

## 3 W High Power Cool White LED

### Features

- Feature of the device: small package with high efficiency
- Typical color temperature: 5650K
- Typical view angle: 140°
- High light flux output: 160 lm@700mA
- ESD protection
- Soldering methods: SMT
- Grouping parameter: brightness, forward voltage and chromaticity
- Optical efficiency: 55 lm/W
- Moisture sensitivity level: 3
- Color rendering index: 70 (typ.)
- Thermal resistance (junction to heat sink): 15°C /W
- RoHS Compliance



**M7580**



### Applications

- Design and effect illumination
- Interior automotive lighting(e.g. dashboard backlight)
- Room lighting (e.g. luminaries, spotlights)
- Reading light (aircraft, car, bus)
- Signal and symbol luminaries
- Marker lights (e.g. steps, exit ways, etc.)
- Architectural illumination

### Materials

Items	Description
Housing black body	Heat resistant polymer
Encapsulating Resin	Silicone resin
Electrodes	Au plating copper alloy
Die attach	Silver paste
Chip	InGaN

# 3 W High Power Cool White LED

## TPLG-WR7580EL-GH13Z

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

Parameter	Symbol	Value	Unit
Forward Current	<b>IF</b>	750	mA
Pulsed Forward Current (1)	<b>IPF</b>	1000	mA
Power Dissipation	<b>Pd</b>	3.0	W
ESD Sensitivity	<b>ESD</b>	2000	V
Operating Temperature	<b>T<sub>opr</sub></b>	-40 ~ +85	$^{\circ}\text{C}$
Storage Temperature	<b>T<sub>stg</sub></b>	-40 ~ +100	$^{\circ}\text{C}$
Junction Temperature	<b>T<sub>j</sub></b>	125	$^{\circ}\text{C}$
Junction to heat-sink thermal resistance	<b>R<sub>th</sub></b>	15	$^{\circ}\text{C/W}$

#### Notes

1.  $t_p \leq 100\mu\text{s}$ , duty cycle=0.25

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

Parameter	Bin	Symbol	Min.	Typ.	Max.	Unit	Condition
Brightness (1)	-----	<b><math>\Phi_v</math></b>	150	160	-----	lm	IF =700mA
Forward Voltage (2)	<b>V2</b>	<b>VF</b>	3.25	-----	3.55	V	
	<b>V3</b>		3.55	-----	3.85		
	<b>V4</b>		3.85	-----	4.15		
	<b>V5</b>		4.15	-----	4.45		
Color Temperature	-----	<b>CCT</b>	5000	5650	6300	K	
Color Rendering Index (3)	-----	<b>CRI</b>	-----	70	-----	-----	

#### Notes:

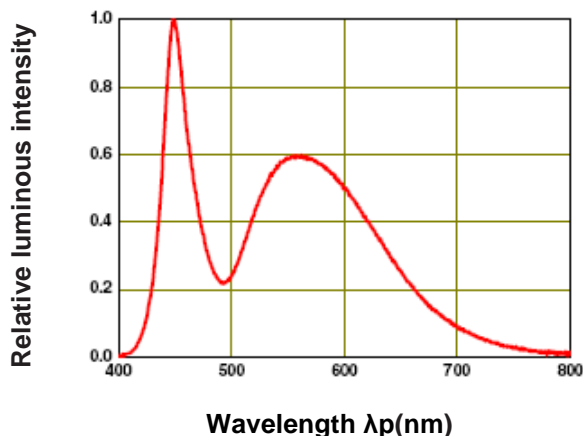
1. Luminous flux measurement tolerance:  $\pm 10\%$
2. Forward voltage measurement tolerance:  $\pm 0.1\text{V}$
3. Color Rendering Index measurement tolerance:  $\pm 5$

# 3 W High Power Cool White LED

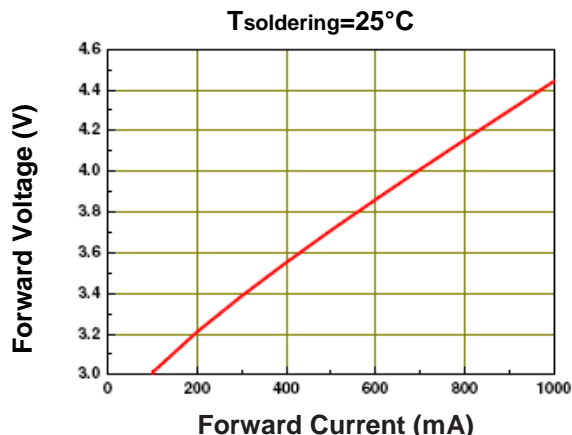
## TPLG-WR7580EL-GH13Z

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

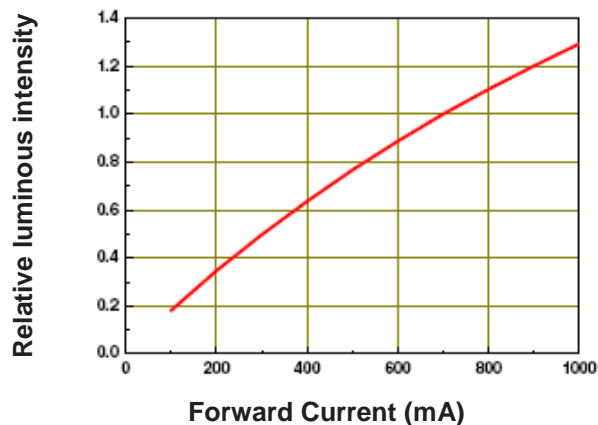
Spectral Distribution T<sub>soldering</sub>=25°C, I<sub>F</sub>=700mA



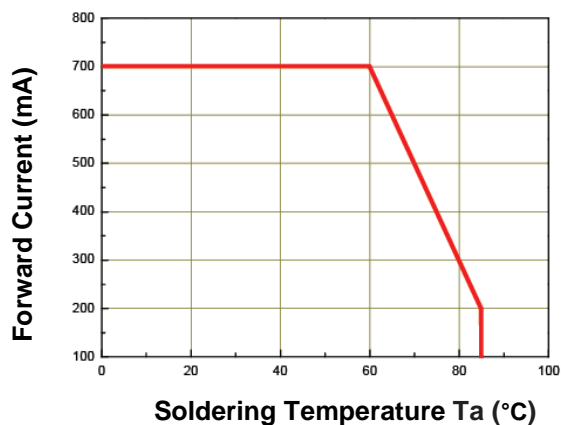
Forward Voltage vs. Forward Current



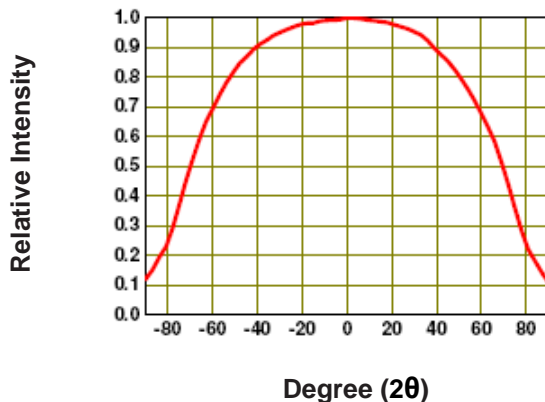
Relative Luminous Intensity vs. Forward Current  
T<sub>soldering</sub>=25°C



Forward Current Derating Curve on T<sub>JMAX</sub>=125 °C



### Typical Representative Spatial Radiation Pattern

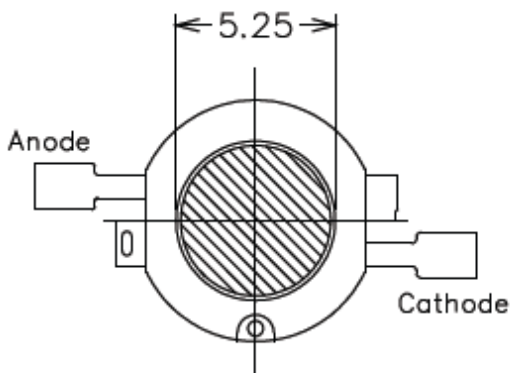
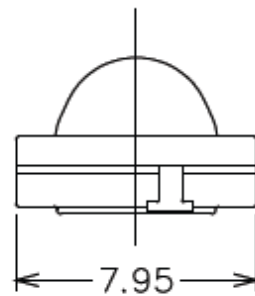
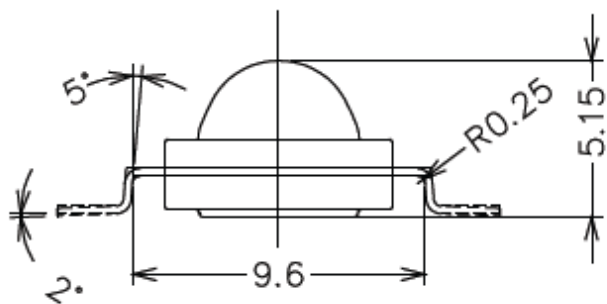
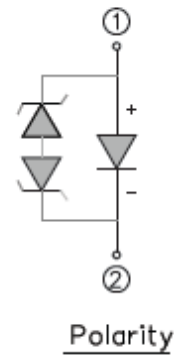
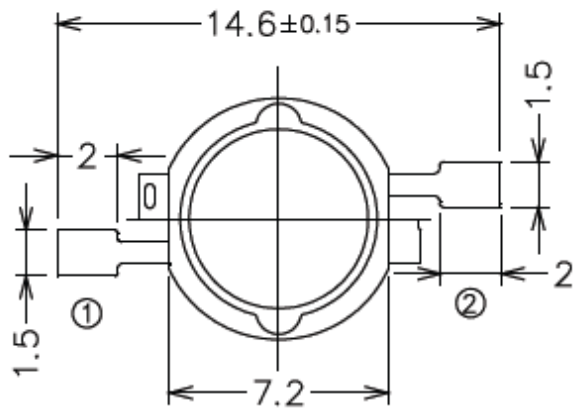


- Note:** 1. 2θ1/2 is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.  
2. View angle tolerance is ±10°.

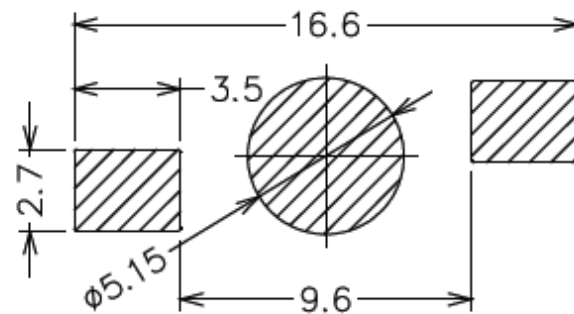
# 3 W High Power Cool White LED

## TPLG-WR7580EL-GH13Z

### Package Outline Dimensions (Unit=mm)



Bot. view



Soldering patterns

**Note:** The tolerances unless mentioned is  $\pm 0.25$ mm, Unit = mm

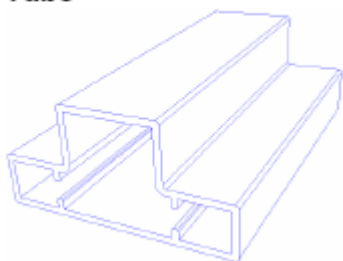
# 3 W High Power Cool White LED

## TPLG-WR7580EL-GH13Z

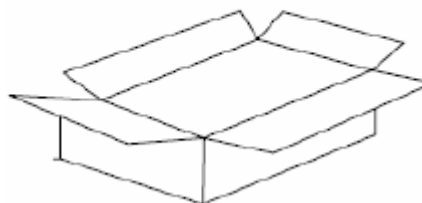
### Packing Quantity Specification

Packing Type	PCS per Tube	PCS Per Inner Box	PCS Per Carton
Tube	50	1,000	12,000

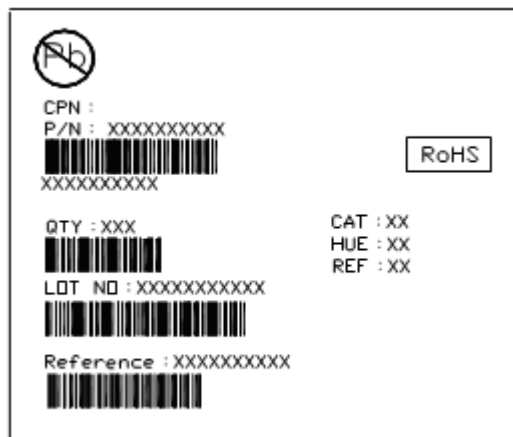
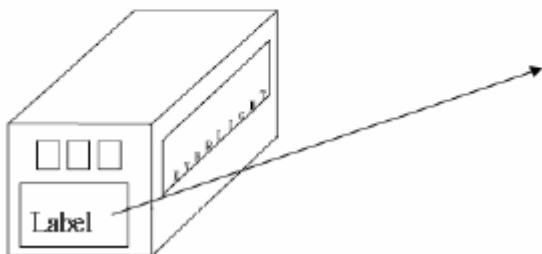
1. Tube



2. Inner Carton



3. Outside Carton



### Label Explanation

CAT: Luminous Flux Rank

HUE: Color Bin Rank

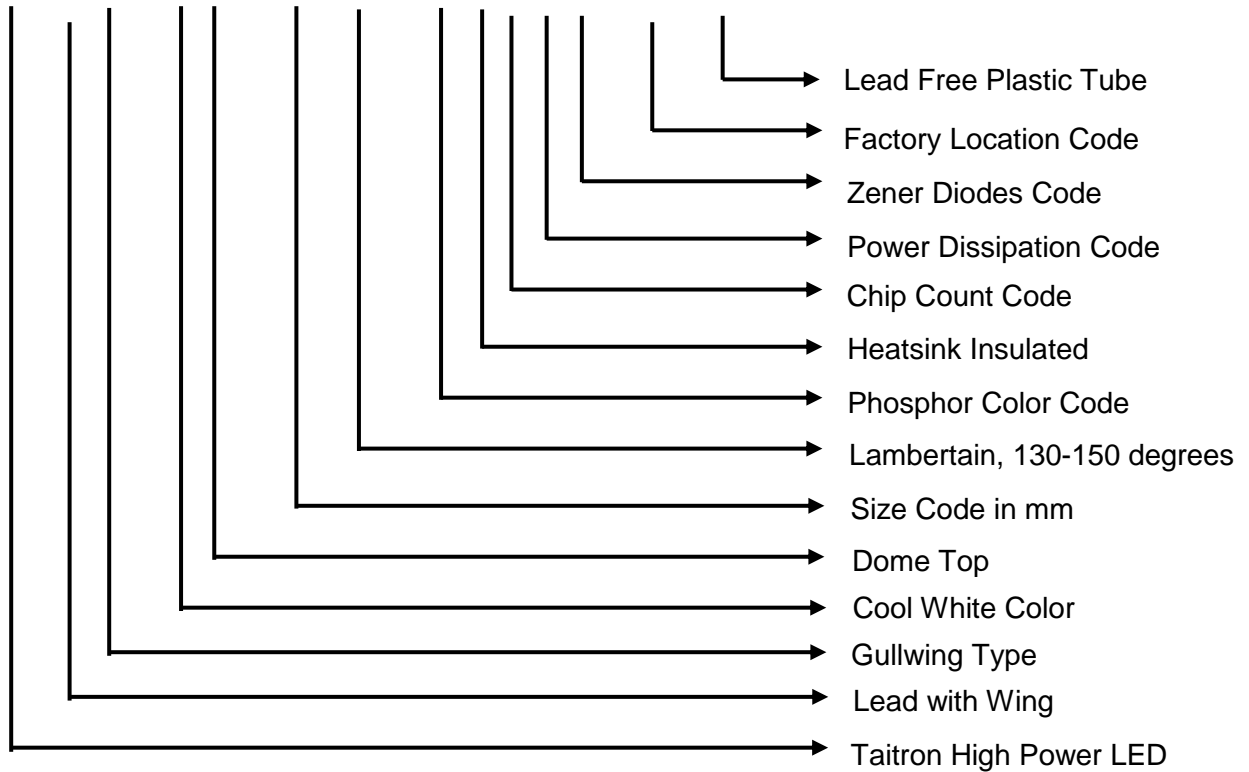
REF: Forward Voltage Rank

# 3 W High Power Cool White LED

## TPLG-WR7580EL-GH13Z

### Ordering Information

**T P L G - W R 7580 E L - G H 1 3 Z - 92 - T U**



# 3 W High Power Cool White LED

## TPLG-WR7580EL-GH13Z

### Rank Combinations

#### Bin Range of Luminous Intensity

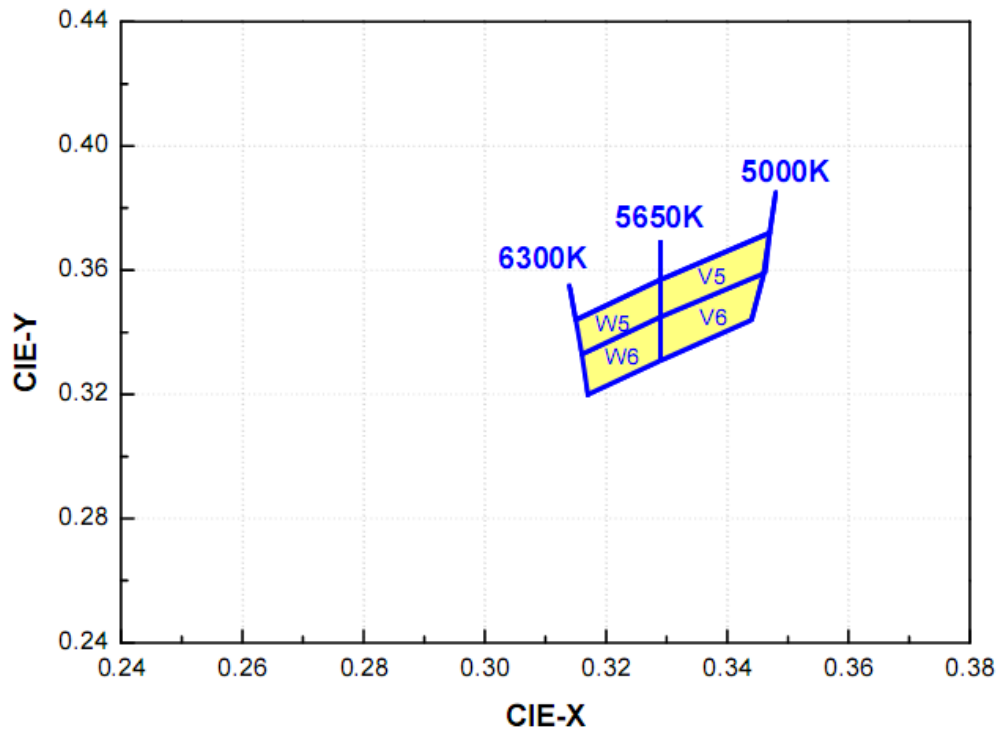
Group	Bin	Min.	Max.	Unit	Condition
N	13	150	160	lm	IF=700mA
	21	160	180		

**Note:** Luminous flux measurement tolerance:  $\pm 10\%$

#### Cool-White Bin Coordinates

Bin	Chromaticity Coordinates				
V5	x	0.329	0.329	0.347	0.346
	y	0.345	0.357	0.372	0.359
V6	X	0.329	0.329	0.346	0.344
	y	0.331	0.345	0.359	0.344
W5	x	0.329	0.316	0.315	0.329
	y	0.345	0.333	0.344	0.357
W6	X	0.329	0.329	0.317	0.316
	y	0.345	0.331	0.320	0.333

### CIE Chromaticity Coordinates Diagram



**Note:** The highlight portion represents the allotted CCT sun-bins for the specific part number.



# 3 W High Power Cool White LED

## TPLG-WR7580EL-GH13Z

### 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](mailto:taitron@taitroncomponents.com)

Http://[www.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