

0603 Package 0.6mm 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



M1608

Descriptions

- The SMD series enables smaller board size, higher packing density, reduced storage space, and small equipment.
- Besides, light weight makes them ideal for miniature applications.

Applications

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

Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
TSP1-WF1608H6-CRSM	InGaN	White	Yellow Diffused

Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$)

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	95	mW
Electrostatic Discharge (HBM)	ESD	150	V
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +90	°C
Soldering Temperature	T_{sol}	Reflow Soldering: 260 °C for 10 seconds Hand Soldering: 350 °C for 3 seconds	

Electro-Optical Characteristics ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_v	112	-----	285	mcd	I _F =20mA
Viewing Angle	2θ_{1/2}	-----	130	-----	deg	
Forward Voltage	V_F	2.75	-----	3.95	V	
Reverse Current	I_R	-----	-----	50	μA	V _R =5V

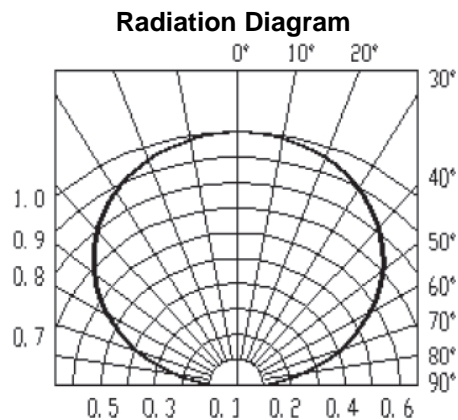
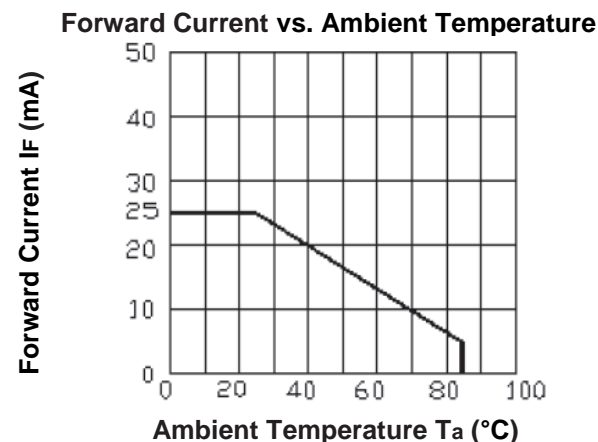
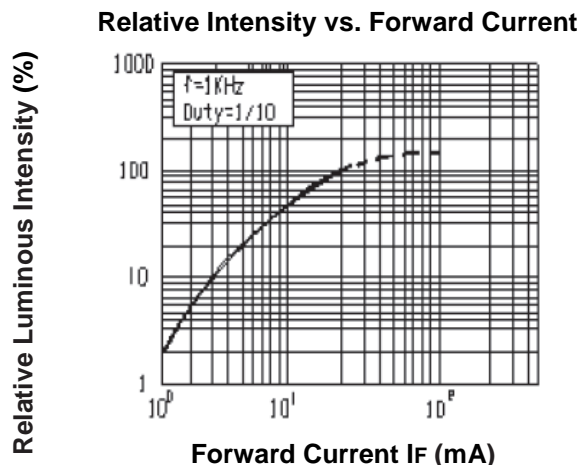
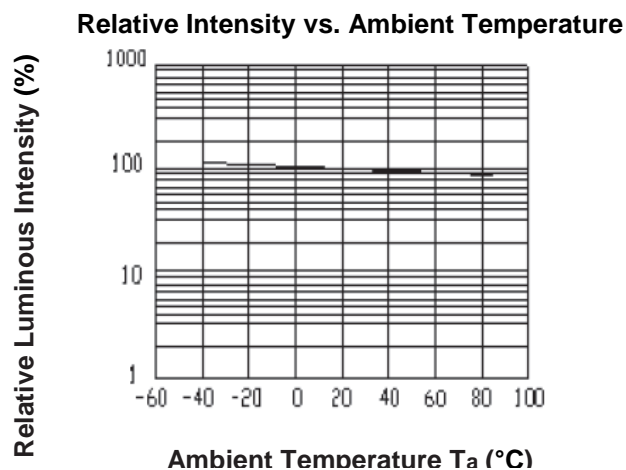
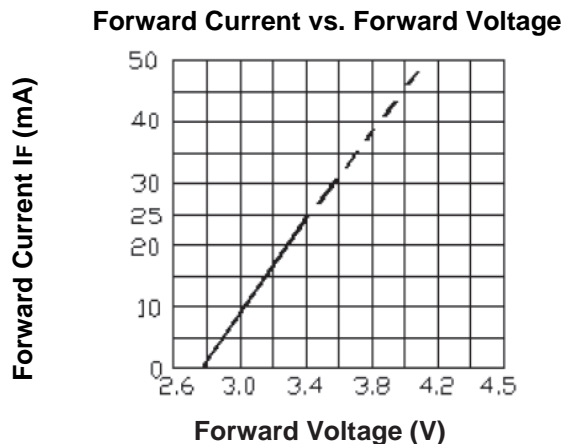
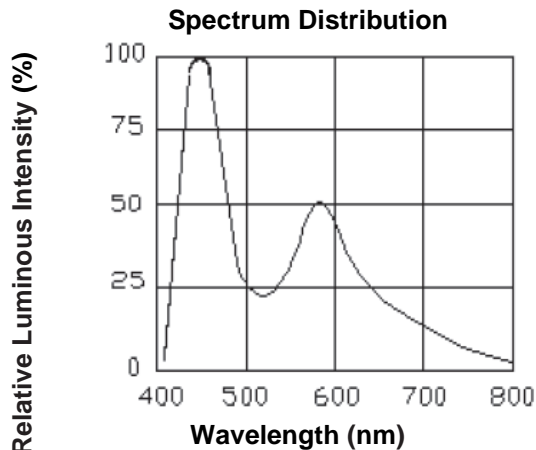
Notes:

1. Tolerance of Luminous Intensity: ±10%
2. Tolerance of Forward Voltage: ±0.1V

0.6mm Height Flat Top LED

TSP1-WF1608H6-CRSM

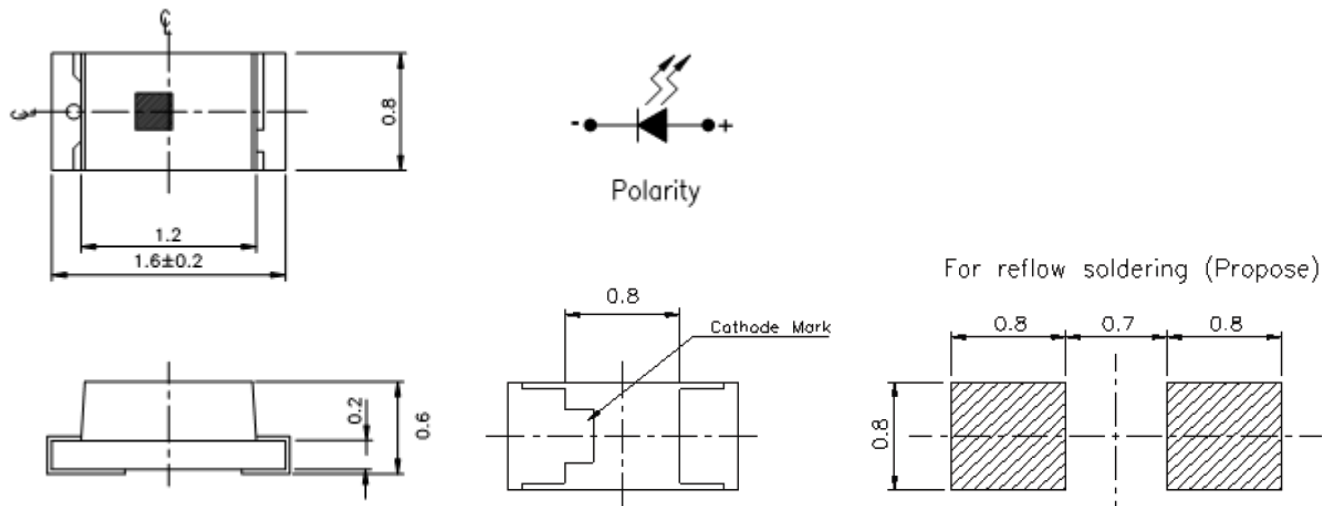
Typical Electro-Optical Characteristics Curves ($T_a=25^\circ\text{C}$)



0.6mm Height Flat Top LED

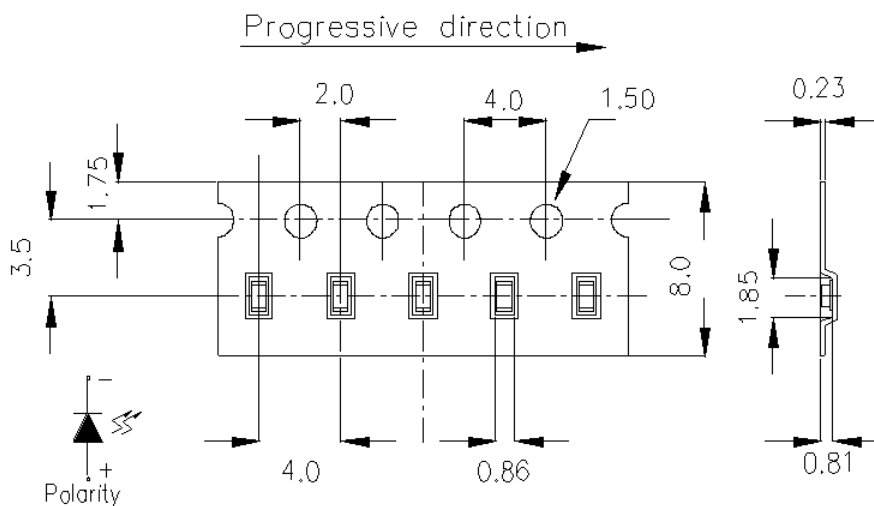
TSP1-WF1608H6-CRSM

Package Dimensions (Unit=mm)



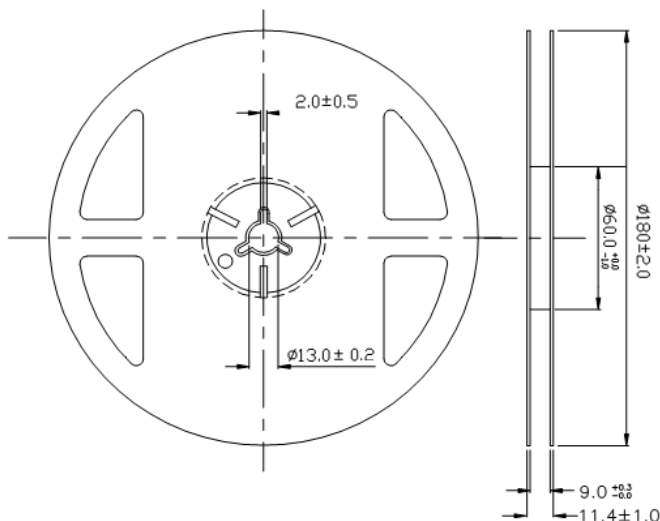
Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Carrier Tape Dimensions (Unit=mm): Loaded quantity 3000pcs per reel



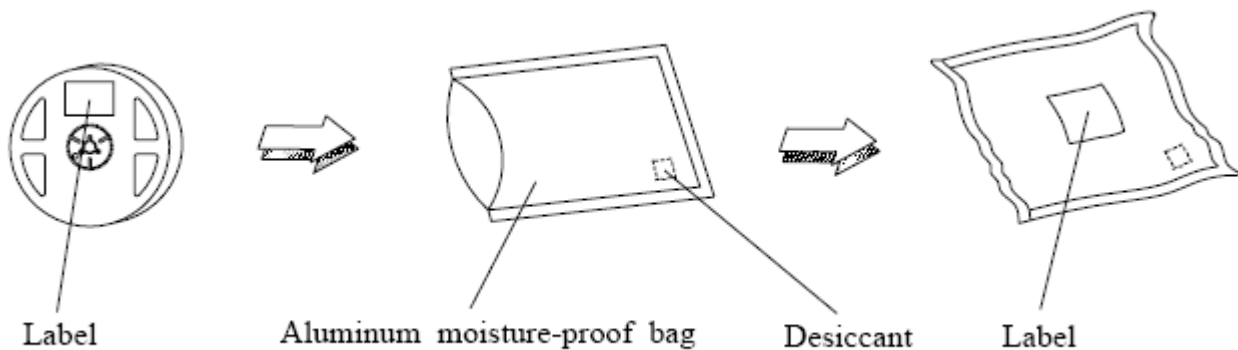
Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Reel Dimensions (Unit=mm)



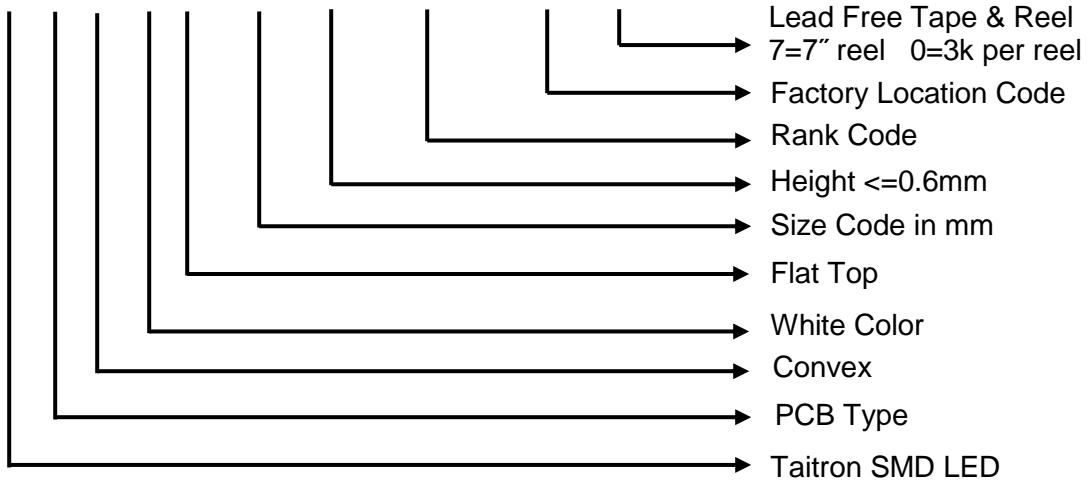
Note: The tolerances unless mentioned is ± 0.1 mm.

Moisture Resistant Packaging



Ordering Information

TS P 1- W F 1608 H6- CRSM - 92-TR70

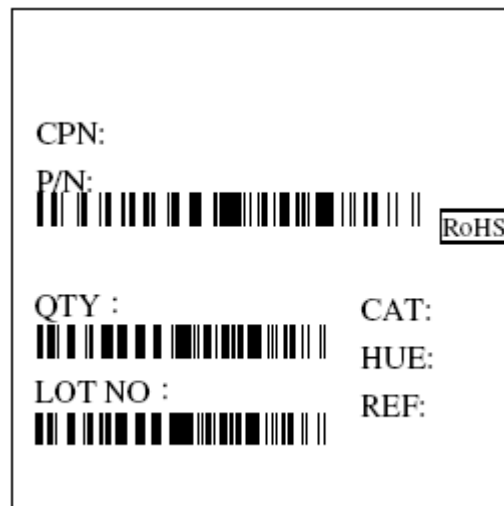


Label Explanation

CAT: Luminous Intensity Rank

HUE: Chromaticity Coordinates

REF: Forward Voltage Rank



Rank Combination**Bin Range of Luminous Intensity**

Bin Code	Min	Max	Unit	Condition
R	112	180	mcd	IF=20mA
S	180	285		

Bin Range of Forward Voltage

Group	Bin Code	Min	Max	Unit	Condition
M	5	2.75	3.05	V	IF=20mA
	6	3.05	3.35		
	7	3.35	3.65		
	8	3.65	3.95		

Notes:

1. Tolerance of Luminous Intensity: $\pm 11\%$
2. Tolerance of Forward Voltage: $\pm 0.1V$

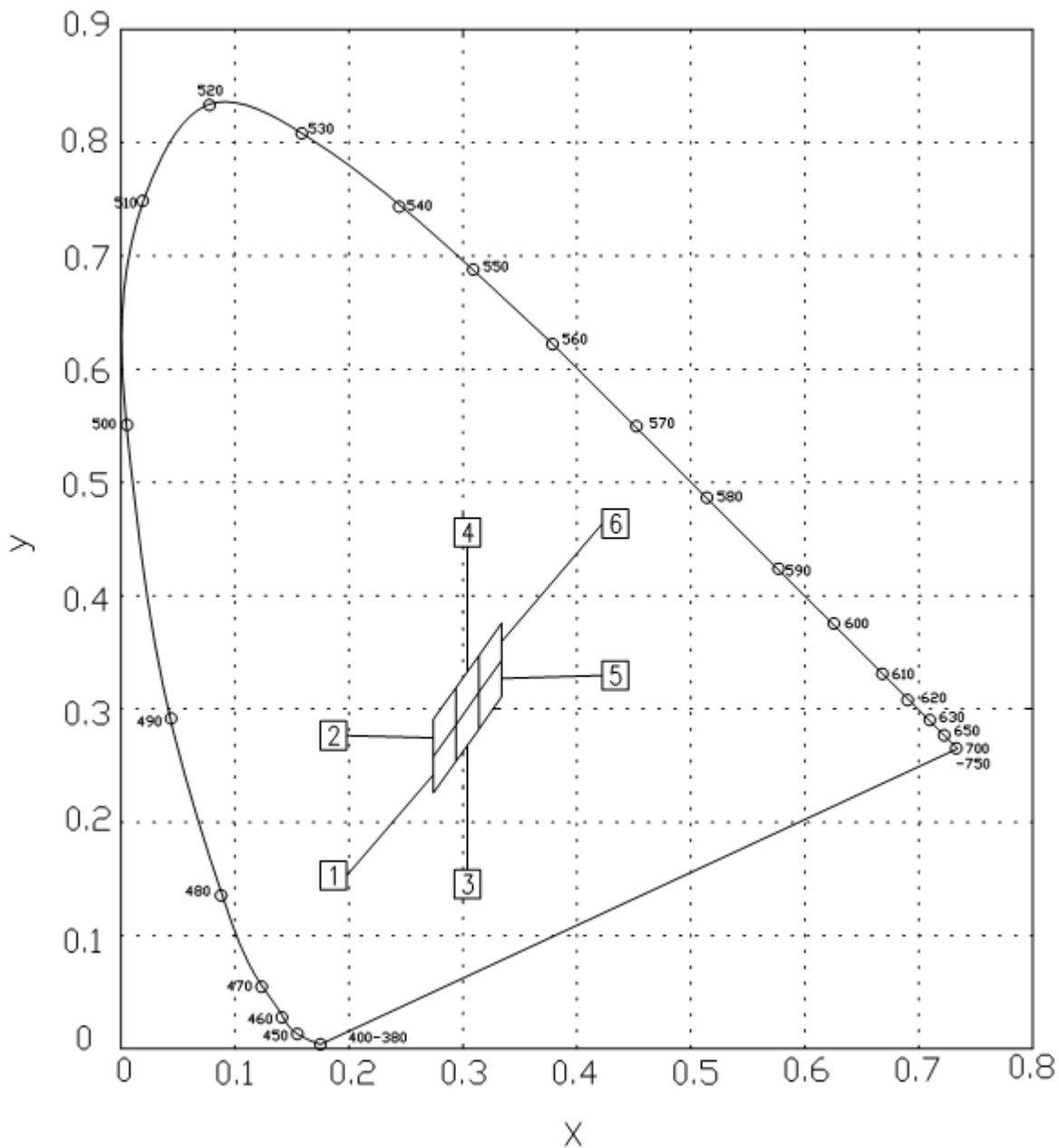
Chromaticity Coordinates Specifications for Bin Grading

Groups	Bin Code	CIE_x	CIE_y	Condition
C	1	0.274	0.226	IF=20mA
		0.274	0.258	
		0.294	0.286	
		0.294	0.254	
	2	0.274	0.258	
		0.274	0.291	
		0.294	0.319	
		0.294	0.286	
	3	0.294	0.254	
		0.294	0.286	
		0.314	0.315	
		0.314	0.282	
	4	0.294	0.286	
		0.294	0.319	
		0.314	0.347	
		0.314	0.315	

Notes:

1. The C.I.E. 1931 chromaticity diagram (Tolerance ± 0.01).
2. The products are sensitive to static electricity and must be fully taken when handling products.

CIE Chromaticity Diagram



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