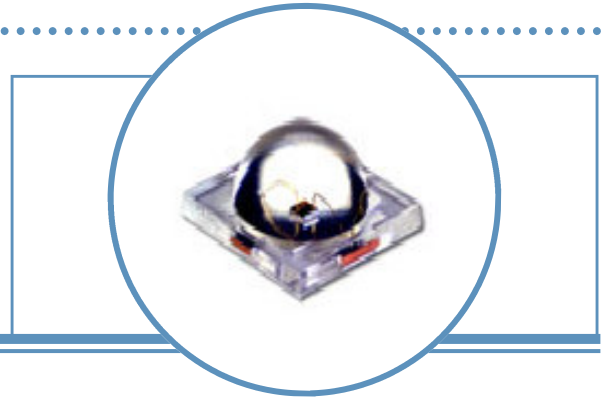


1-Watt SMD Blue LED Lamp (7mm)

OVSPBCCR8

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

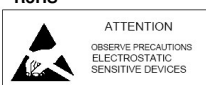
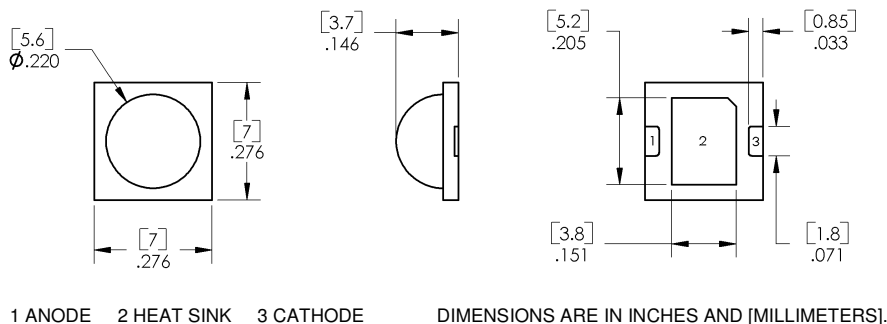


The OVSPBCCR8 is designed to handle high current and heat and emits sufficient light for a variety of lighting and illumination applications. Small size and high power allow for compact and cost-effective lighting solutions.

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



Data is subject to change without prior notice.

1-Watt SMD Blue LED Lamp (7mm)

OVSPBCCR8

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

Notes:

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

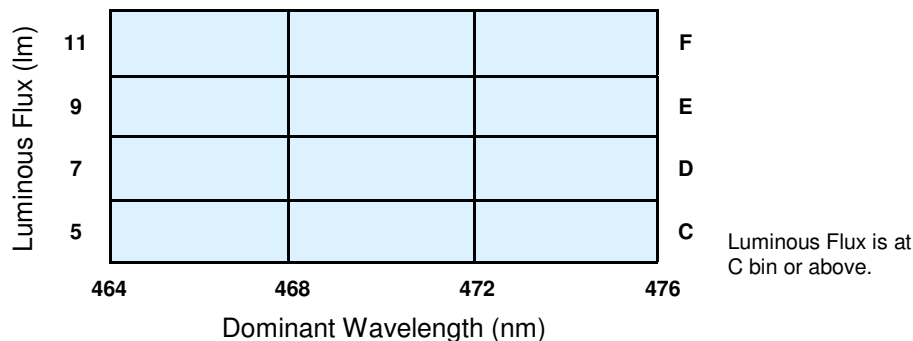
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
lumen	Luminous Flux	5	11	----	lm	$I_F = 300\text{mA}$
V_F	Forward Voltage	----	3.6	4.0	V	$I_F = 300\text{mA}$
I_R	Reverse Current	----	----	10	μA	$V_R = 5\text{V}$
λ_D	Dominant Wavelength	464	470	476	nm	$I_F = 300\text{mA}$
$2\ \Theta_{1/2}$	50% Power Angle	----	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, $\Theta_{JC} < 15^\circ\text{C/W}$ could do)

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

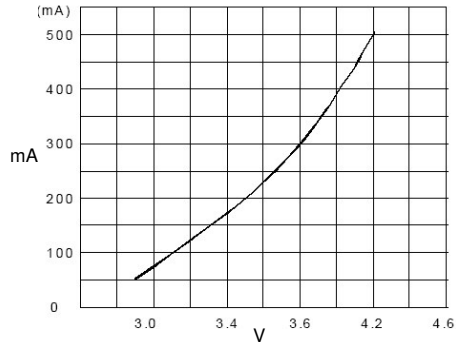
Lamps are sorted to luminous flux (Φ_V) and dominant wavelength (λ_D) and ranked as shown. Orders for OVSPBCCR8 may be filled with any or all bins contained as below.



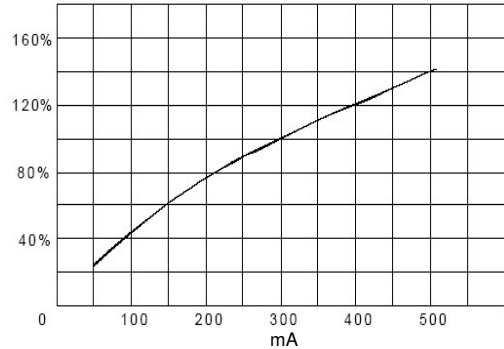
Important Notes:

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.

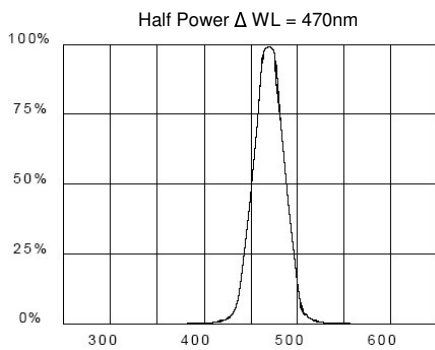
Typical Electro-Optical Characteristics Curves



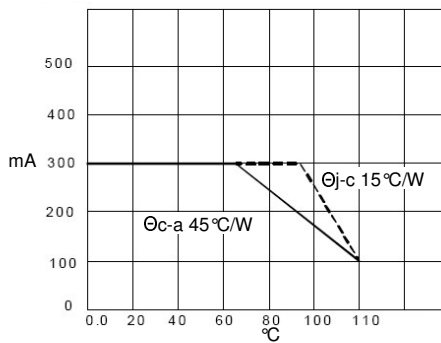
Forward Current vs. Forward Voltage



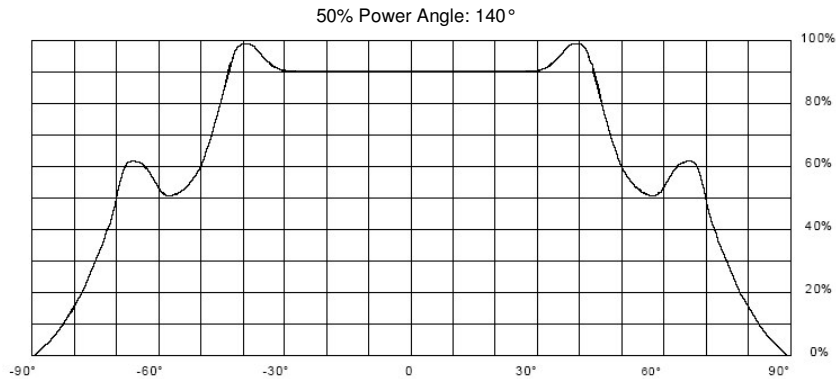
Relative Luminous Flux vs. Forward Current



Relative Luminous Intensity vs. Wavelength



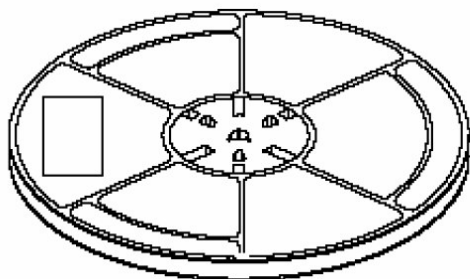
Maximum Forward DC Current vs. Ambient Temperature



Far Field Pattern

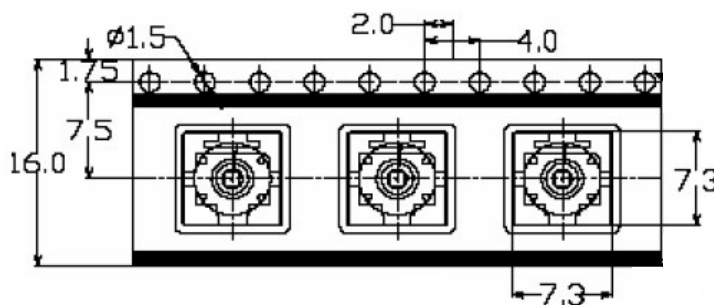
1-Watt SMD Blue LED Lamp (7mm) OVSPBCCR8

Reel Dimensions (13 Inch)

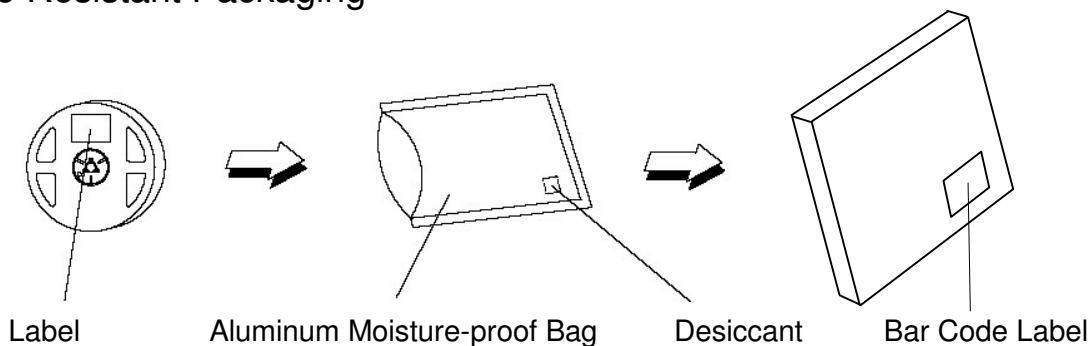


REEL
(506-D0RREE-00)
(\varnothing 330x16mm)

Carrier Tape Dimensions: Loaded Quantity 1400 PCS per Reel



Moisture Resistant Packaging



1-Watt SMD Blue LED Lamp (7mm)

OVSPBCCR8



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 11 lm.	J. Haynie	7/19/05