

1 W High Power Cool White LED

Features

- Feature of the device: small package with high efficiency
- Color coordinates: $x=0.33$, $y=0.33$ according to CIE 1931
- Typical color temperature: 5600K
- View angle: 120°
- High luminous flux output: more than $34\text{lm}@350\text{mA}$
- ESD protection
- Soldering methods: SMT
- Grouping parameter: total luminous flux, color coordinates
- Optical efficiency: 27lm/W
- Thermal resistance (junction to lead): 17K/W
- RoHS Compliance



M7060



Applications

- TFT LCD display backlight.
- Decorative and entertainment illumination.
- Signal and symbol luminaries for orientation marker lights. (e.g. steps, exit ways, etc.)
- Exterior and interior automotive illumination.

Materials

| Items | Description |
|---------------------|-------------------------|
| Housing | Heat resistant polymer |
| Encapsulating Resin | Clear silicone resin |
| Electrodes | Ag plating copper alloy |
| Die attach | Silver paste |
| Chip | InGaN |

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TPRG-WF7060-UH11Z-J1J3

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

| Parameter | Symbol | Value | Unit |
|--|-------------|------------|--------------------|
| Forward Current | IF | 500 | mA |
| Power Dissipation | Pd | 2.1 | W |
| Operating Temperature | Topr | -40 ~ +100 | $^{\circ}\text{C}$ |
| Storage Temperature | Tstg | -40 ~ +100 | $^{\circ}\text{C}$ |
| Junction Temperature | Tj | 125 | $^{\circ}\text{C}$ |
| Junction to heat-sink thermal resistance | Rth | 17 | K/W |

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

| Parameter | Bin | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---------------------|-----------|-----------------------------------|-------|-------|-------|------|-----------|
| Luminous Flux (1) | J1 | Φ_v | 23 | ----- | 27 | lm | IF =350mA |
| | J2 | | 27 | ----- | 33 | | |
| | J3 | | 33 | ----- | 39 | | |
| Viewing Angle (3) | ----- | $2\theta_{1/2}$ | ----- | 120 | ----- | deg | |
| Forward Voltage (2) | ----- | VF | ----- | 3.7 | 4.2 | V | |

Notes:

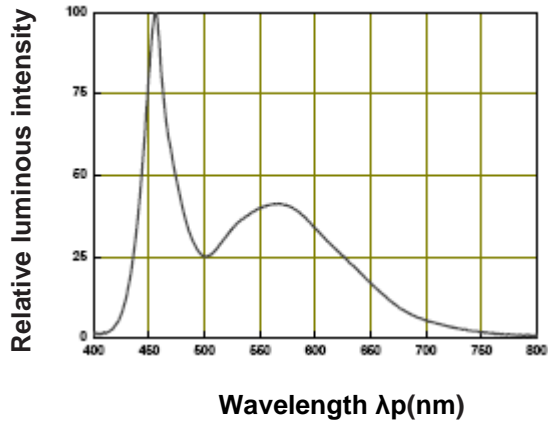
1. Luminous flux measurement tolerance: $\pm 10\%$
2. Forward Voltage measurement tolerance: $\pm 0.1\text{V}$
3. $2\theta_{1/2}$ is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.

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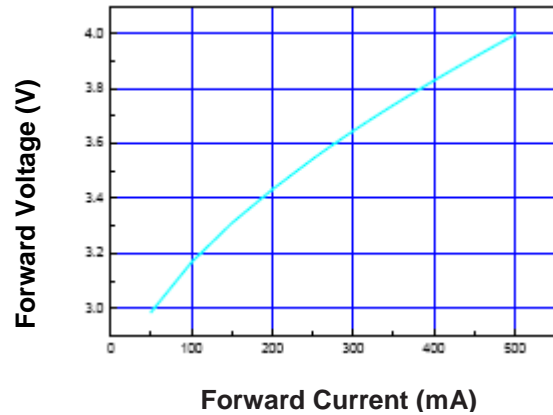
TPRG-WF7060-UH11Z-J1J3

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

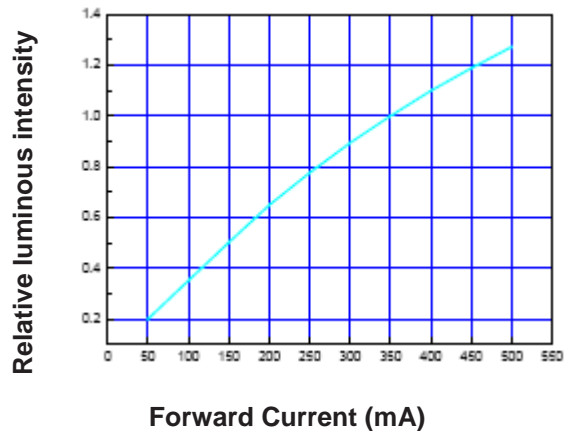
Spectral Distribution Ta=25°C, If=350mA



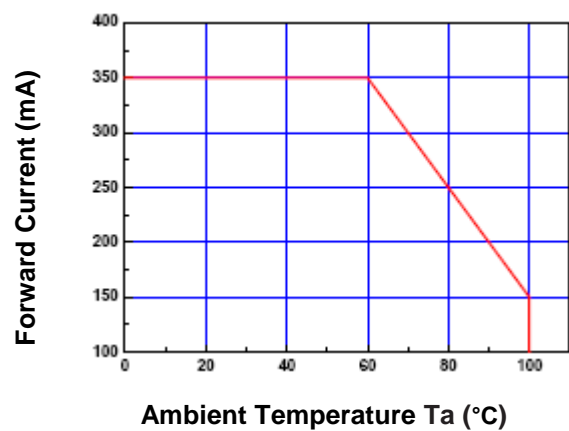
Forward Voltage vs. Forward Current



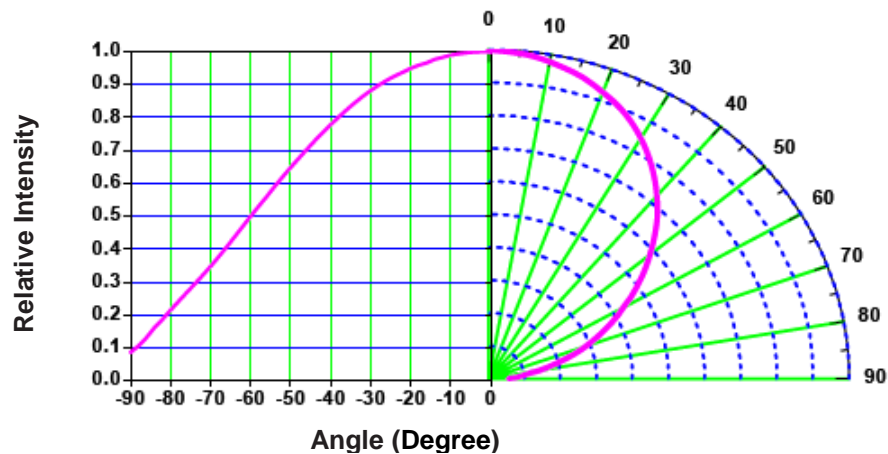
Relative Luminous Intensity vs. Forward Current
Ta=25°C



Forward Current Derating Curve on TJMAX=125 °C



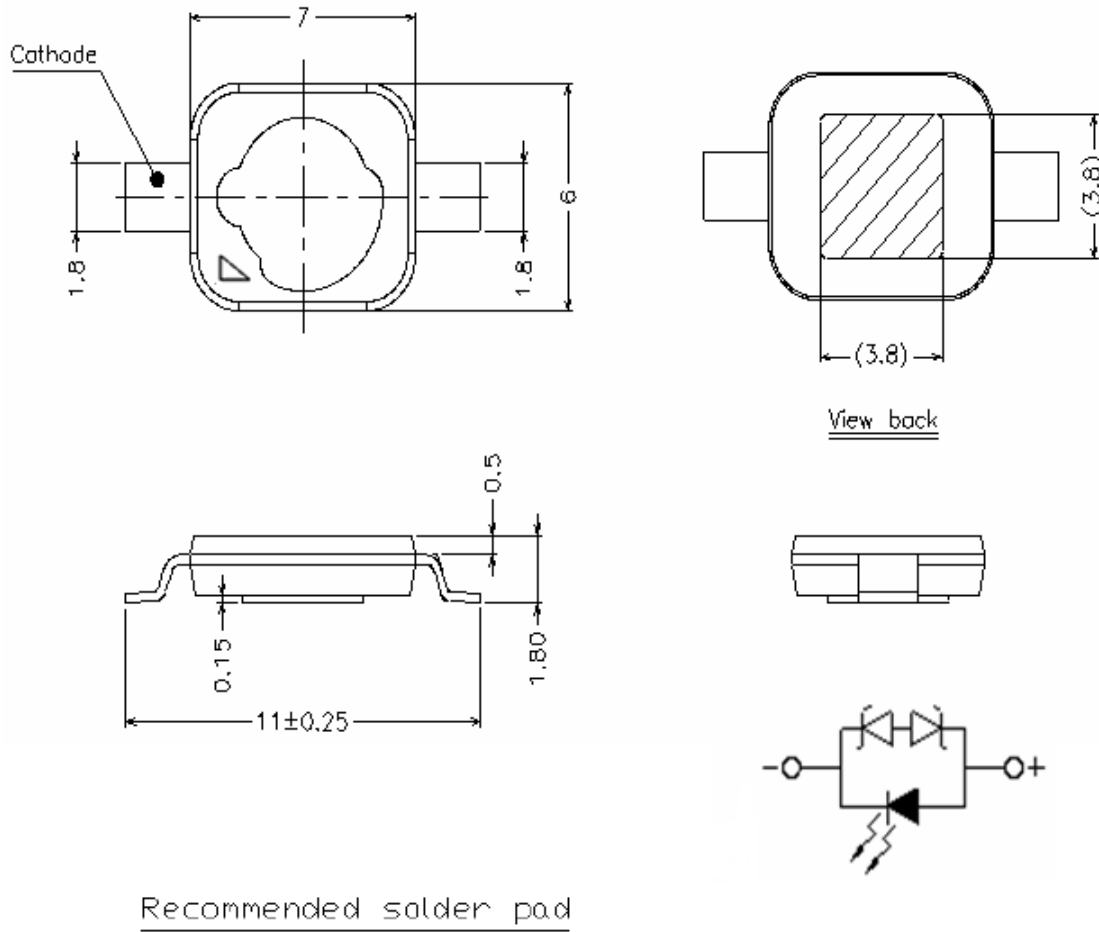
Typical Representative Spatial Radiation Pattern



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Package Outline Dimensions (Unit=mm)

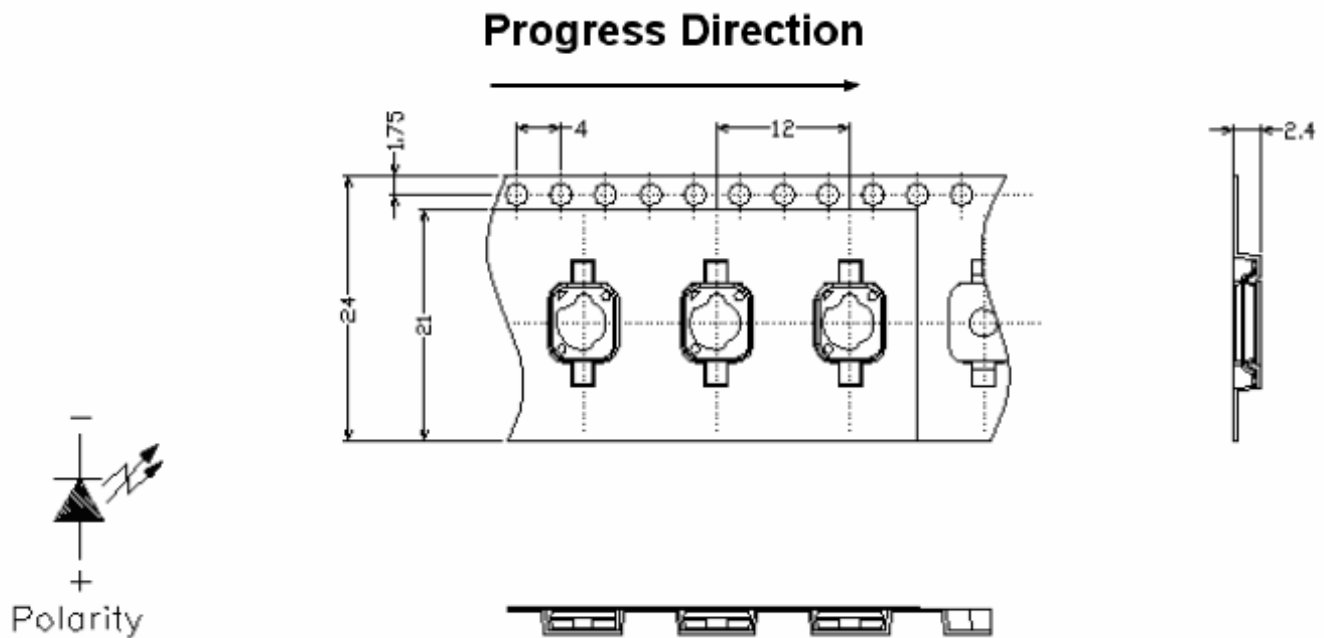


Note: The tolerances unless mentioned is ± 0.25 mm, Unit = mm

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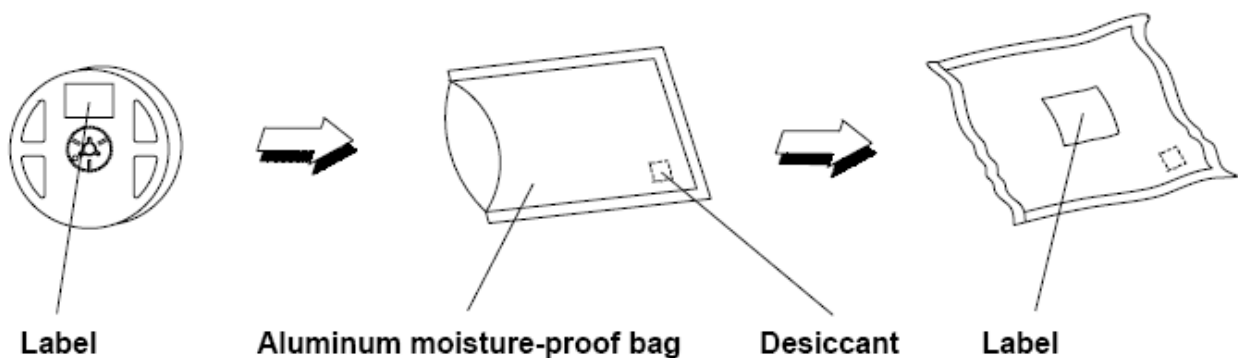
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Carrier Tape Dimensions (Unit=mm): Loaded quantity 800pcs per reel



Note: The tolerances unless mentioned is ± 0.1 mm.

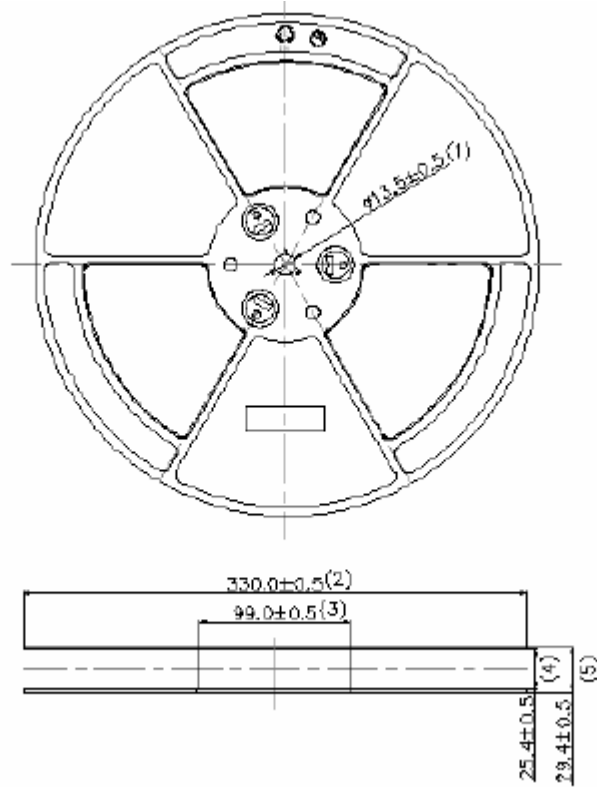
Moisture Resistant Packaging



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Reel Dimensions (Unit=mm)



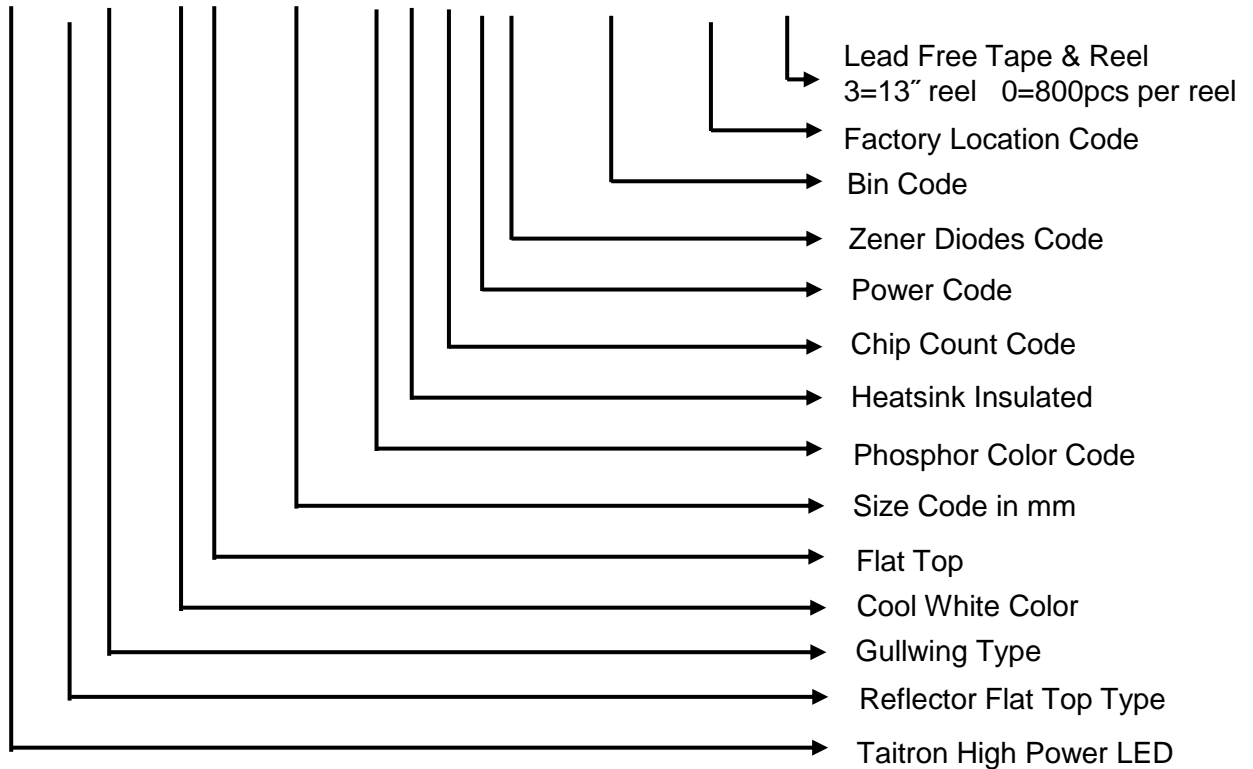
Note: The tolerances unless mentioned is ± 0.1 mm.

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Ordering Information

TP R G - W F 7060 - U H 1 1 Z - J1J3 - 92 -TR30



Label Explanation

CAT: Luminous Flux Rank



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Color Binning

| Rank A0 | | | | |
|-------------------------------|-------|-------|-------|-------|
| x | 0.280 | 0.264 | 0.283 | 0.296 |
| y | 0.248 | 0.267 | 0.305 | 0.276 |
| Reference CCT: 9000K - 15000K | | | | |

| Rank B3 | | | | |
|------------------------------|-------|-------|-------|-------|
| x | 0.287 | 0.283 | 0.304 | 0.307 |
| y | 0.295 | 0.305 | 0.330 | 0.315 |
| Reference CCT: 7000K - 8700K | | | | |

| Rank B4 | | | | |
|------------------------------|-------|-------|-------|-------|
| x | 0.307 | 0.304 | 0.330 | 0.330 |
| y | 0.315 | 0.330 | 0.360 | 0.339 |
| Reference CCT: 6200K - 7000K | | | | |

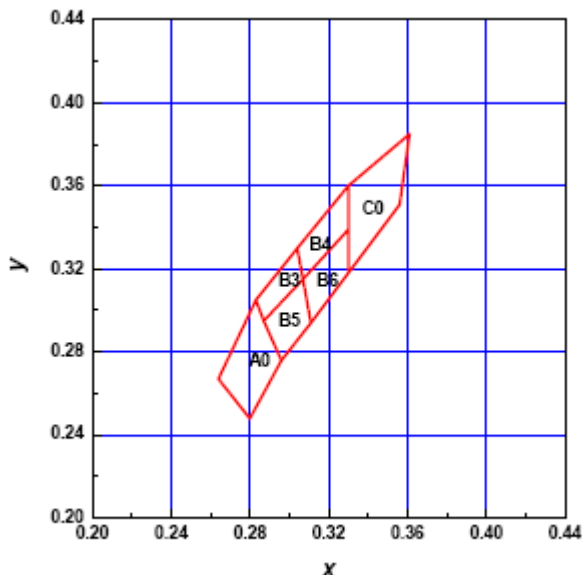
| Rank B5 | | | | |
|------------------------------|-------|-------|-------|-------|
| x | 0.296 | 0.287 | 0.307 | 0.311 |
| y | 0.276 | 0.295 | 0.315 | 0.294 |
| Reference CCT: 7000K - 9000K | | | | |

| Rank B6 | | | | |
|------------------------------|-------|-------|-------|-------|
| x | 0.311 | 0.307 | 0.330 | 0.330 |
| y | 0.294 | 0.315 | 0.339 | 0.318 |
| Reference CCT: 5600K - 7000K | | | | |

| Rank C0 | | | | |
|------------------------------|-------|-------|-------|-------|
| x | 0.330 | 0.330 | 0.361 | 0.356 |
| y | 0.318 | 0.360 | 0.385 | 0.351 |
| Reference CCT: 4600K - 5600K | | | | |

Note: Color coordinates measurement allowance: ± 0.01

Color Binning Structure Graphic Representation



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