

1-Watt SMD Blue LED Lamp (7 mm)

OVSPBCCR8

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

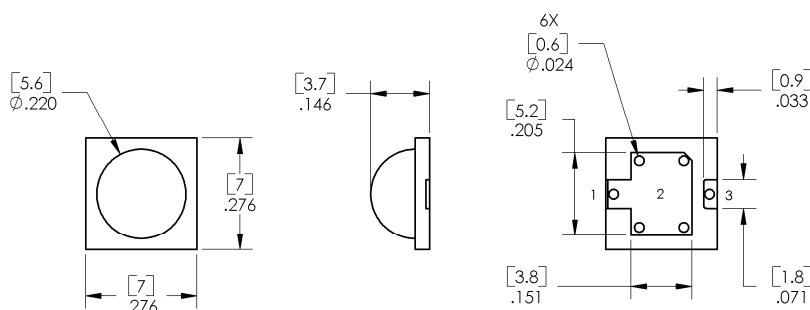


The **OVSPBCCR8** is designed to handle high current and heat and emits sufficient light for a variety of lighting and illumination applications. Small size and high power allow for compact and cost-effective lighting solutions.

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

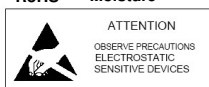


SOLDERING PATTERN

1 ANODE 2 HEAT SINK 3 CATHODE

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

HEAT SINK IS TIED ELECTRICALLY AND MECHANICALLY TO ANODE.



**DO NOT LOOK DIRECTLY
AT LED WITH UNSHIELDED
EYES OR DAMAGE TO
RETINA MAY OCCUR.**

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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Absolute Maximum Ratings

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

Storage Temperature Range	-40 ~ +85 °C
Operating Temperature Range	-40 ~ +85 °C
Reverse Voltage	5 V
Continuous Forward Current	300 mA
Peak Forward Current (10% Duty Cycle, 1KHz)	500 mA
Power Dissipation	1.3 W
Junction Temperature	+125 °C
Junction-to-Ambient	+45 °C/W
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.
3. Rth test condition: mounted on 2.0 mm Al-based PCB in size of 20 x 20 mm.

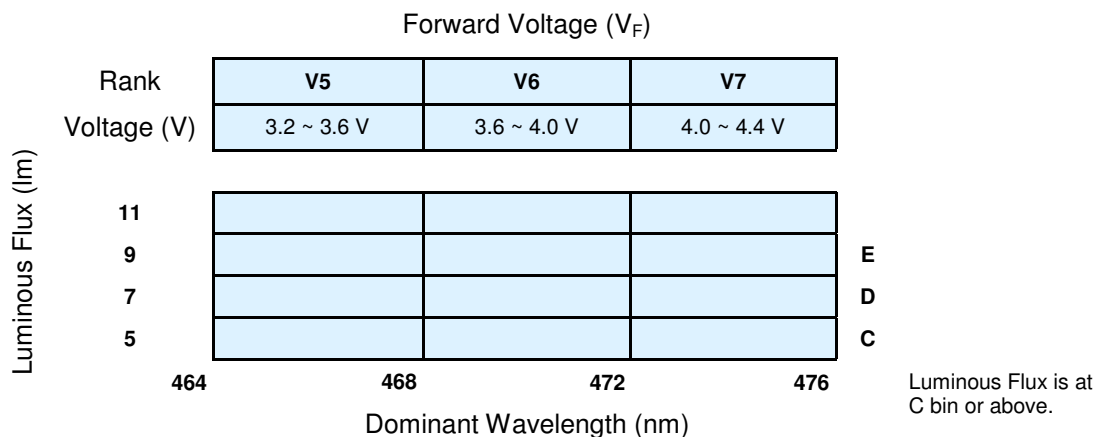
Electrical Characteristics

$T_A = 25^\circ\text{C}$ (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	4.4	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	$I_F = 300\text{ mA}$

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 OVSPBCCR8 may be filled with any or all bins contained as below.



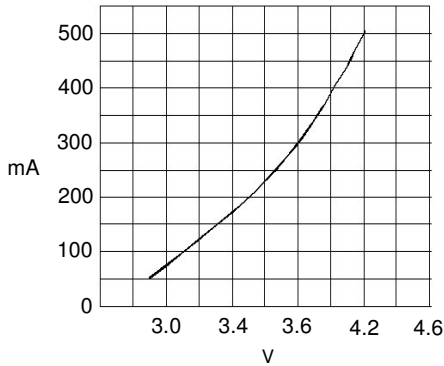
Notes:

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

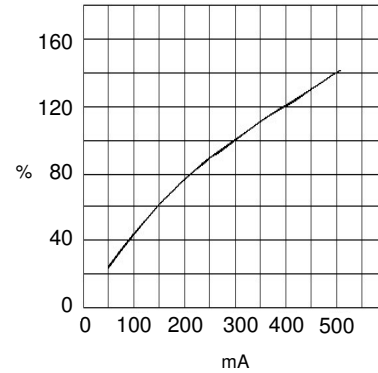
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1-Watt SMD Blue LED Lamp (7 mm) OVSPBCCR8

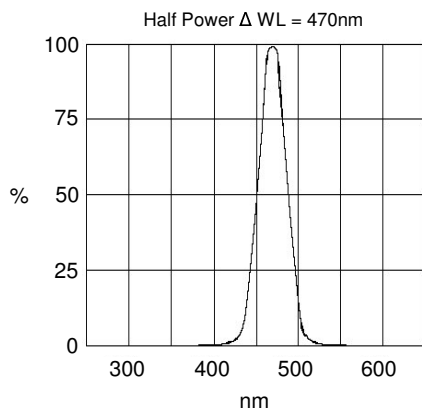
Typical Electro-Optical Characteristics Curves



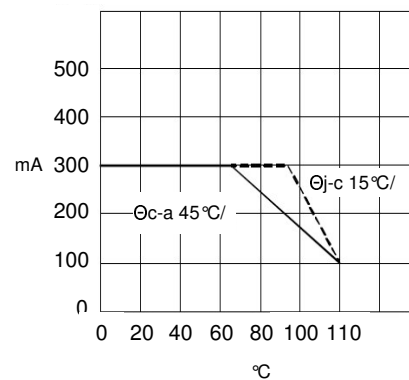
Forward Current vs Forward Voltage



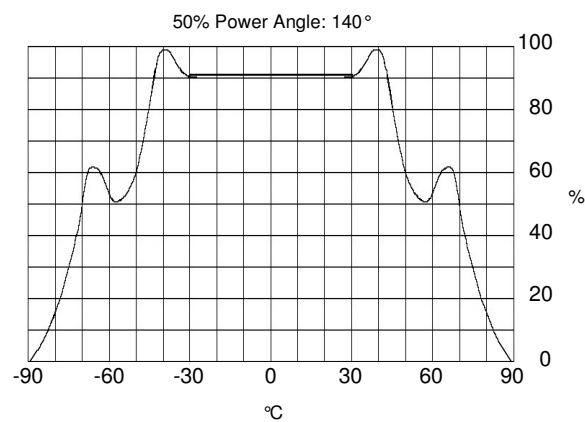
Relative Luminous Flux vs Forward Current



Relative Luminous Intensity vs Wavelength



Maximum Forward DC Current vs Ambient Temperature

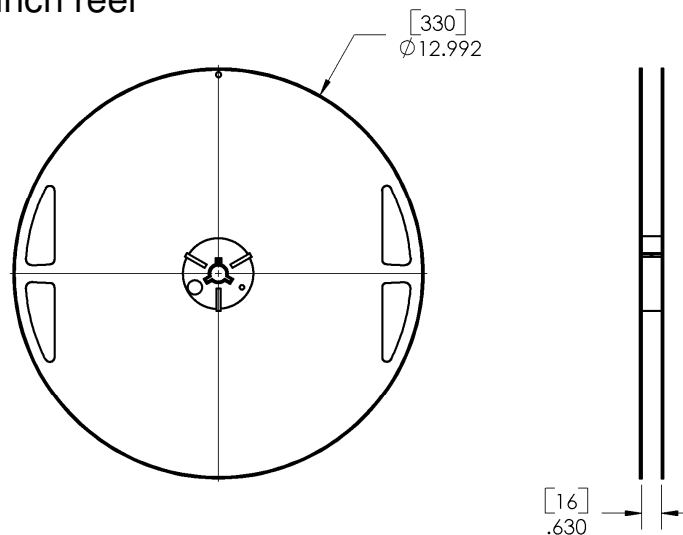


Far Field Pattern

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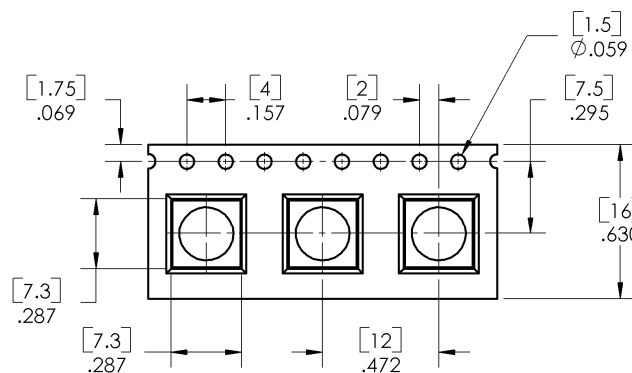
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Reel Dimensions: 13-inch reel



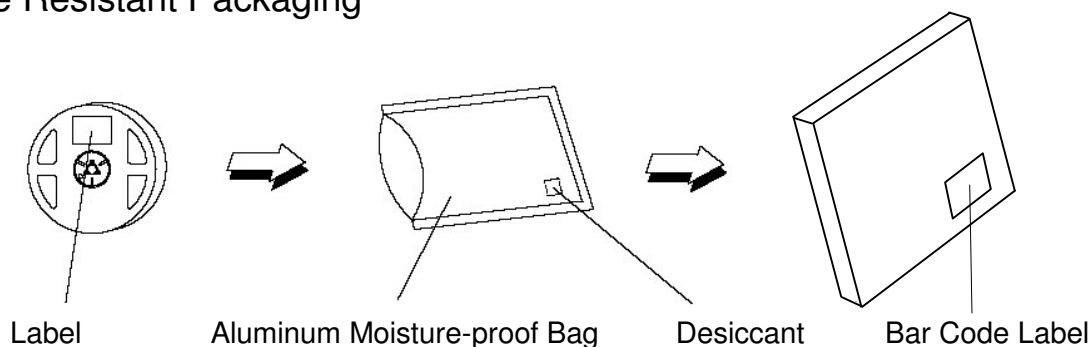
LOADED QUANTITY - 1400 PCS PER REEL

Carrier Tape Dimensions: Loaded quantity 1400 pieces per reel



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Moisture Resistant Packaging



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