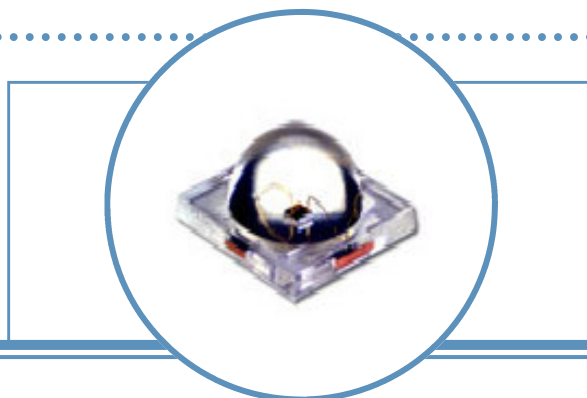


1-Watt SMD White LED Lamp (7mm)

OVSPW7CR8

- High luminous flux output for illumination
- Exposed pad design for excellent heat transfer
- Designed for high current operation
- Reflow soldering applicable

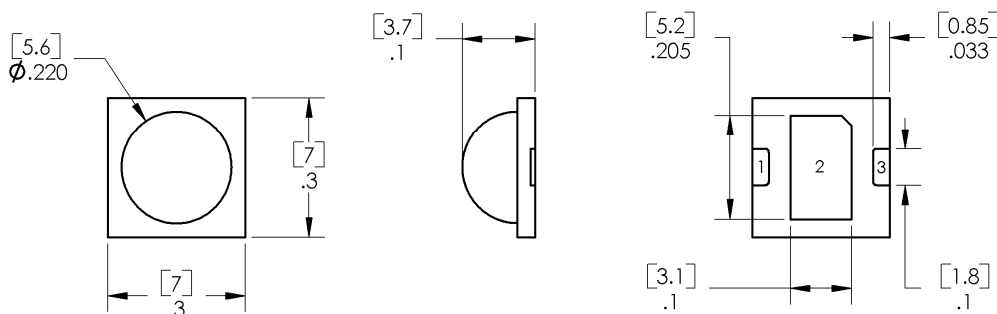


The OVSPW7CR8 is designed to handle high current and heat and emits sufficient light for a variety of lighting and illumination applications. Small size and high power allow for compact and cost-effective lighting solutions. Fast turn-on time and greater visibility in poor weather increase safety in automotive applications.

Applications

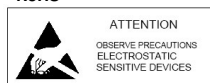
- Automotive: Back-up Lamps, Map and Dome Lights, Door Lights
- Camera Phone Flash
- Flashlights, Portable Task Lights, Diving Lights
- Backlighting LCD Displays: Televisions and Computer Monitors
- Entertainment: Studios, Theaters, Nightclubs, Restaurants
- Accent Lighting: Wall Wash, Landscape, Spotlight
- Bicycle and Pedestrian Safety Lights

| Part Number | Material | Emitted Color | Flux Typ. lm | Lens Color |
|-------------|----------|---------------|--------------|-------------|
| OVSPW7CR8 | InGaN | White | 23 | Water Clear |



1 ANODE 2 HEAT SINK 3 CATHODE

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].



Data is subject to change without prior notice.

1-Watt SMD White LED Lamp (7mm)

OVSPW7CR8



Absolute Maximum Ratings

T_A = 25° C (on metal core PCB¹) unless otherwise noted

| | |
|---|--------------|
| Storage Temperature Range | -20 ~ +85 °C |
| Operating Temperature Range | -20 ~ +85 °C |
| Reverse Voltage | 5 V |
| Continuous Forward Current | 350 mA |
| Peak Forward Current (10% Duty Cycle, 1KHz) | 500 mA |
| Power Dissipation | 1.26 W |
| Junction Temperature | +125°C |
| Junction-to-case ² | 15°C/W |

Notes:

1. Metal core PCB defined as good heat transmission substrate (thickness of 2.0mm Al-based PCB 20x20mm, Θ_{JC} <15°C/W)
2. Rth test condition: mounted on 2.0mm Al-based PCB 20x20mm

Electrical Characteristics

T_A = 25° C (on metal core PCB¹) unless otherwise noted

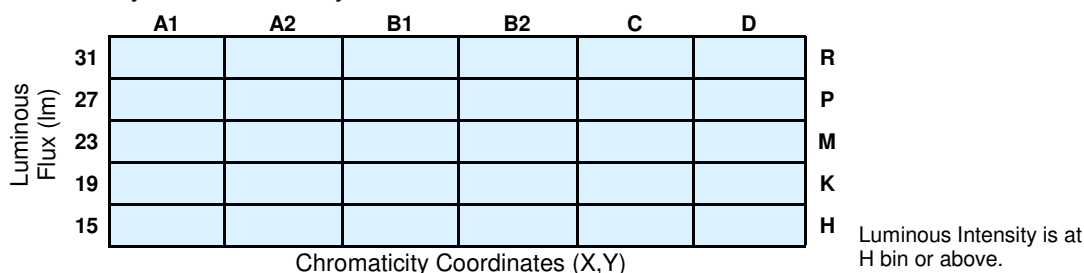
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|--------------------|--------------------------|------|------|------|-------|------------------------|
| lumen | Luminous Flux | 15 | 23 | ---- | lm | I _F = 350mA |
| V _F | Forward Voltage | ---- | 3.6 | 4.0 | V | I _F = 350mA |
| I _R | Reverse Current | ---- | ---- | 10 | μA | V _R = 5V |
| 2 Θ _{1/2} | 50% Power Angle | ---- | 70 | ---- | deg | I _F = 350mA |
| x | Chromaticity Coordinates | ---- | 0.3 | ---- | ---- | I _F = 350mA |
| y | | ---- | 0.3 | ---- | ---- | I _F = 350mA |

Note:

1. Metal core PCB defined as good heat transmission substrate (thickness of 2.0mm Al-based PCB 20x20mm, Θ_{JC} <15°C/W)

Standard Bins (I_F = 350mA)

Lamps are sorted to luminous flux (Φ_V) and chromaticity coordinates (X,Y) bins shown. Orders for OVSPW7CR8 may be filled with any or all bins contained as below.



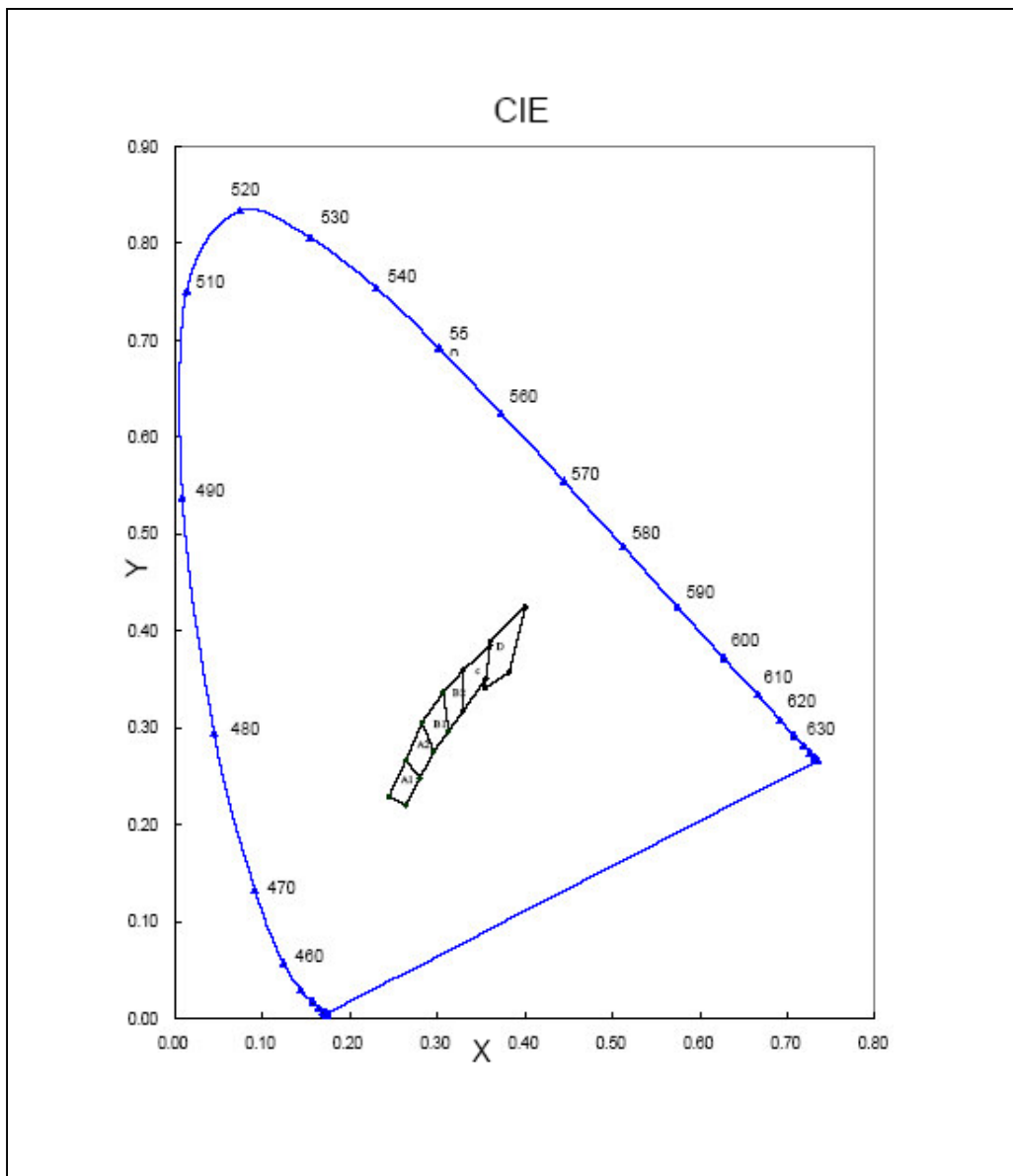
| Rank | | A1 | | | | A2 | | | | B1 | | | |
|--------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Chromaticity Coordinates | x | 0.245 | 0.264 | 0.280 | 0.264 | 0.283 | 0.296 | 0.280 | 0.283 | 0.307 | 0.313 | 0.296 | |
| | y | 0.229 | 0.267 | 0.248 | 0.220 | 0.267 | 0.305 | 0.276 | 0.248 | 0.305 | 0.337 | 0.297 | |

| Rank | | B2 | | | | C | | | | D | | | |
|--------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chromaticity Coordinates | x | 0.307 | 0.330 | 0.330 | 0.313 | 0.330 | 0.361 | 0.356 | 0.330 | 0.361 | 0.400 | 0.382 | 0.354 |
| | y | 0.337 | 0.360 | 0.318 | 0.297 | 0.360 | 0.385 | 0.351 | 0.318 | 0.390 | 0.425 | 0.358 | 0.341 |

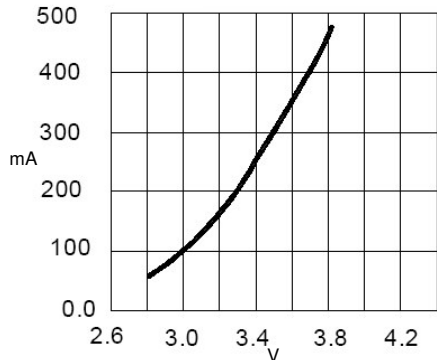
Important Notes:

1. All ranks will be included per delivery, rank ratio will be based on the chip distribution.
2. Pb content <1000PPM.
3. To designate luminous intensity ranks, please contact OPTEK.

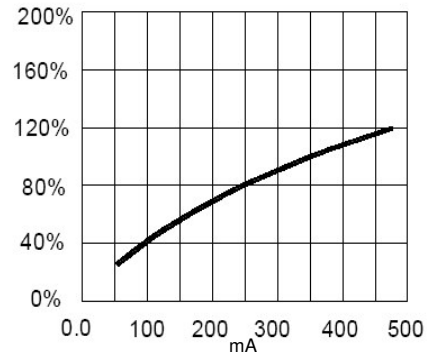
CIE Chromaticity Diagram



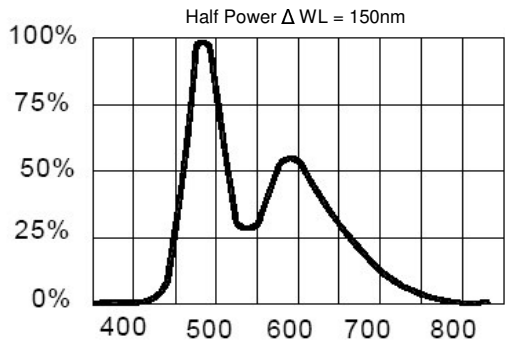
Typical Electro-Optical Characteristics Curves



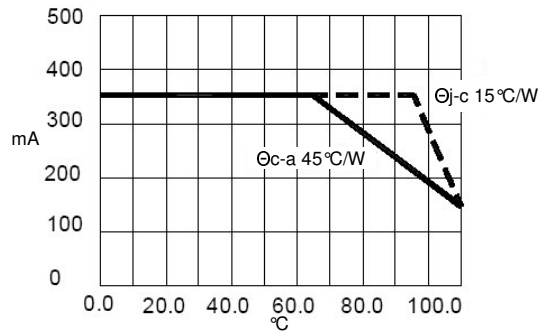
Forward Current vs. Forward Voltage



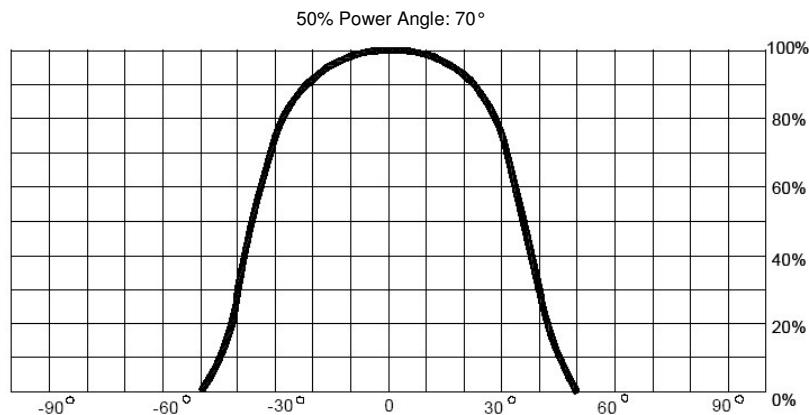
Relative Luminous Intensity vs. Forward Current



Relative Luminous Intensity vs. Wavelength



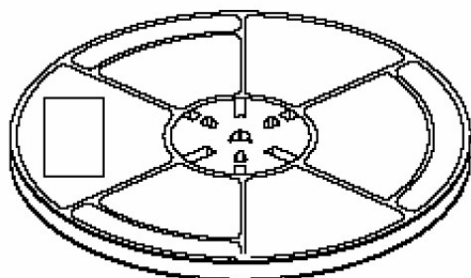
Maximum Forward DC Current vs. Ambient Temperature



Far Field Pattern

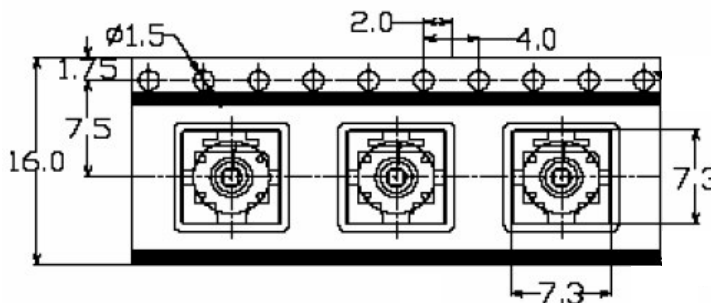
1-Watt SMD White LED Lamp (7mm) OVSPW7CR8

Reel Dimensions (13 Inch)



REEL
(506-DORREE-00)
(ϕ 330x16mm)

Carrier Tape Dimensions: Loaded Quantity 1400 PCS per Reel



Moisture Resistant Packaging

