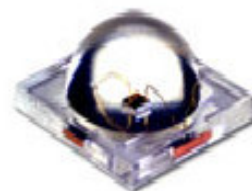


1-Watt SMD Red LED Lamp (7mm)

OVSPRAC5R8

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

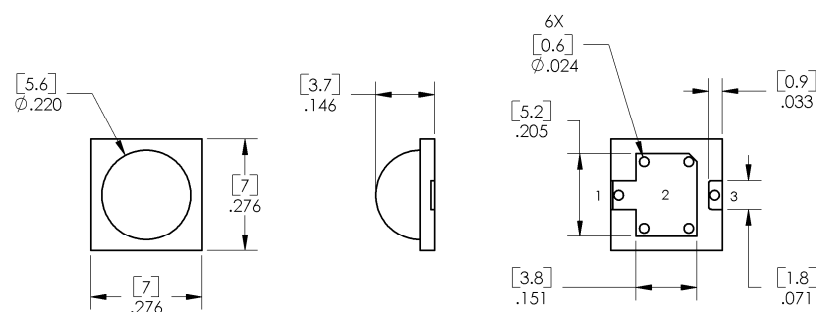


The **OVSPRAC5R8** is designed to handle high current and heat and emits sufficient light for a variety of lighting and illumination applications. Its small size and high power allow for compact and cost-effective lighting solutions.

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
OVSPRAC5R8	AlGaInP	Red	32	Water Clear

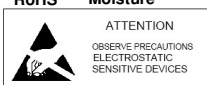


SOLDERING PATTERN

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.

1-Watt SMD Red LED Lamp (7 mm)

OVSPRAC5R8



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	450 mA
Peak Forward Current (10% Duty Cycle, 1KHz)	700 mA
Power Dissipation	1.2 W
Junction Temperature	+115° C
Junction-to-Ambient	45° C/W
Junction-to-case ²	20° C/W

Notes:

1. Metal core PCB defined as good heat transmission substrate (thickness of 2.0mm Al-based PCB 20 x 20 mm, $\Theta_{JC} < 15^\circ\text{C/W}$ could do)
2. Rth test condition: mounted on 2.0mm Al-based PCB 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	21	32	----	lm	$I_F = 450\text{ mA}$
V_F	Forward Voltage	----	2.4	2.8	V	$I_F = 450\text{ mA}$
I_R	Reverse Current	----	----	10	μA	$V_R = 5\text{ V}$
λ_D	Dominant Wavelength	618	624	630	nm	$I_F = 450\text{ mA}$
$2\theta_{1/2}$	50% Power Angle	----	105	----	deg	$I_F = 450\text{ mA}$

Note:

1. Metal core PCB defined as good heat transmission substrate (thickness of 2.0 mm Al-based PCB 20 x 20 mm, $\Theta_{JC} < 15^\circ\text{C/W}$ 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 OVSPRAC5R8 may be filled with any or all bins contained as below.

Rank		V2	V3
Voltage (V)		2.0 - 2.4 V	2.4 - 2.8 V
Luminous Flux (lm)	37		
	33		
	29		
	25		
	21		
		618	624 630
		Dominant Wavelength (nm)	

S
Q
N
L

Luminous flux is at L bin or above.

Notes:

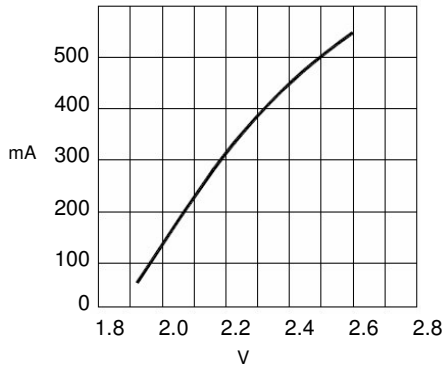
1. All ranks will be included per delivery. Rank ratio will be based on the chip distribution.
2. Pb content <1000 PPM.
3. To designate luminous intensity ranks, please contact OPTEK.

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

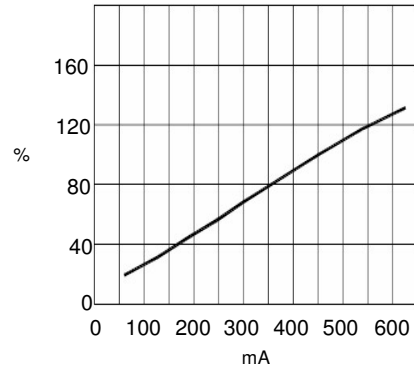
1-Watt SMD Red LED Lamp (7 mm)

OVSPRAC5R8

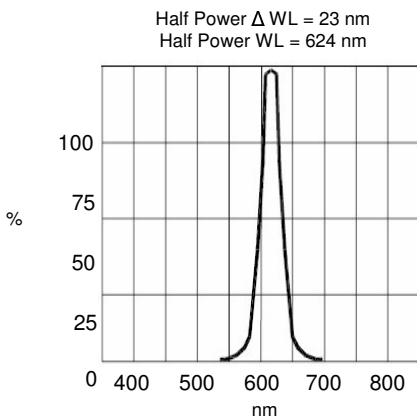
Typical Electro-Optical Characteristics Curves



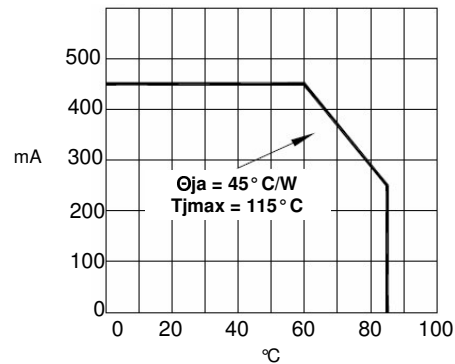
Forward Current vs Forward Voltage



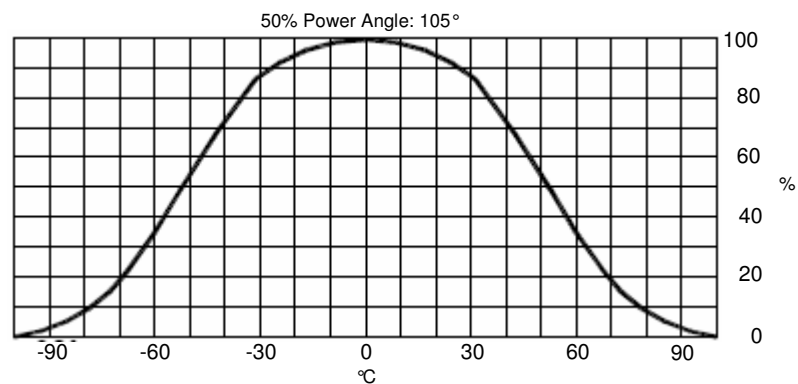
Relative Luminous Flux vs Forward Current



Relative Luminous Intensity vs Wavelength



Forward Current vs Forward Voltage

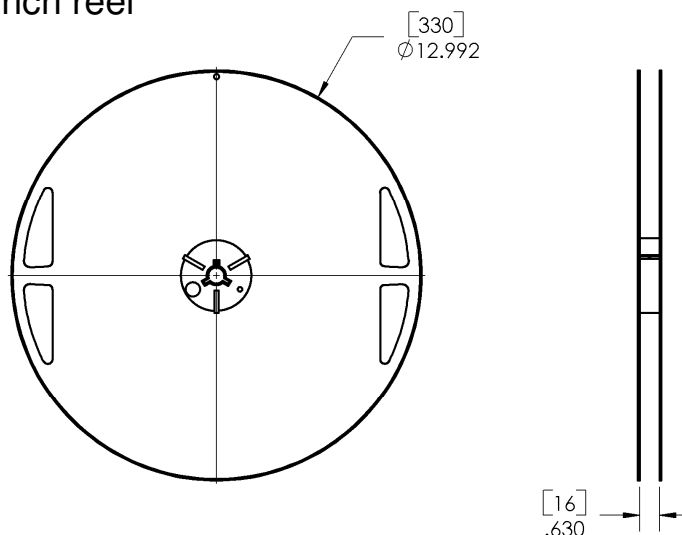


Far Field Pattern

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

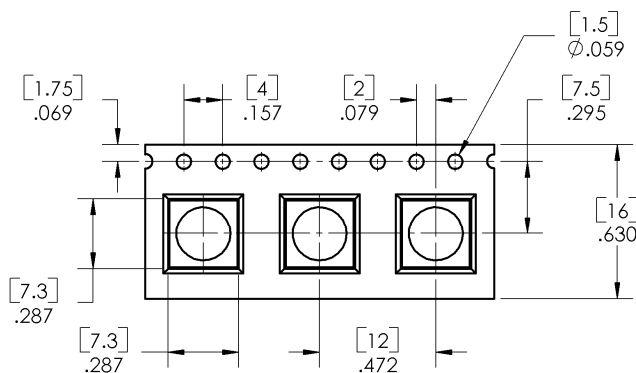
1-Watt SMD Red LED Lamp (7 mm) OVSPRAC5R8

Reel Dimensions: 13-inch reel



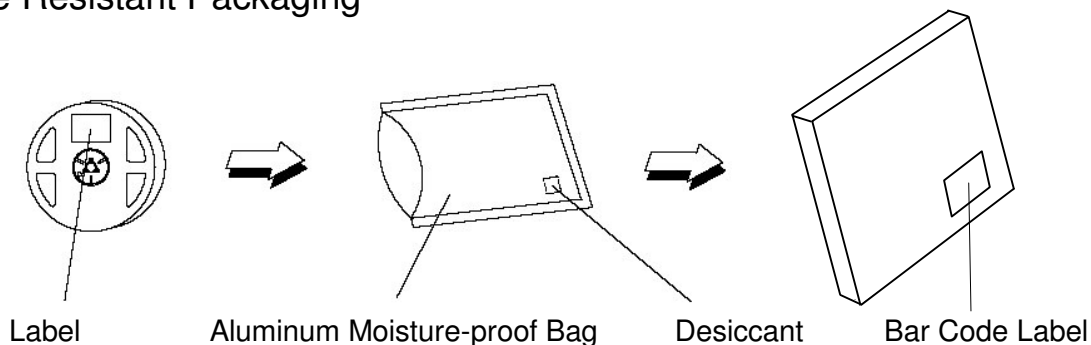
LOADED QUANTITY - 1400 PCS PER REEL

Carrier Tape Dimensions: Loaded quantity 1400 pieces per reel



DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

Moisture Resistant Packaging



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