

# 1-Watt SMD Blue LED Lamp (7mm)



## OVSPBCCR8

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

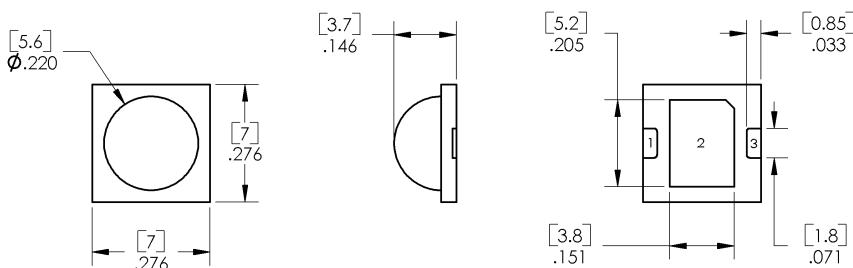


The OVSPBCCR8 is designed to handle high current and heat and emits sufficient light for a variety of lighting and illumination applications. Small size and high power allow for compact and cost-effective lighting solutions.

## 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
OVSPBCCR8	InGaN	Blue	11	Water Clear



1 ANODE 2 HEAT SINK 3 CATHODE

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].



Data is subject to change without prior notice.

## Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$  (on metal core PCB<sup>1</sup>) 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 <sup>2</sup>	15 °C/W

Notes:

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

## Electrical Characteristics

$T_A = 25^\circ\text{C}$  (on metal core PCB<sup>1</sup>) unless otherwise noted

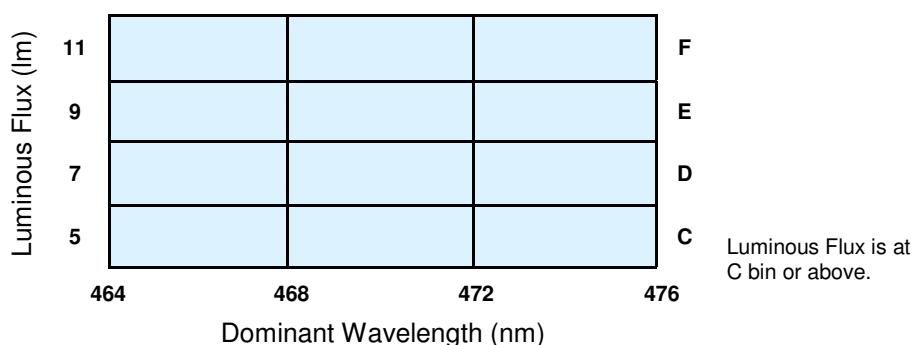
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
lumen	Luminous Flux	5	11	----	lm	$I_F = 300\text{mA}$
$V_F$	Forward Voltage	----	3.6	4.0	V	$I_F = 300\text{mA}$
$I_R$	Reverse Current	----	----	10	$\mu\text{A}$	$V_R = 5\text{V}$
$\lambda_D$	Dominant Wavelength	464	470	476	nm	$I_F = 300\text{mA}$
$2\Theta_{1/2}$	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,  $\Theta_{JC} < 15^\circ\text{C}/\text{W}$  could do)

## Standard Bins ( $I_F = 450\text{mA}$ )

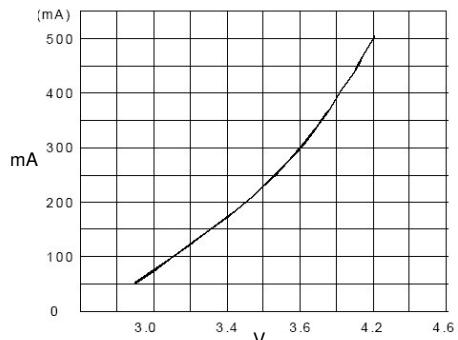
Lamps are sorted to luminous flux ( $\Phi_V$ ) and dominant wavelength ( $\lambda_D$ ) and ranked as shown. Orders for OVSPBCCR8 may be filled with any or all bins contained as below.



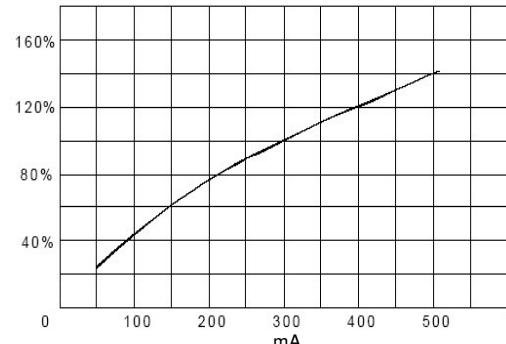
### Important Notes:

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.

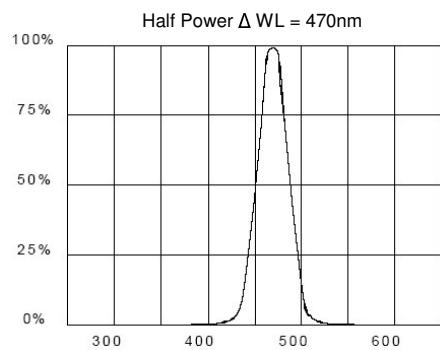
## Typical Electro-Optical Characteristics Curves



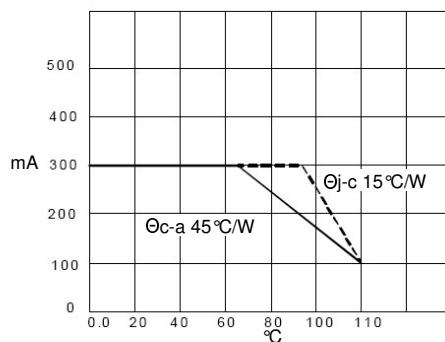
Forward Current vs. Forward Voltage



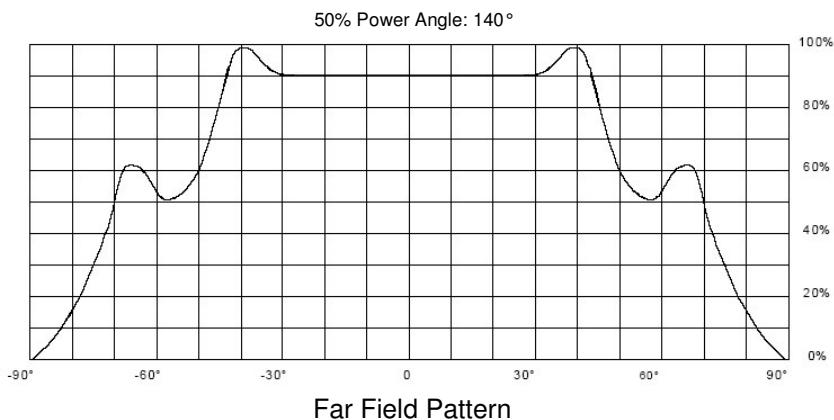
Relative Luminous Flux vs. Forward Current



Relative Luminous Intensity vs. Wavelength

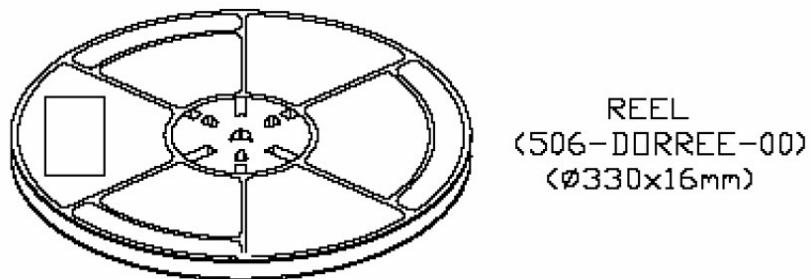


Maximum Forward DC Current vs. Ambient Temperature

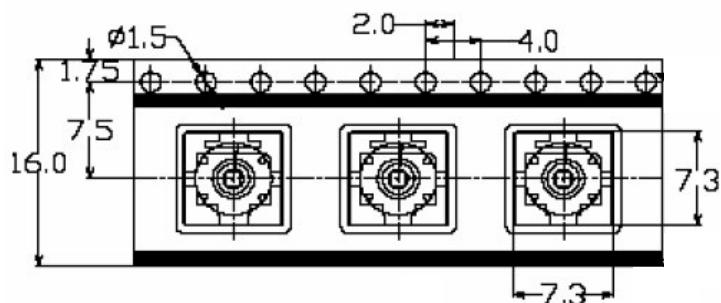


Far Field Pattern

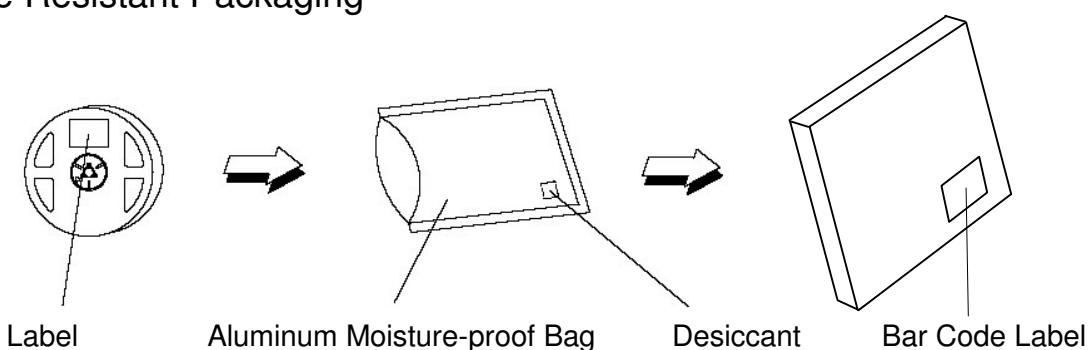
Reel Dimensions (13 Inch)



Carrier Tape Dimensions: Loaded Quantity 1400 PCS per Reel



Moisture Resistant Packaging



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