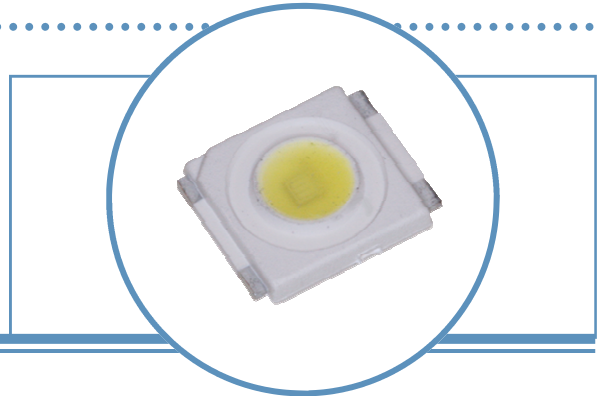


# .5-Watt SMD 6mm White (120° Viewing Angle)

## OVS5WBCR4

- Robust energy-efficient design with long operating life
- Low thermal resistance
- Exceptional spatial uniformity
- Optional optics to suit application

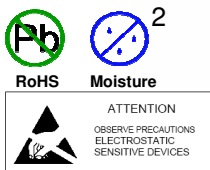
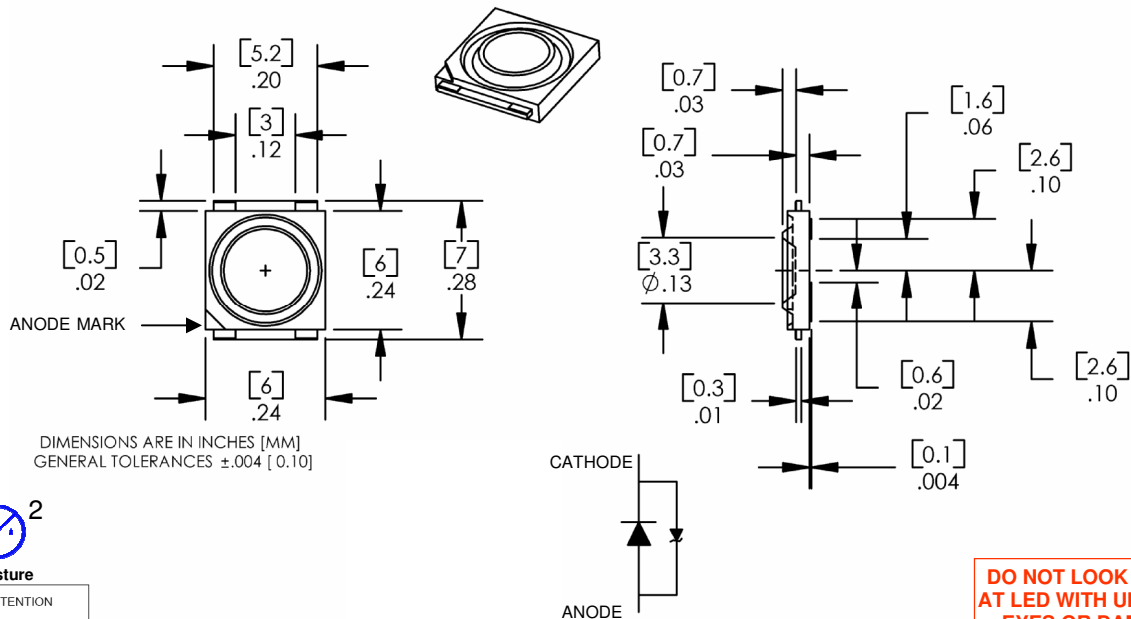


The **OVS5WBCR4** is an energy-efficient packaged LED source that offers high luminance, and a long operating lifespan. This device offers a 120° viewing angle and an ultra-low profile (1.5mm) making it highly suitable for conventional lighting and specialized applications. Optional optics are offered to suit application. Please contact OPTEK for more information.

### Applications

- Automotive exterior and interior lighting
- Architectural indoor and outdoor lighting
- General lighting
- Electronic signs and signals

Part Number	Viewing Angle	Emitted Color	Typical Luminous Flux (lm)	Typical On-Axis Intensity (cd)	Lens Color
OVS5WBCR4	120°	White	21	8.5	Water Clear



**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.

# .5-Watt SMD 6mm White

## OVS5WBCR4

### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$

DC Forward Current	180mA
Peak Pulsed Forward Current <sup>1</sup>	500mA
Reverse Voltage	Not designed for reverse bias
Junction Temperature <sup>2</sup>	125°C
Power Dissipation	700mW
Storage and Operating Temperature	-40° ~ +100 °C
ESD Threshold (HBM)	2000V

Notes:

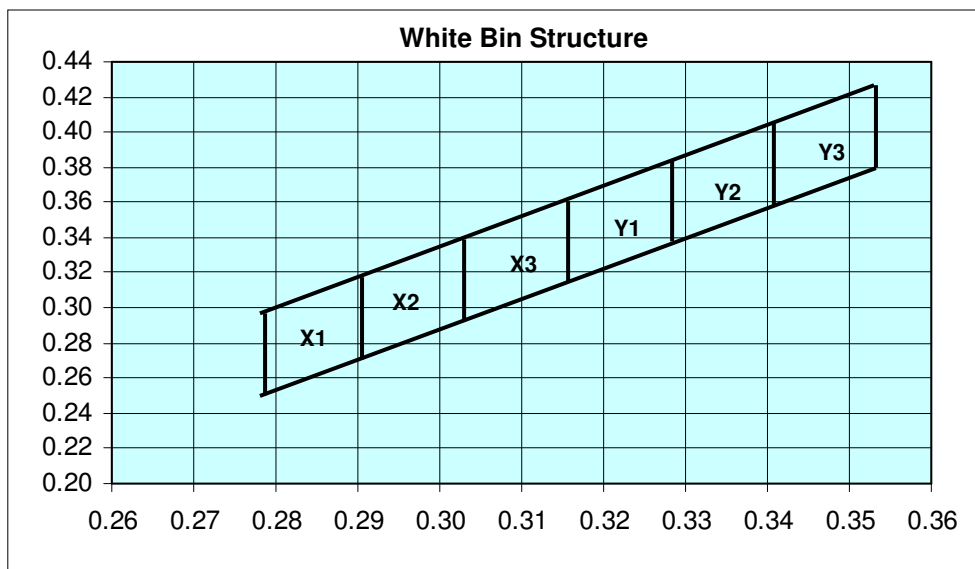
1. Pulse width  $t_p \leq 10\mu\text{s}$ , Duty cycle = 0.1
2. Thermal conductivity = 18K/W for white

### Optical and Electrical Characteristics—White ( $I_F = 150\text{ mA}$ , $T_A = 25^\circ\text{C}$ )

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS
$V_F$	Forward Voltage	3.0	3.2	3.7	V
$\Phi$	Luminous Flux	14	21	28	lm
$I_V$	Luminous Intensity	5.6	8.5	11.2	cd
$I_R$	Reverse Current at 3V	----	10	----	$\mu\text{A}$
$2\theta_{1/2}$	50% Power Angle	----	120	----	deg

### Standard Bins ( $I_F = 150\text{ mA}$ )

Lamps are sorted to luminous flux ( $\Phi$ ), chromaticity coordinates, and correlated color temperature (CCT) bins shown. Orders may be filled with any or all bins contained as below.



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# .5-Watt SMD 6mm White

## OVS5WBCR4

### Standard Bins ( $I_F = 150 \text{ mA}$ )

Lamps are sorted to luminous flux ( $\Phi$ ), chromaticity coordinates, and correlated color temperature (CCT) bins shown. Orders may be filled with any or all bins contained as below.

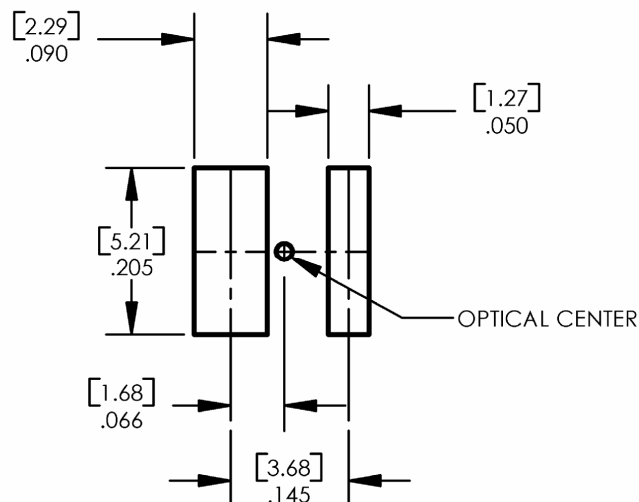
Bin		1	2	3	4
X <sub>1</sub>	C <sub>X</sub>	0.2775	0.29	0.29	0.2775
	C <sub>Y</sub>	0.243	0.265	0.31	0.288
X <sub>2</sub>	C <sub>X</sub>	0.29	0.3025	0.3025	0.29
	C <sub>Y</sub>	0.265	0.286	0.331	0.31
X <sub>3</sub>	C <sub>X</sub>	0.3025	0.315	0.315	0.3025
	C <sub>Y</sub>	0.286	0.308	0.353	0.331
Y <sub>1</sub>	C <sub>X</sub>	0.315	0.3275	0.3275	0.315
	C <sub>Y</sub>	0.308	0.33	0.375	0.353
Y <sub>2</sub>	C <sub>X</sub>	0.3275	0.34	0.34	0.3275
	C <sub>Y</sub>	0.33	0.351	0.396	0.375
Y <sub>3</sub>	C <sub>X</sub>	0.34	0.3525	0.3525	0.34
	C <sub>Y</sub>	0.351	0.373	0.418	0.396

Color Bin	Minimum CCT (K)	Maximum CCT (K)
Y3	4500	5000
Y2	5000	5500
Y1	5500	6000
X3	6000	7000
X2	7000	8000
X1	8000	10000

$\Phi$	Luminous Flux (lm)	
Bin	Min	Max
Z2	14	18
AA	18	22
AB	22	28

### Solder Pad Design

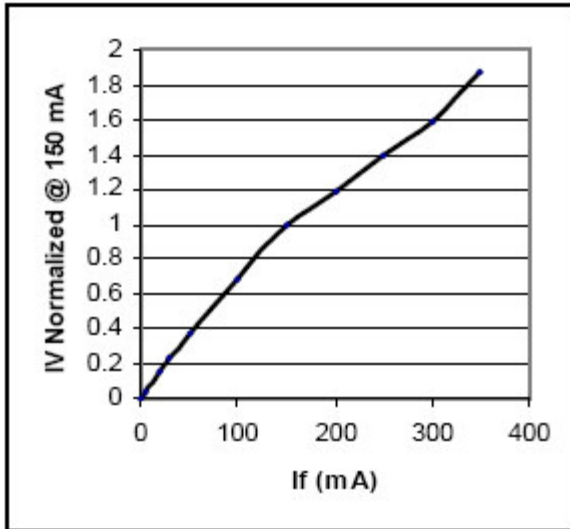
Note: Metal core circuit board (MCPCB) is highly recommended for high density applications. Please consult sales and marketing for additional information.



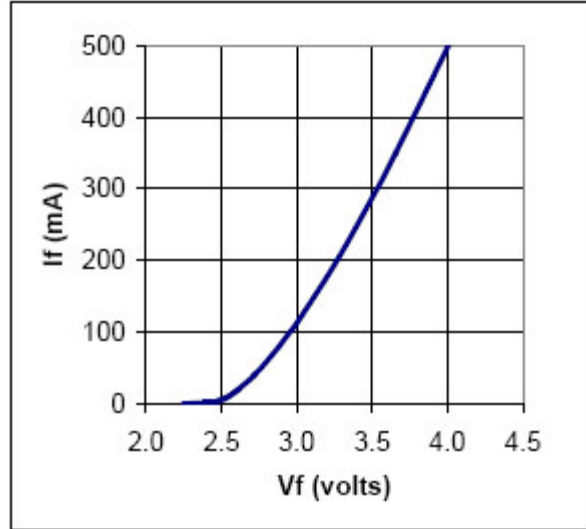
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Typical Electro-Optical Characteristics Curves—White

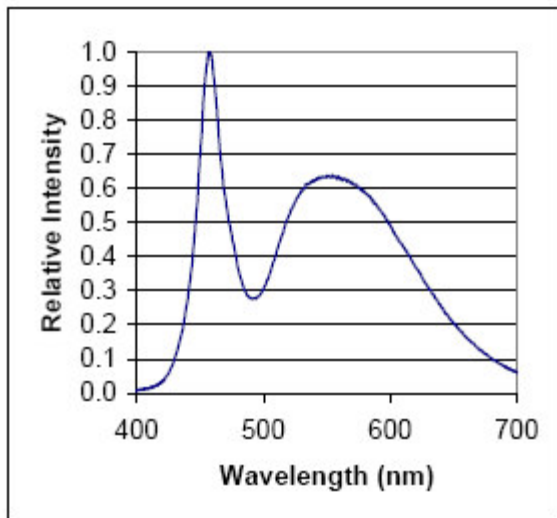
Relative luminous intensity vs. forward current



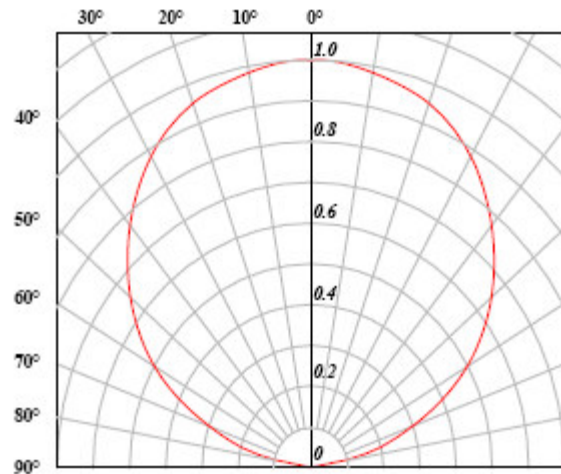
Forward current vs. forward voltage.



Relative Spectra Emission

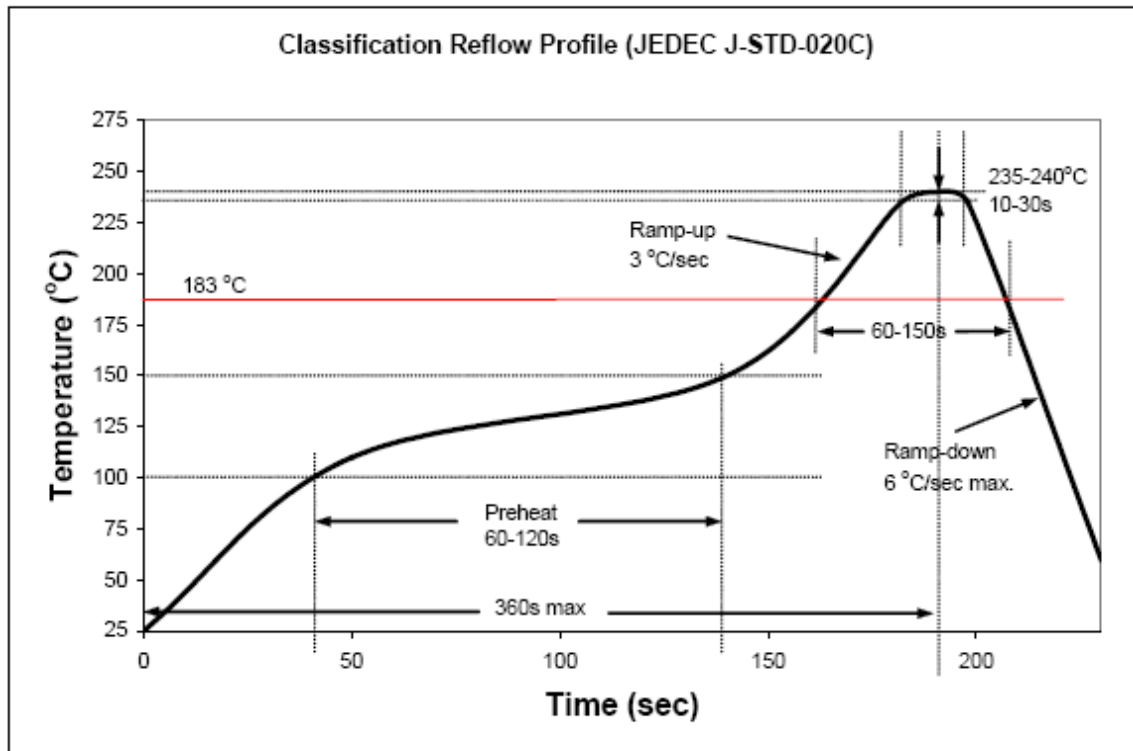


Radiation pattern

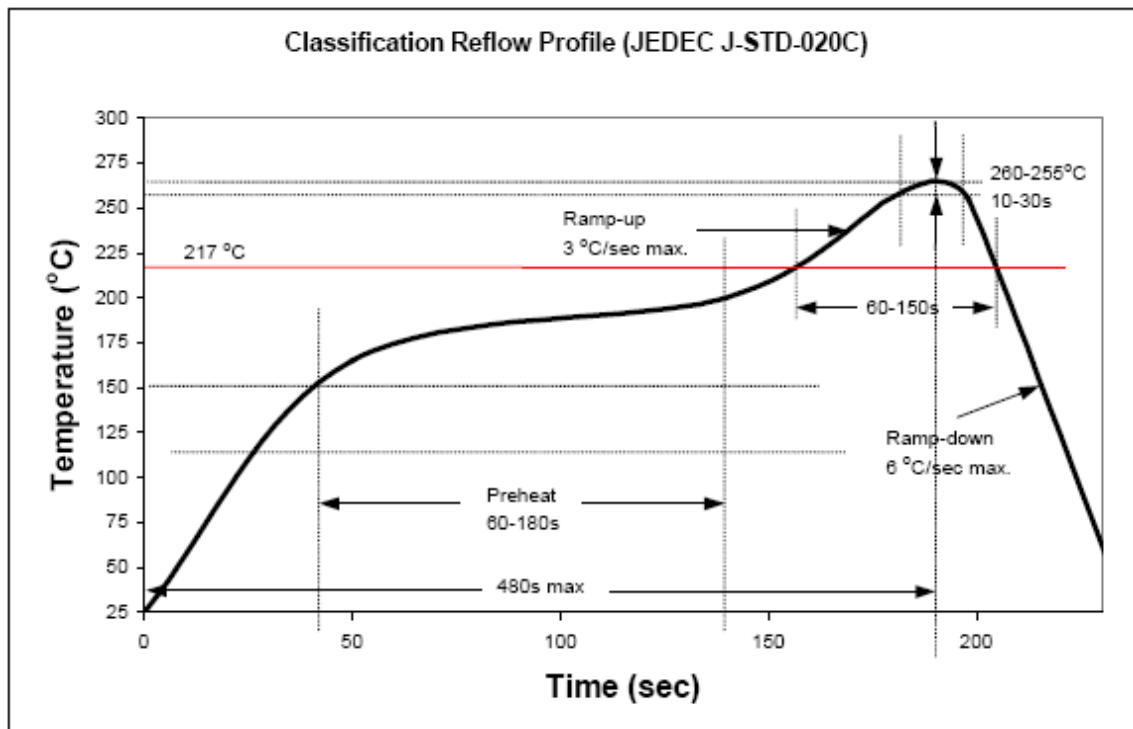


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**Recommended Sn-Pb IR-Reflow Soldering Profile.**



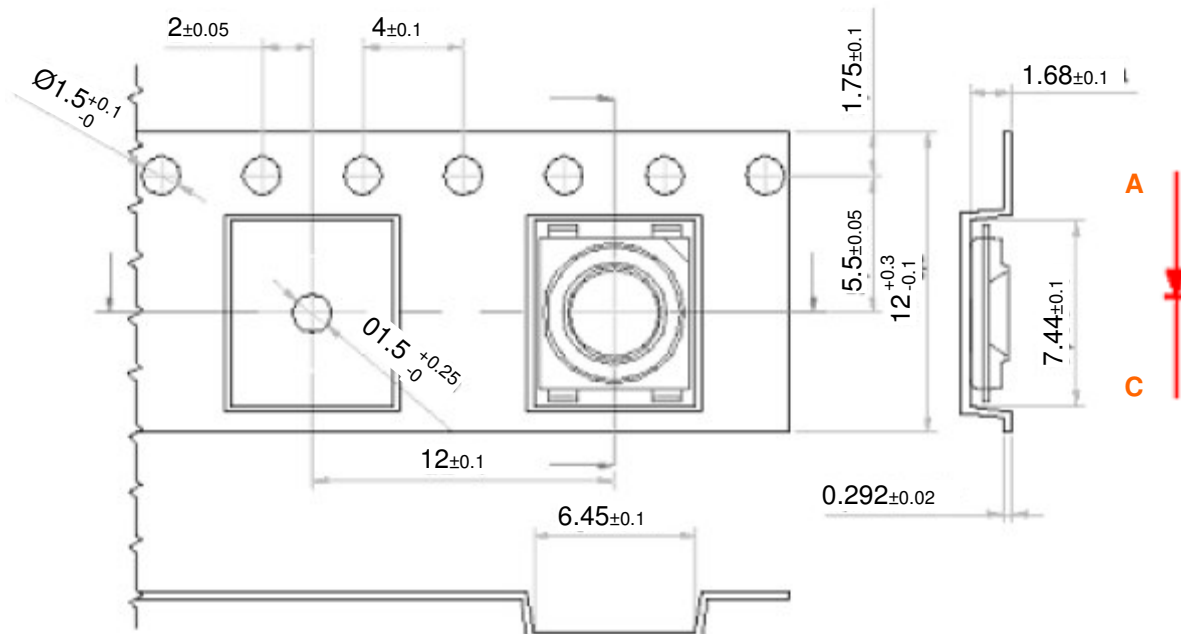
**Recommended Pb Free IR-Reflow Soldering Profile.**



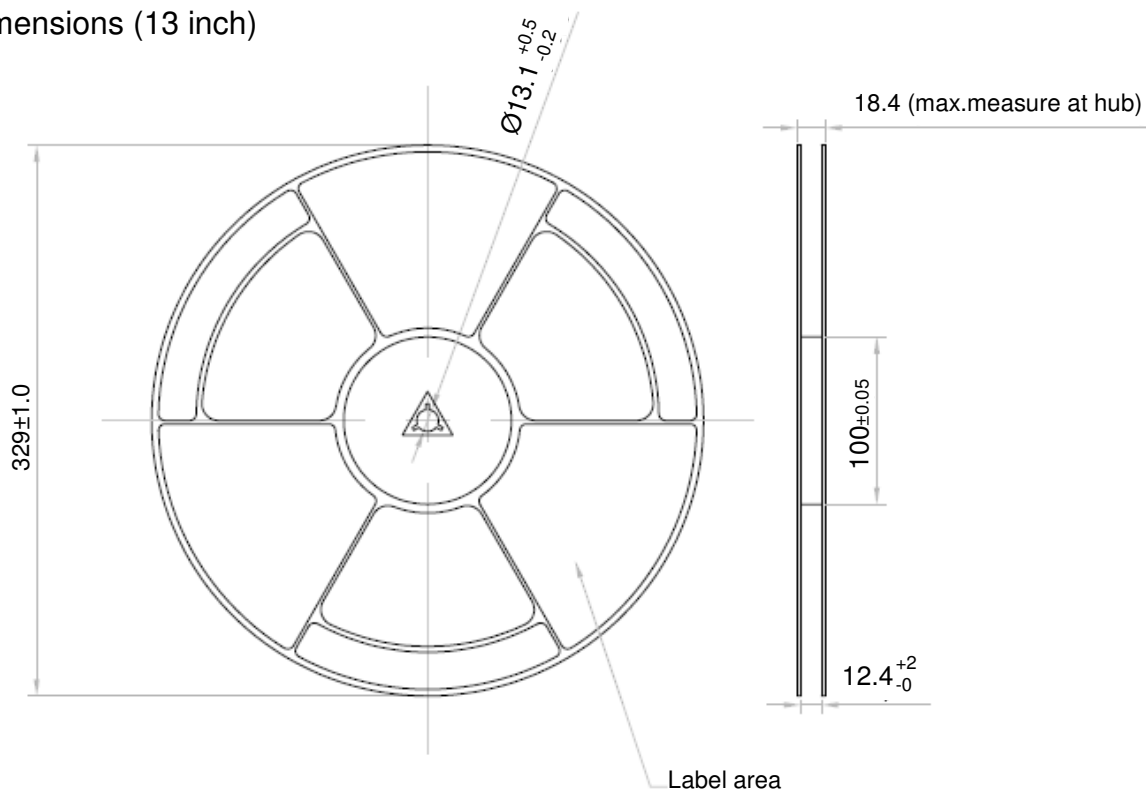
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# .5-Watt SMD 6mm White OVS5WBCR4

Taping and Orientation  
Loaded quantity 2000 pieces per reel



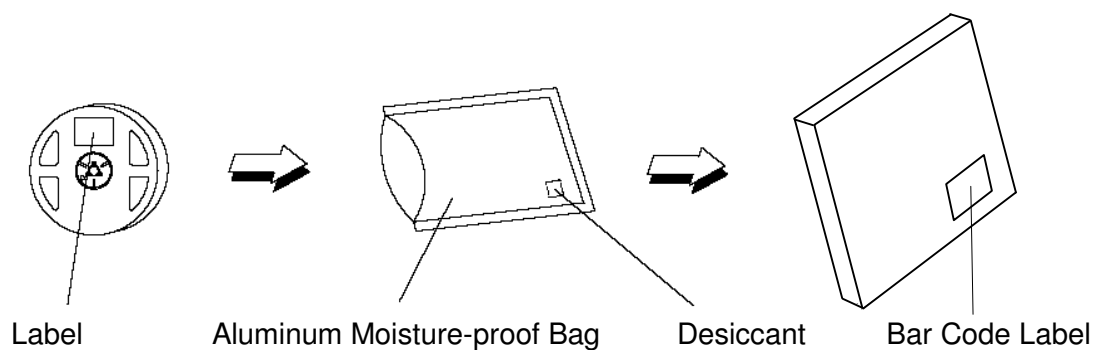
## Reel Dimensions (13 inch)



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# .5-Watt SMD 6mm White OVS5WBCR4

## Moisture Resistant Packaging



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