

1 W High Power Warm White LED

Features

- InGaN technology
- High flux output
- Lambertian distribution pattern
- Flexible lens design
- Good reliability performance
- RoHS Compliant



M7171



Applications

- Illumination
- LCD backlight
- Automotive application
- Flashlight
- Architectural lighting
- Medical application
- Indicator/ Decoration

Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
TPLG-MR7171R-H11-0L0M	InGaN	Warm White	Water Clear

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

Parameter	Symbol	Value		Unit
		Typ.	Max.	
Reverse Voltage	V_R	----	5	V
Forward Current (1)	I_F	350	500	mA
Peak Pulsed Forward Current (2)	I_{PF}	----	700	mA
Power Dissipation	P_d	1.00	1.33	W
Storage Temperature	T_{stg}	----	-40 ~ +100	°C
LED Junction Temperature	T_j	----	120	°C

- Notes:** 1. The maximum forward current can be applied only at condition that the LED junction temperature is below the maximum. A proper heat sink is required to attach LED if the forward driving current is above 150mA.
2. Duty Ratio=1/10, Pulse Width = 10ms.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Total Flux (1)	Φ_v	67.2	----	113.6	lm	IF =350mA
Total Including Angle (4)	$\theta_{0.9V}$	----	140	----	deg	
Viewing Angle	$2\theta_{1/2}$	----	90	----	deg	
Chromaticity Coordinates	x	----	0.41	----		
	y	----	0.39	----		
Spectra Half Width	$\Delta\lambda$	----	25	----	nm	
Forward Voltage (2)	V_F	2.80	3.30	3.80	V	
Thermal Resistance (3)	θ_{js}	----	10	----	°C/W	
Reverse Current	I_R	----	----	10	uA	V _R =5V

Notes:

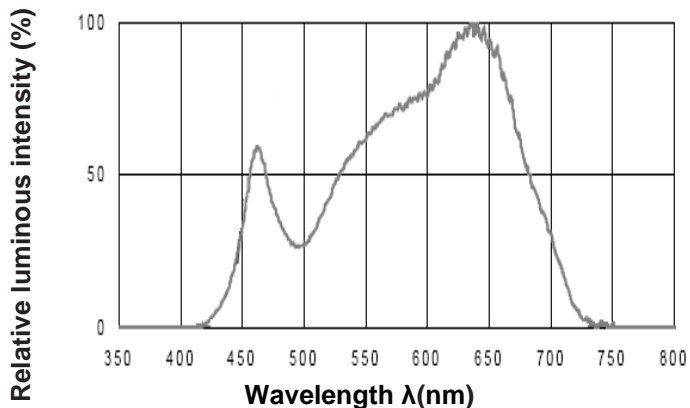
1. Luminous flux measurement tolerance: $\pm 15\%$
2. Forward voltage measurement tolerance: $\pm 0.05\text{V}$
3. θ_{js} means thermal resistance between LED junction to heat slug of LED.
4. Viewing angle 0.9V is the including angle at which 90% of total luminous flux is captured.

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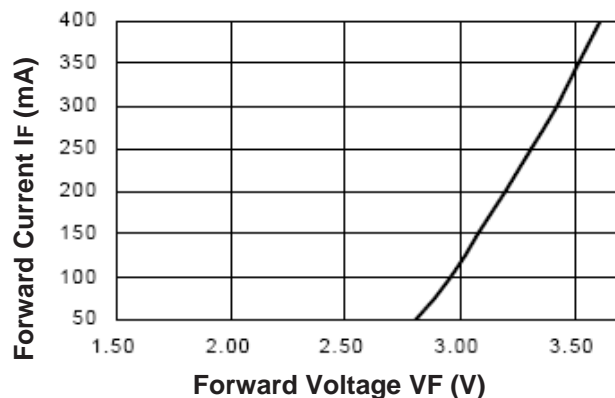
TPLG-MR7171R-H11-0L0M

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

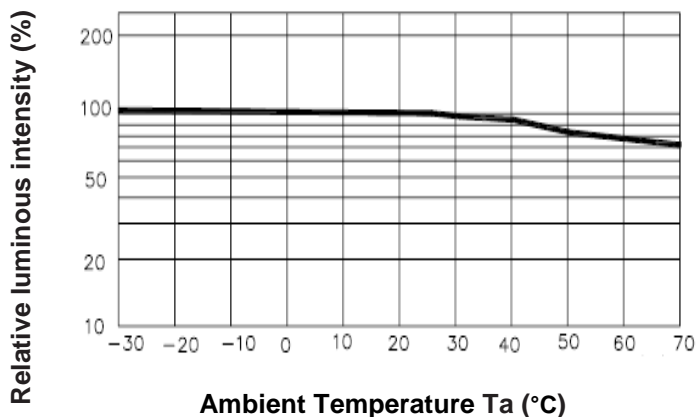
Spectral Distribution



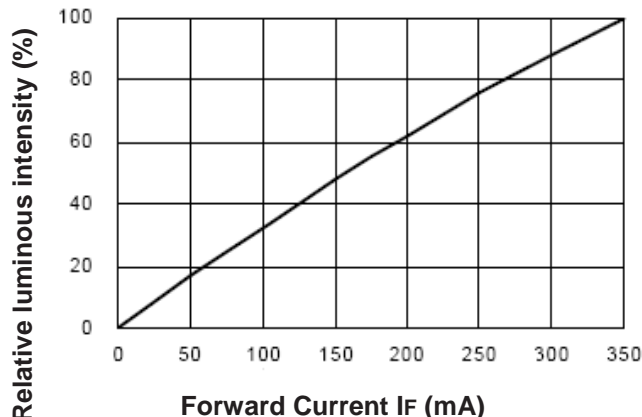
Forward Voltage vs. Forward Current



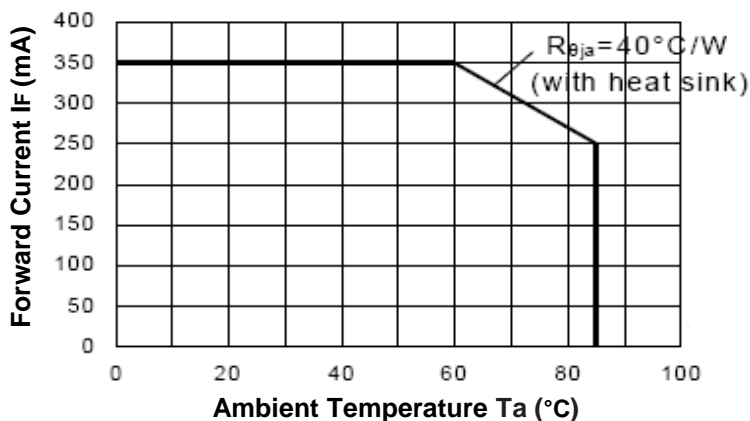
Relative Luminous Intensity vs. Ambient Temperature



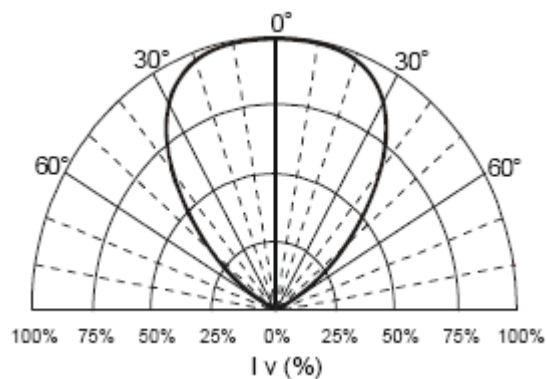
Relative Luminous Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



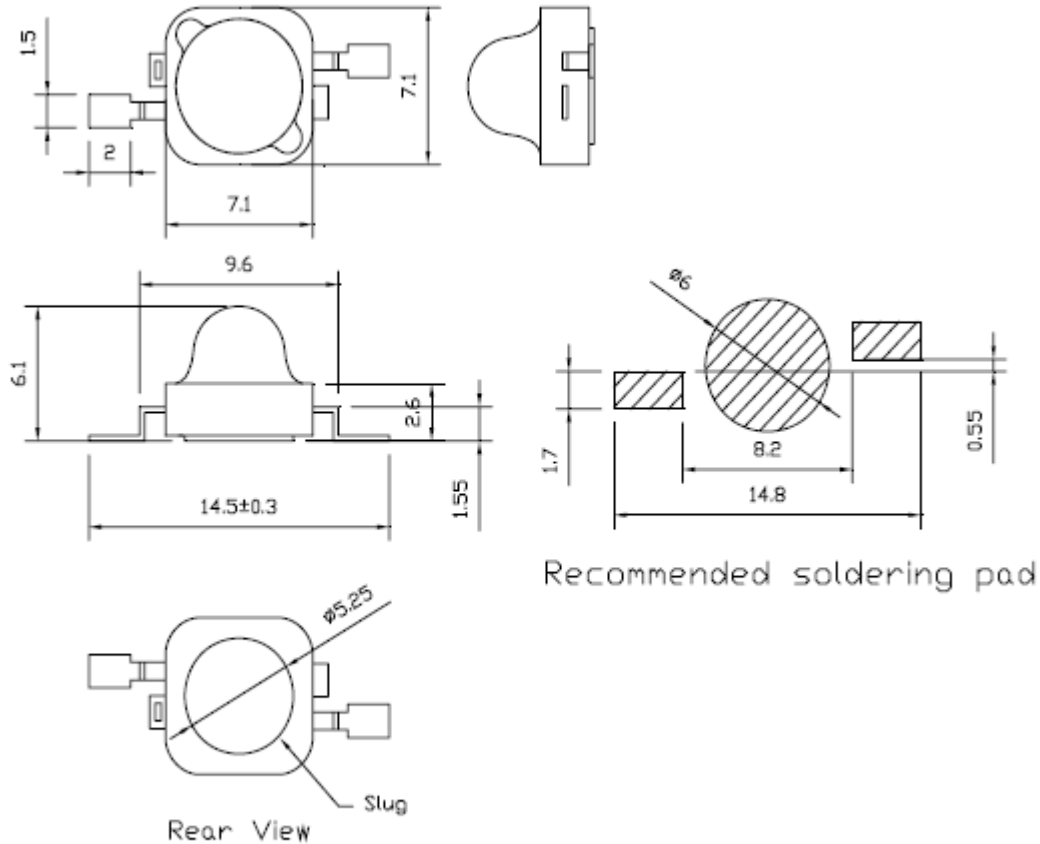
Radiation Diagram



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Package Outline Dimensions (Unit=mm)



Note: 1. The anode side of device is denoted by a hole in the lead frame.

2. The tolerances unless mentioned is ± 0.2 mm, Unit = mm

Packing Quantity Specification

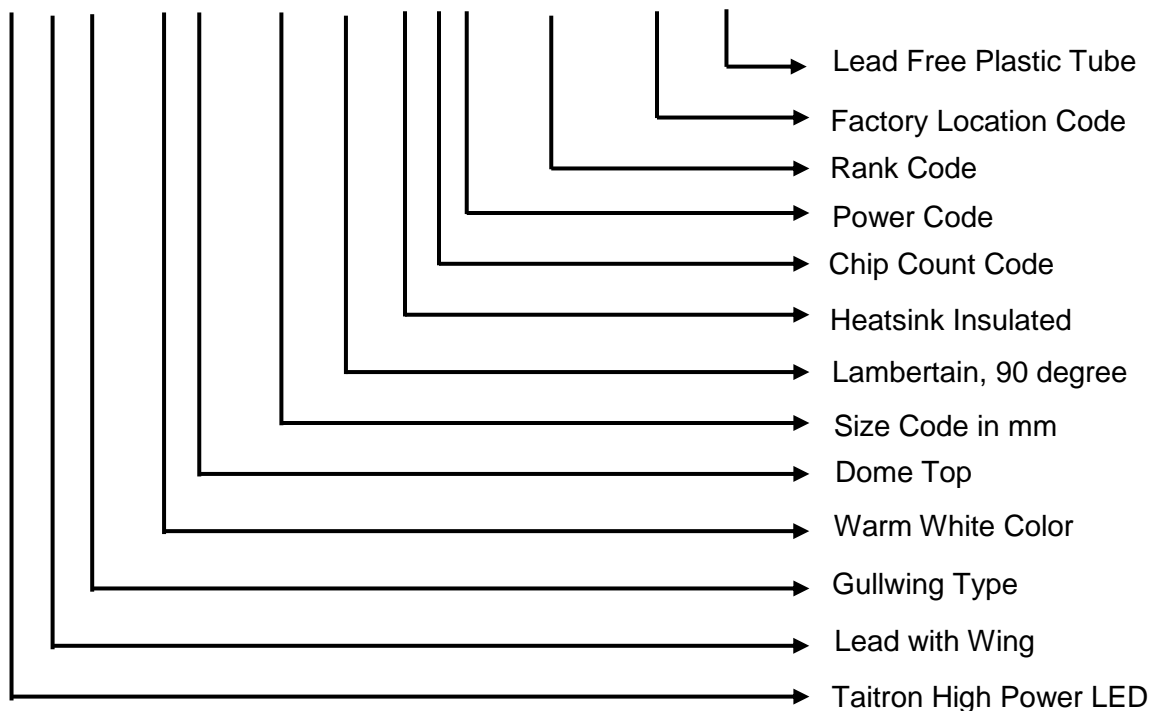
Packing Type	Tube	Inner Box	Carton
Qty (pcs)	50	1,500	9,000
Box Size (mm)	-----	410x90x70	425x200x245

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Ordering Information

T P L G - M R 7171 R - H 1 1 - 0 L 0 M - 8 8 - T U



Rank combination

Total Luminous Flux Bin Rank

Bin Code	Min.	Max.	Condition
0L	67.2	87.4	IF =350mA
0M	87.4	113.6	

Note: Luminous flux measurement tolerance: ±15%

Forward Voltage Bin Rank

Bin Code	Min.	Max.	Condition
A	2.80	3.05	IF =350mA
B	3.05	3.30	
C	3.30	3.55	
D	3.55	3.80	

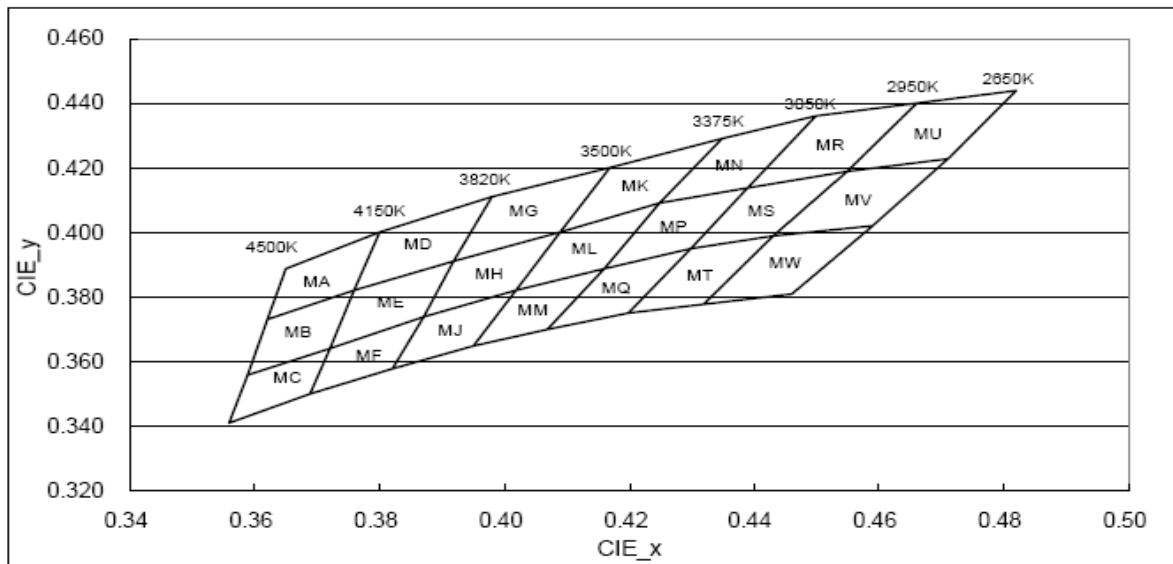
Note: Forward voltage measurement tolerance: ±0.05V

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Warm white Chromaticity Coordinates Specifications for Bin Grading

Code	MA				MB			
X	0.365	0.380	0.376	0.362	0.362	0.376	0.372	0.359
Y	0.389	0.400	0.382	0.373	0.373	0.382	0.364	0.356
Code	MC				MD			
X	0.359	0.372	0.369	0.356	0.380	0.398	0.392	0.376
Y	0.356	0.364	0.350	0.341	0.400	0.411	0.391	0.382
Code	ME				MF			
X	0.376	0.392	0.387	0.372	0.372	0.387	0.382	0.369
Y	0.382	0.391	0.374	0.364	0.364	0.374	0.358	0.350
Code	MG				MH			
X	0.398	0.417	0.409	0.392	0.392	0.409	0.402	0.387
Y	0.411	0.420	0.400	0.391	0.391	0.400	0.382	0.374
Code	MJ				MK			
X	0.387	0.402	0.395	0.382	0.417	0.435	0.425	0.409
Y	0.374	0.382	0.365	0.358	0.420	0.429	0.409	0.400
Code	ML				MM			
X	0.409	0.425	0.416	0.402	0.402	0.416	0.407	0.395
Y	0.400	0.409	0.389	0.382	0.382	0.389	0.370	0.365
Code	MN				MP			
X	0.435	0.450	0.439	0.425	0.425	0.439	0.430	0.416
Y	0.429	0.436	0.414	0.409	0.409	0.414	0.395	0.389
Code	MQ				MR			
X	0.416	0.430	0.420	0.407	0.450	0.466	0.455	0.439
Y	0.389	0.395	0.375	0.370	0.436	0.440	0.419	0.414
Code	MS				MT			
X	0.439	0.455	0.443	0.430	0.430	0.443	0.432	0.420
Y	0.414	0.419	0.399	0.395	0.395	0.399	0.378	0.375
Code	MU				MV			
X	0.466	0.482	0.471	0.455	0.455	0.471	0.459	0.443
Y	0.440	0.444	0.423	0.419	0.419	0.423	0.402	0.399
Code	MW				-			
X	0.443	0.459	0.446	0.432				
Y	0.399	0.402	0.381	0.378				



Note: The chromatic coordinates measurement tolerance: ± 0.02 .

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How to contact us

USA HEADQUARTERS

28040 WEST HARRISON PARKWAY, VALENCIA, CA 91355-4162

Tel: (800)-TAITRON (800)-824-8766 (661)-257-6060

Fax: (800)-TAITFAX (800)-824-8329 (661)-257-6415

Email: taitron@taitroncomponents.com

Http://www.taitroncomponents.com

TAITRON COMPONENTS INCORPORATED TAIWAN BRANCH

6F., NO.190, SEC. 2, ZHONGXING RD., XINDIAN DIST., NEW TAIPEI CITY 23146, TAIWAN R.O.C.

Tel: 886-2-2913-6238

Fax: 886-2-2913-6239

TAITRON COMPONENT TECHNOLOG SHANGHAI CORPORATION

SUITE 1503, METROBANK PLAZA, 1160 WEST YAN'AN ROAD, SHANGHAI, 200052, CHINA

Tel: +86-21-5424-9942

Fax: +86-21-2302-5027