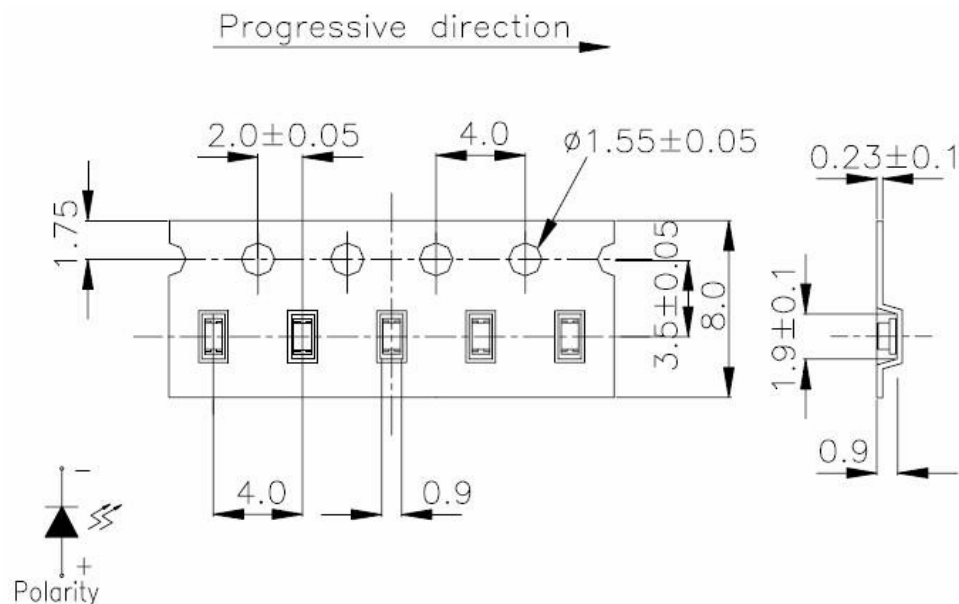
No.	Items	Test Condition	Test Hours / Cycles	Sample Size	Ac/Re
1	Solder Heat	Temp.: 260°C ±5°C.	5 Sec	76 PCS.	0/1
2	Temperature Cycle	H: +85°C 30min ↓ 5 min L: -55°C 15min	50 Cycles	76 PCS.	0/1
3	Thermal Shock	H: +100°C 5min ↓ 10 sec L: -10°C 5min	50 Cycles	76 PCS.	0/1
4	High Temperature Storage	Temp: 100°C	1000 Hrs.	76 PCS.	0/1
5	Low Temperature Storage	Temp: -40°C	1000 Hrs.	76 PCS.	0/1
6	DC Operating Life	I _F = 20 mA	1000 Hrs.	76 PCS.	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 Hrs.	76 PCS.	0/1

Package Dimensions (In mm)

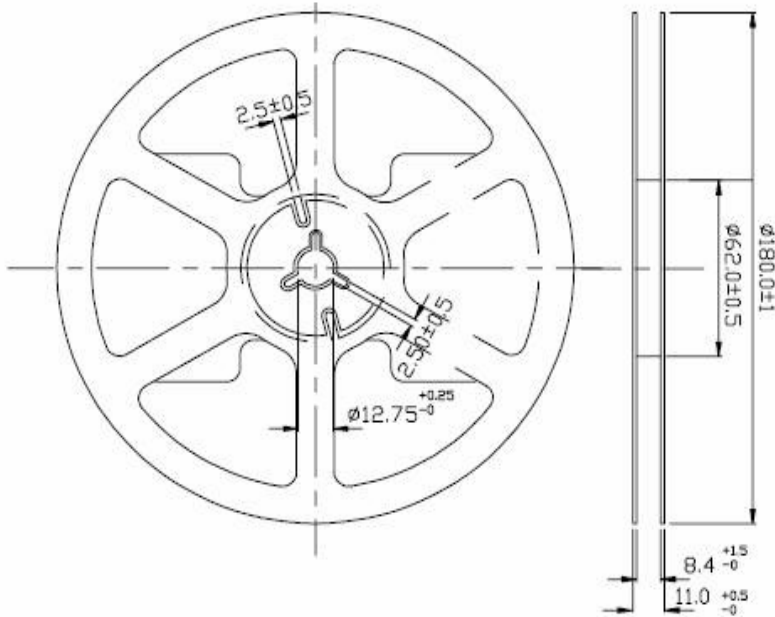


Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Carrier Tape Dimensions Loaded quantity 3000pcs per reel (In mm)

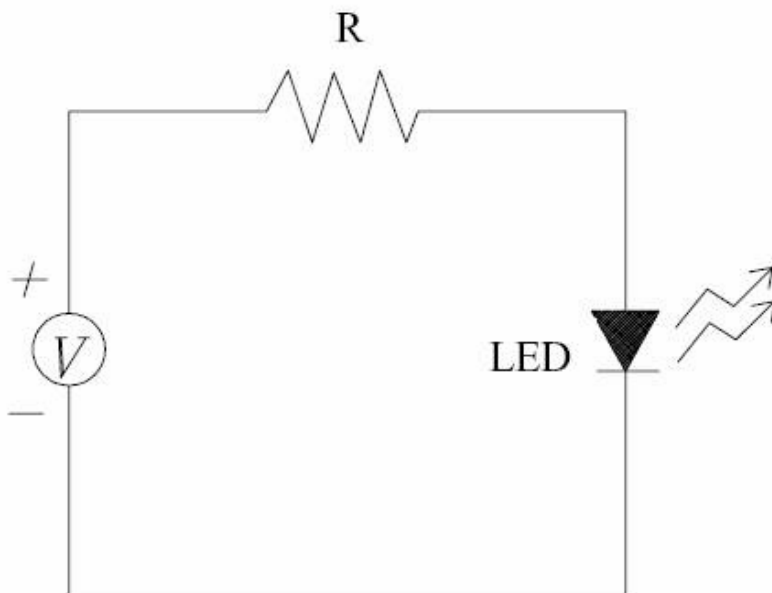


Reel Dimensions



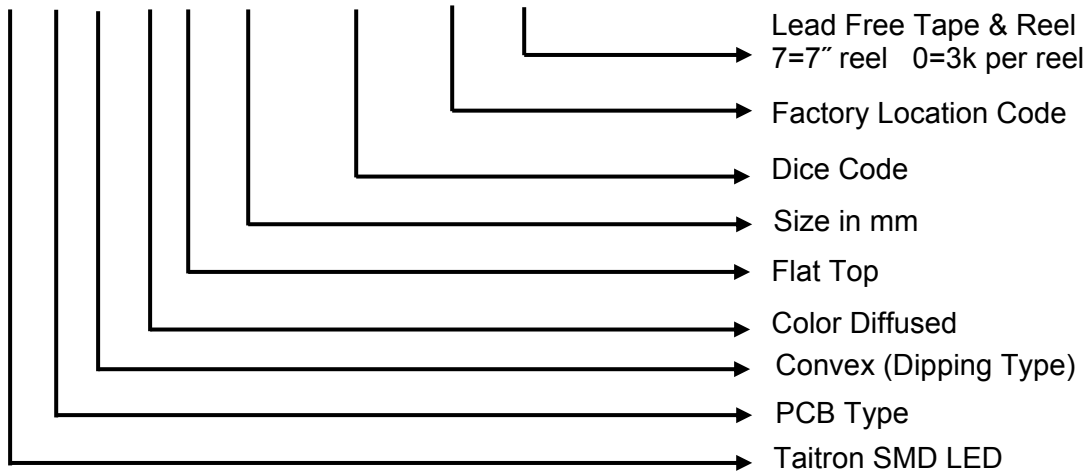
Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Test Circuit



Ordering Information

T S P 1 - X F 1 6 0 8 H 8 A 4 - 9 2 - T R 7 0



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