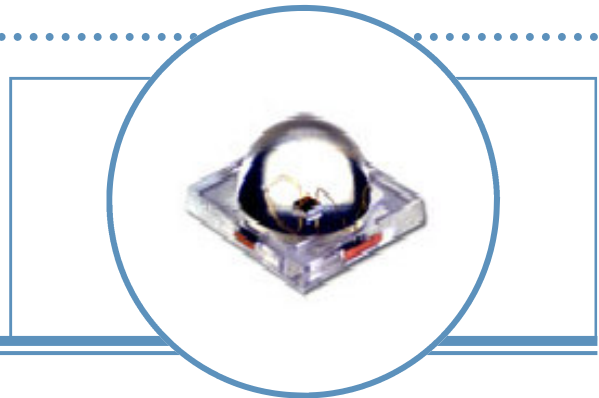


1-Watt SMD Green LED Lamp (7mm)

OVSPGCCR8

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

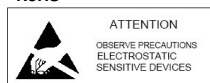
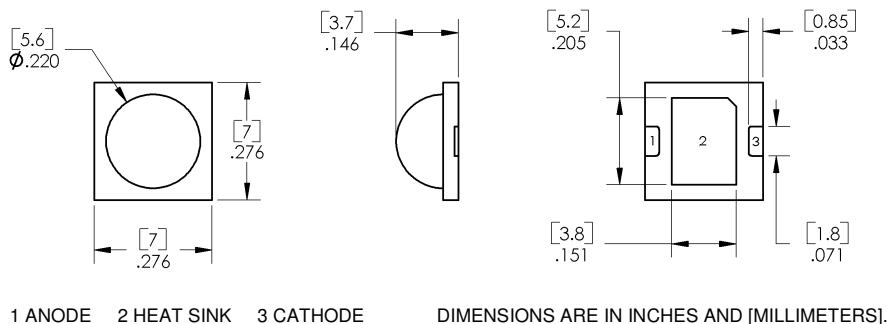


The OVSPGCCR8 is designed to handle high current and heat and emits sufficient light for a variety of lighting and illumination applications. Small size and high power allow for compact and cost-effective lighting solutions.

Applications

- Automotive: Exterior and Interior Lighting
- 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 |
|-------------|----------|---------------|--------------|-------------|
| OVSPGCCR8 | InGaN | Green | 40 | Water Clear |



Data is subject to change without prior notice.

1-Watt SMD Green LED Lamp (7mm)

OVSPGCCR8



Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$ (on metal core PCB¹) unless otherwise noted

| | |
|---|--------------|
| Storage Temperature Range | -30 ~ +85 °C |
| Operating Temperature Range | -30 ~ +85 °C |
| Reverse Voltage | 5 V |
| Continuous Forward Current | 300 mA |
| Peak Forward Current (10% Duty Cycle, 1KHz) | 500 mA |
| Power Dissipation | 1.00 W |
| Junction Temperature | +125°C |
| Junction-to-case ² | 15°C/W |

Note:

1. Metal core PCB defined as good heat transmission substrate (thickness of 2.0mm Al-based PCB 20x20mm, $\Theta_{JC} < 15^\circ\text{C/W}$ could do)
2. Rth test condition: mounted on 2.0mm Al-based PCB 20x20mm

Electrical Characteristics

$T_A = 25^\circ\text{C}$ (on metal core PCB¹) unless otherwise noted

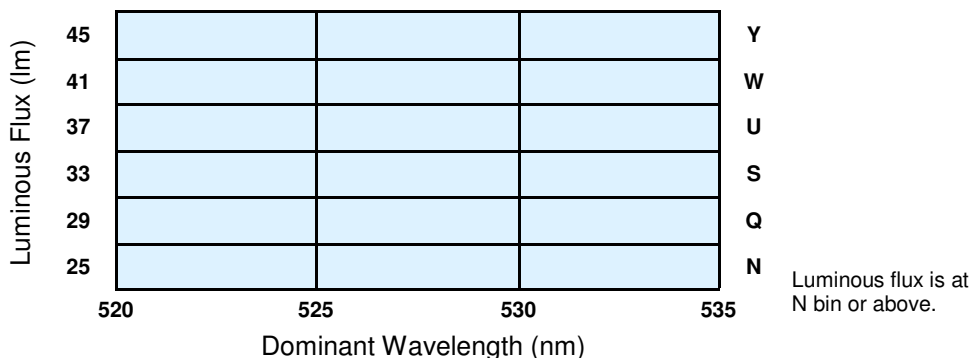
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|-----------------|---------------------|------|------|------|---------------|----------------------|
| lumen | Luminous Flux | 25 | 40 | ---- | lm | $I_F = 300\text{mA}$ |
| V_F | Forward Voltage | ---- | 3.6 | 4.0 | V | $I_F = 300\text{mA}$ |
| I_R | Reverse Current | ---- | ---- | 10 | μA | $V_R = 5\text{V}$ |
| λ_D | Dominant Wavelength | 520 | 527 | 535 | nm | $I_F = 300\text{mA}$ |
| $2\theta_{1/2}$ | 50% Power Angle | ---- | 140 | ---- | deg | $I_F = 300\text{mA}$ |

Note:

1. Metal core PCB defined as good heat transmission substrate (thickness of 2.0mm Al-based PCB 20x20mm, $\Theta_{JC} < 15^\circ\text{C/W}$ could do)

Standard Bins ($I_F = 300\text{mA}$)

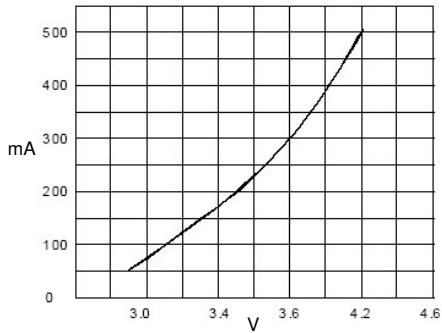
Lamps are sorted to luminous flux (Φ_V) and dominant wavelength (λ_D) and ranked as shown. Orders for OVSPGCCR8 may be filled with any or all bins contained as below.



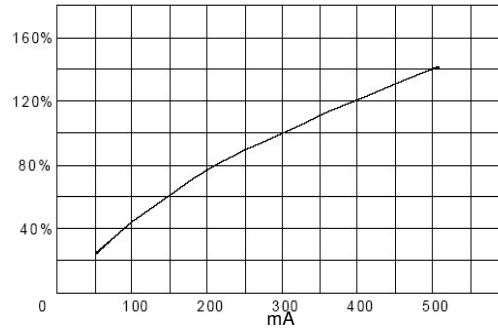
Important Notes:

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.

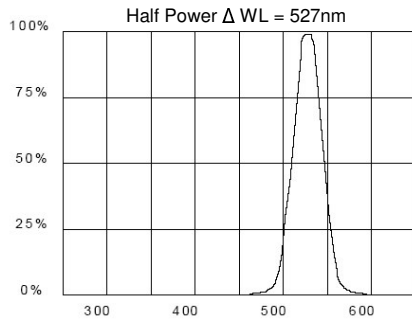
Typical Electro-Optical Characteristics Curves



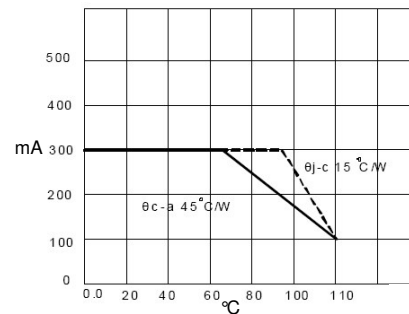
Forward Current vs. Forward Voltage



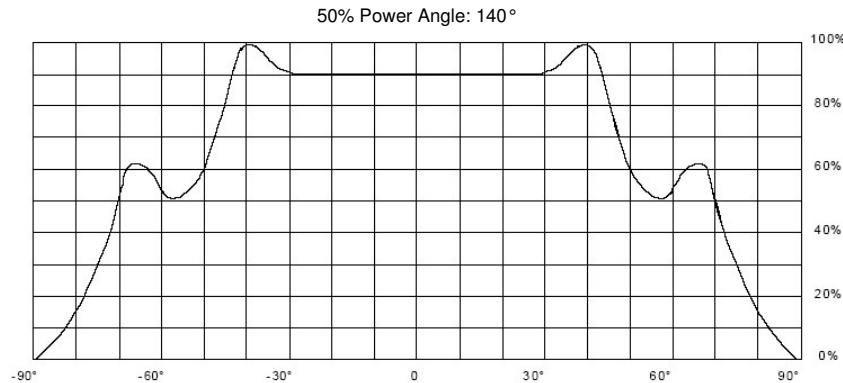
Relative Luminous Flux vs. Forward Current



Relative Luminous Intensity vs. Wavelength



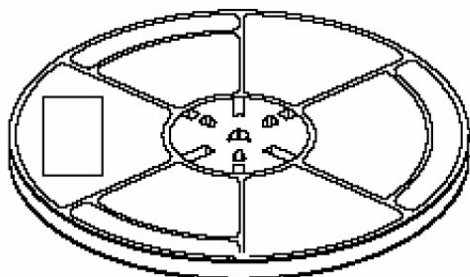
Maximum Forward DC Current vs. Ambient Temperature



Far Field Pattern

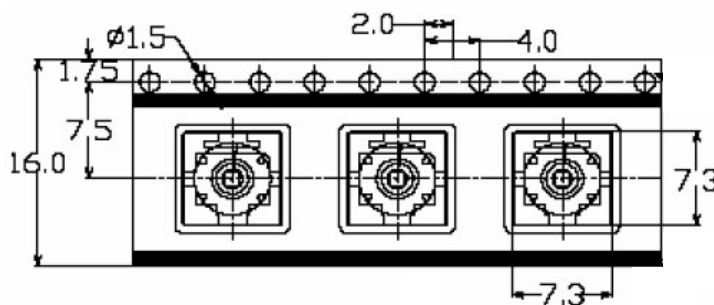
1-Watt SMD Green LED Lamp (7mm) OVSPGCCR8

Reel Dimensions (13 Inch)

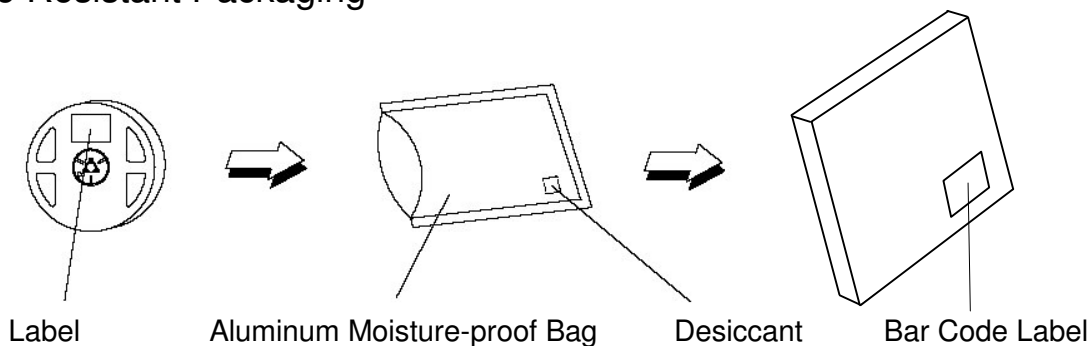


REEL
(506-DORREE-00)
(\varnothing 330x16mm)

Carrier Tape Dimensions: Loaded Quantity 1400 PCS per Reel



Moisture Resistant Packaging



1-Watt SMD Green LED Lamp (7mm)



| Issue | Change Description | Approval | Date |
|--------------|--|-----------------|-------------|
| 1.0 | Initial Release | R. Bailey | 5/20/05 |
| 1.1 | Corrected heat sink from 3.1mm to 3.8mm. | R. Bailey | 6/10/05 |
| 1.2 | Corrected Page 1 typical luminous flux to 40 lm. | J. Haynie | 7/19/05 |
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