

Top View with White LED

Features

- Top view white LED
- Lead frame package with individual 2 pins
- Wide viewing angle
- Soldering methods: IR reflow soldering
- ESD protection
- RoHS



M2720



Descriptions

- Due to the package design, this series has wide viewing angle, low power consumption and white LED is devices which are materialized by combing blue LED and special phosphors. This feature makes it ideal for light guide application.

Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- Lighting pipe application.
- General use.

Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
TSRJ-MT2720-V2W2B21	InGaN	Warm White	Water Clear

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	VR	5	V
Forward Current	IF	30	mA
Peak Forward Current (Duty 1/10@1KHz)	IFP	100	mA
Power Dissipation	Pd	110	mW
Electrostatic Discharge	ESD	2000	V
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	

Notes: The products are sensitive to static electricity and must be carefully taken when handling products.

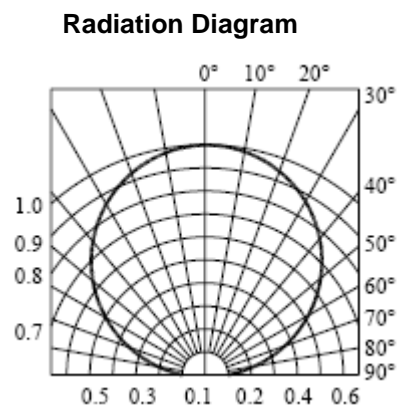
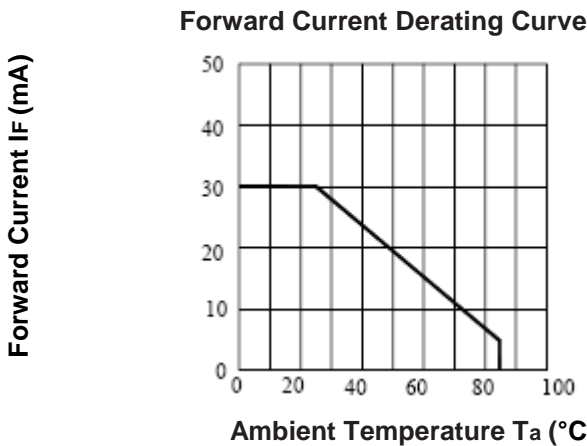
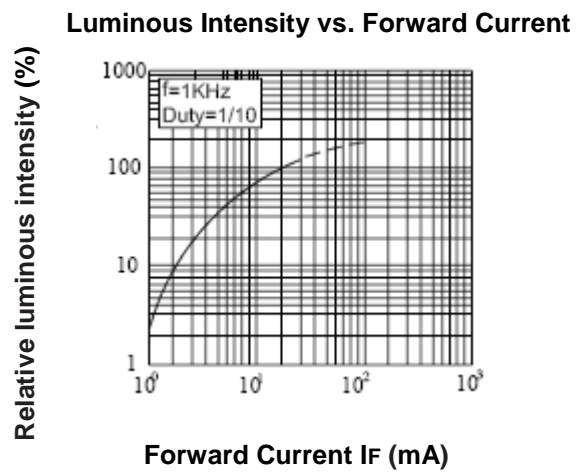
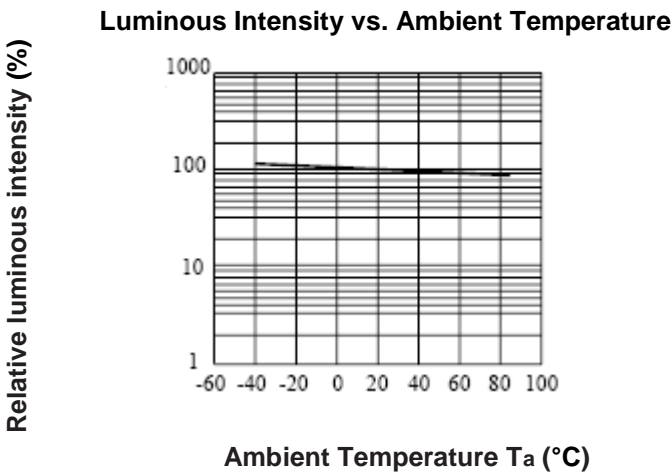
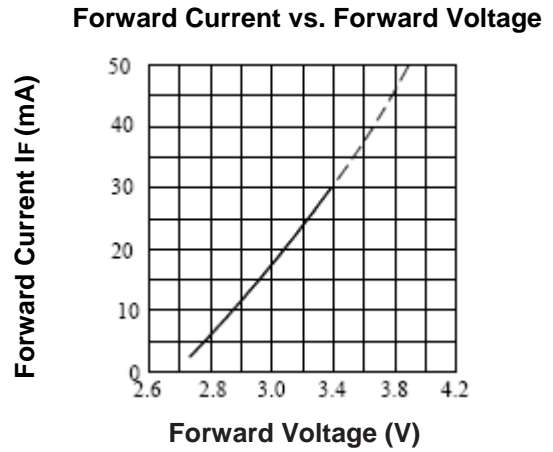
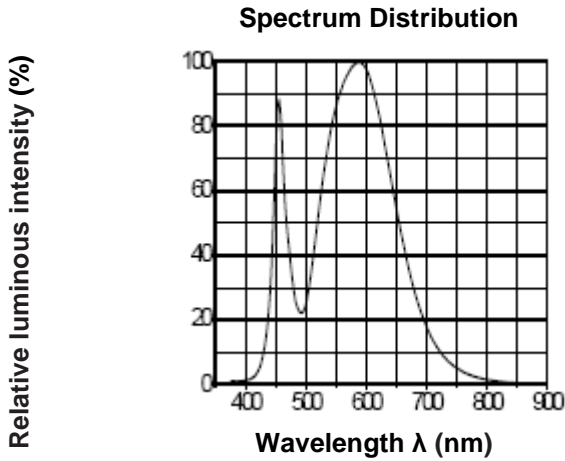
Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	900	-----	1800	mcd	IF=20mA
Viewing Angle	2θ1/2	-----	120	-----	deg	
Forward Voltage	VF	2.95	-----	3.45	V	
Zener Voltage	VZ	5.80	6.30	6.80	V	Iz =5mA

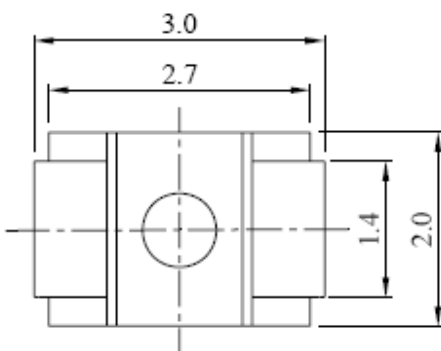
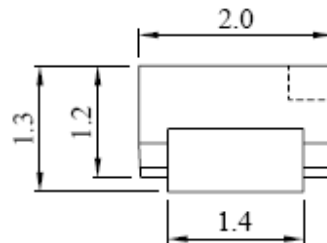
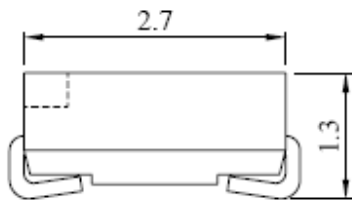
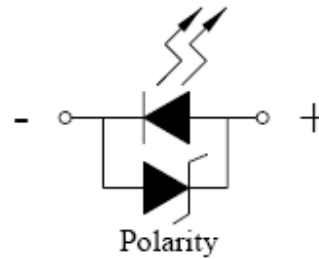
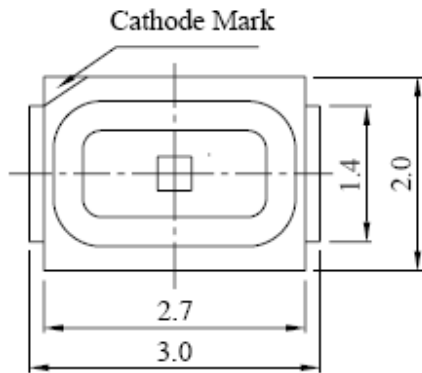
Notes: Tolerance of Luminous Intensity: ±10%

Tolerance of Forward Voltage: ±0.05V

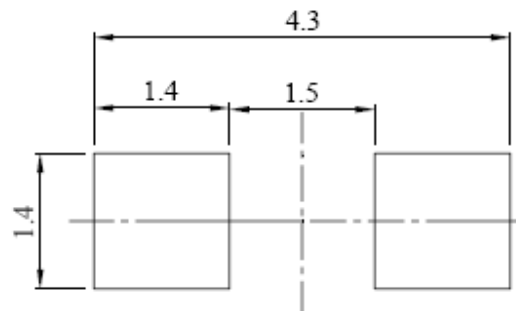
Typical Electro-Optical Characteristics Curves (Ta=25°C)



Package Outline Dimensions (Unit=mm)



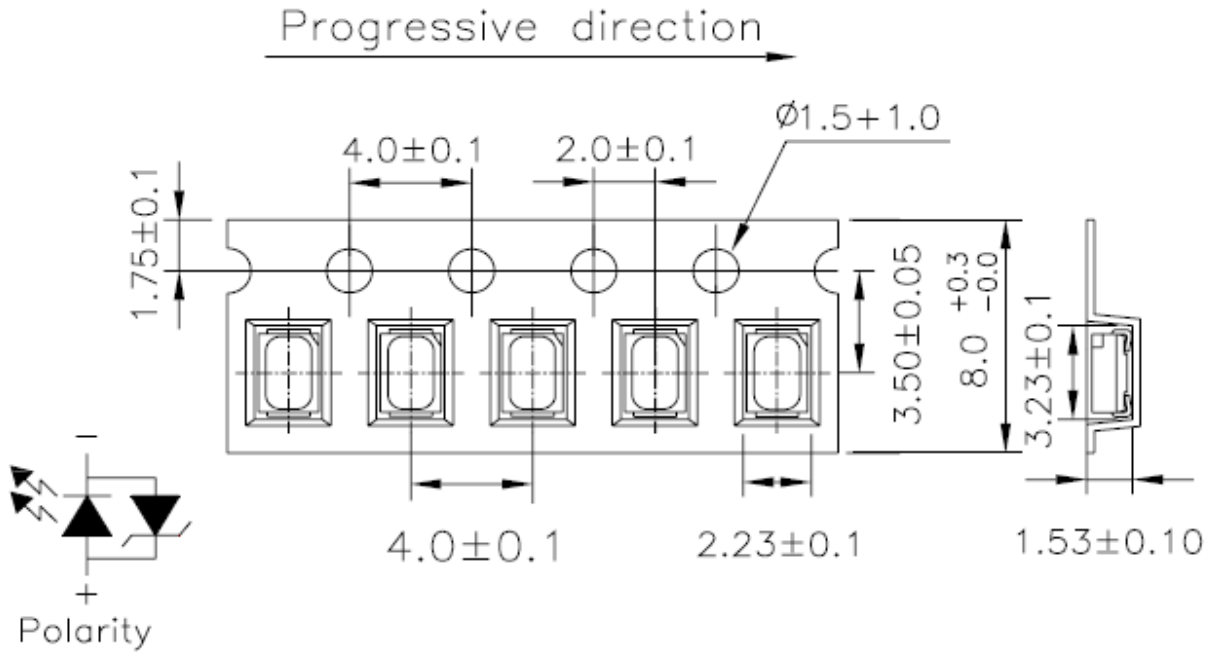
For Reflow Soldering (Proposal)



Recommended soldering pad design

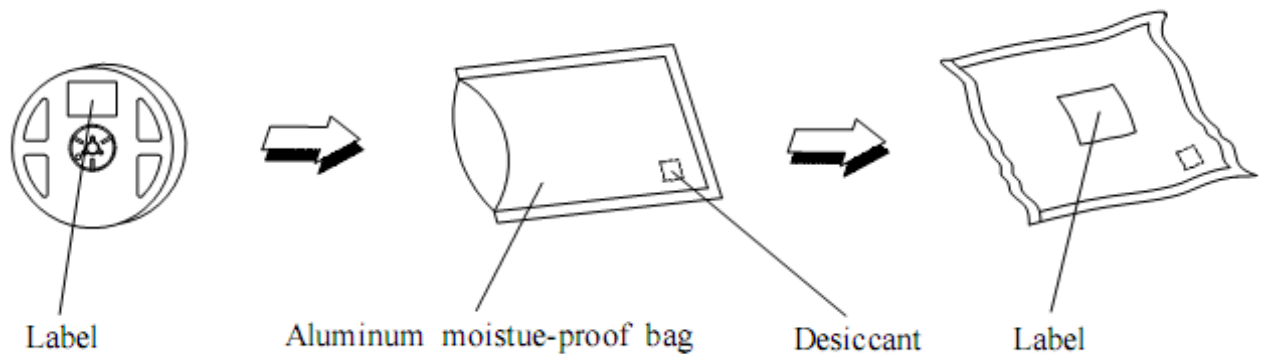
Note: The tolerances unless mentioned is ± 0.1 mm.

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

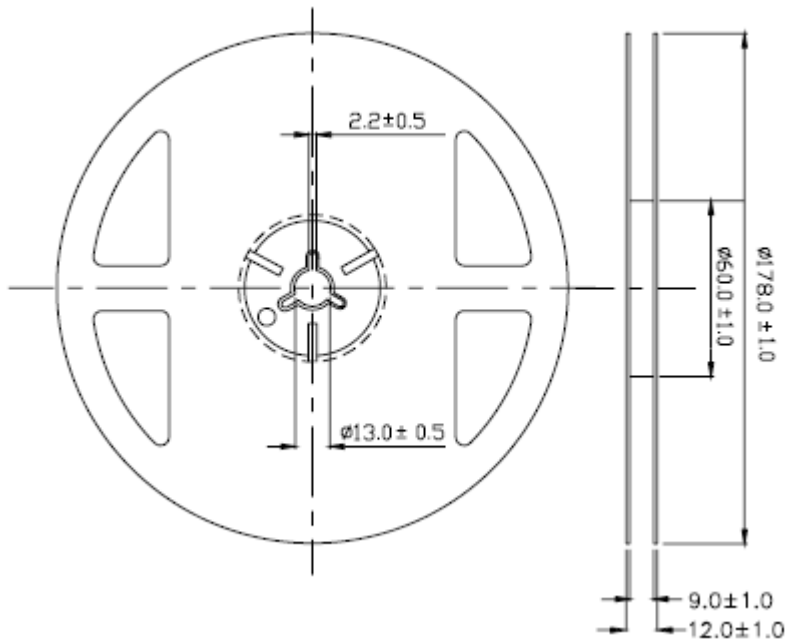


Note: The tolerances unless mentioned is ±0.1mm.

Moisture Resistant Packaging

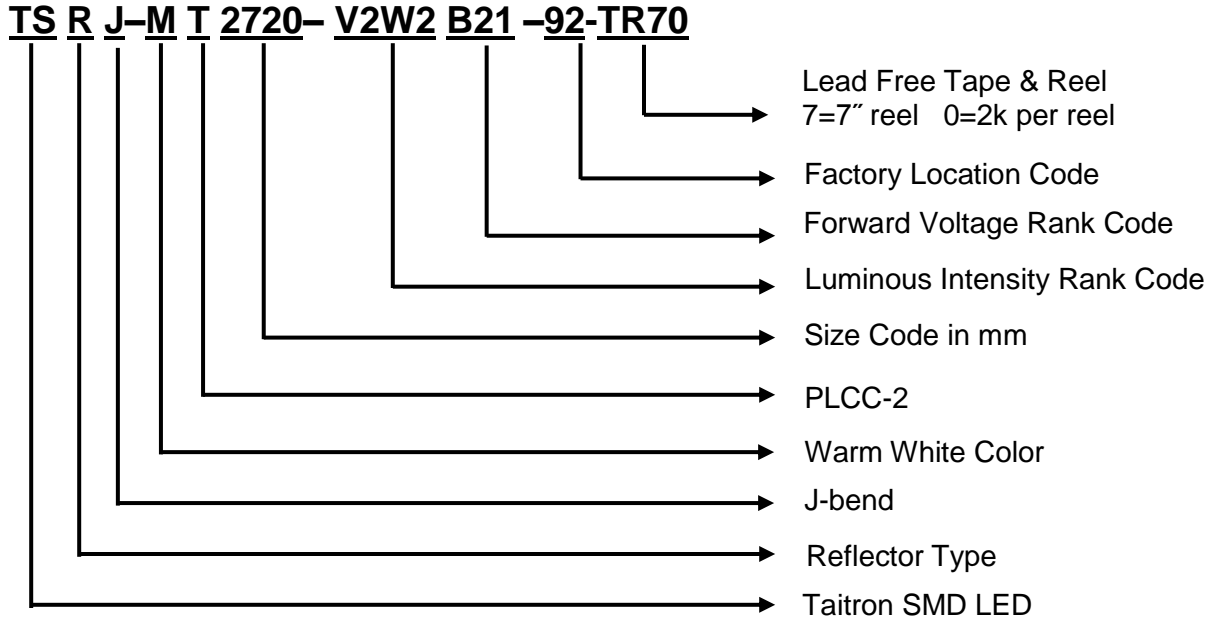


Reel Dimensions (Unit=mm):



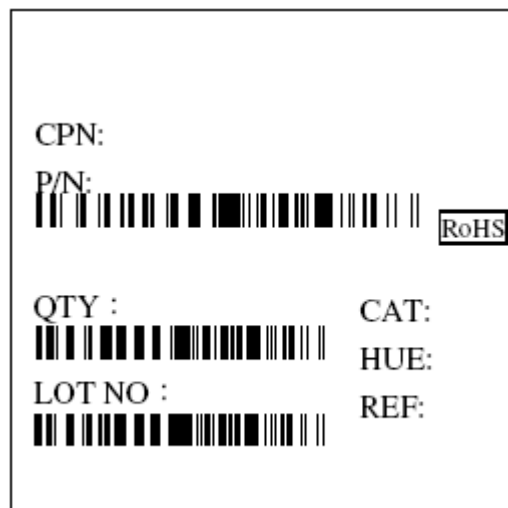
Note: The tolerances unless mentioned is ± 0.1 mm.

Ordering Information



Label Explanation

- CAT: Luminous Intensity Rank
- HUE: Chromaticity Coordinates
- REF: Forward Voltage Rank



Rank Combinations

Bin Range of Luminous Intensity

Bin Code	Min	Max	Unit	Condition
V2	900	1120	mcd	IF=20mA
W1	1120	1420		
W2	1420	1800		

Bin Range of Forward Voltage

Group	Bin Code	Min	Max	Unit	Condition
B21	54	2.95	3.05	V	IF=20mA
	55	3.05	3.15		
	56	3.15	3.25		
	57	3.25	3.35		
	58	3.35	3.45		

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

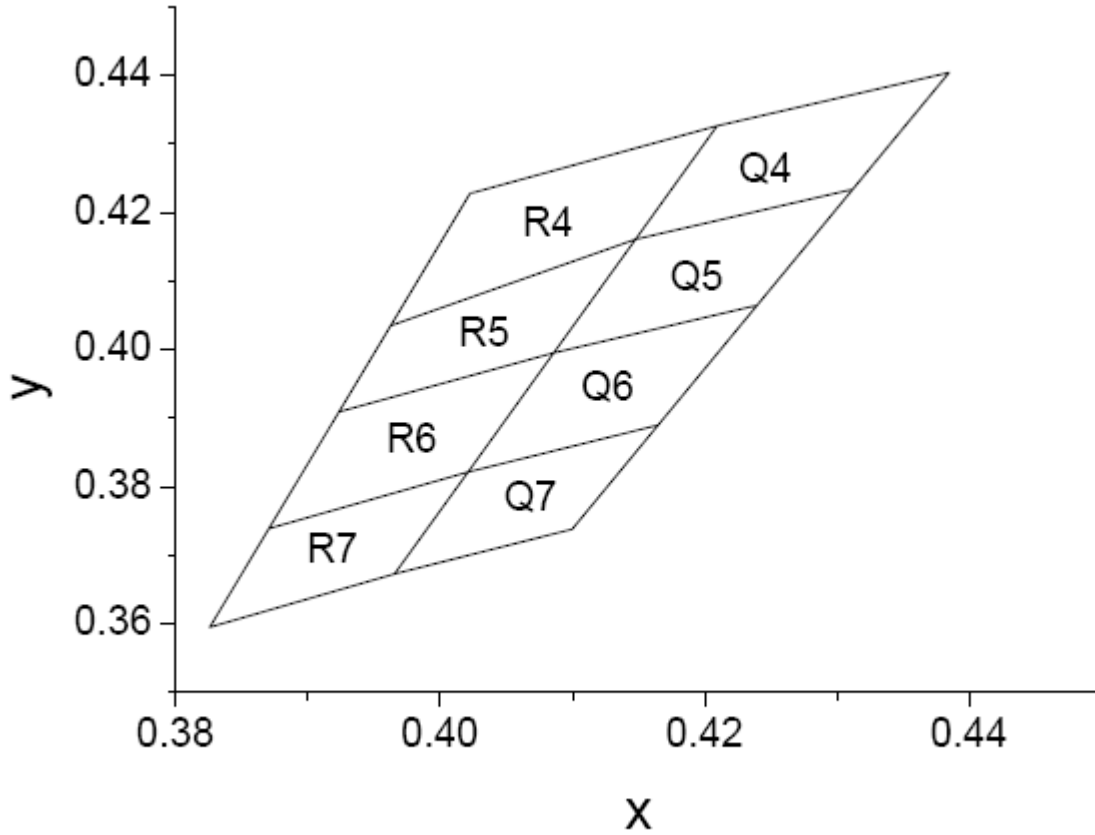
Tolerance of Forward Voltage: $\pm 0.05V$

Chromaticity Coordinates Specifications for Bin Grading

Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y	Condition
R4	0.4023	0.4228	Q4	0.4209	0.4326	IF=20mA
	0.4209	0.4326		0.4385	0.4404	
	0.4148	0.4161		0.4312	0.4234	
	0.3963	0.4035		0.4148	0.4161	
R5	0.3963	0.4035	Q5	0.4148	0.4161	
	0.4148	0.4161		0.4312	0.4234	
	0.4086	0.3995		0.4240	0.4065	
	0.3924	0.3909		0.4086	0.3995	
R6	0.3924	0.3909	Q6	0.4086	0.3995	
	0.4086	0.3995		0.4240	0.4065	
	0.4021	0.3822		0.4165	0.3890	
	0.3871	0.3739		0.4021	0.3822	
R7	0.3871	0.3739	Q7	0.4021	0.3822	
	0.4021	0.3822		0.4165	0.3890	
	0.3966	0.3673		0.4100	0.3738	
	0.3826	0.3595		0.3966	0.3673	

Notes: Tolerance of Chromaticity Coordinates ± 0.01

CIE Chromaticity Diagram



CCT Range (K)	Color Bins
3250-3550	Q4 Q5 Q6 Q7
3550-3800	R4 R5 R6 R7

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