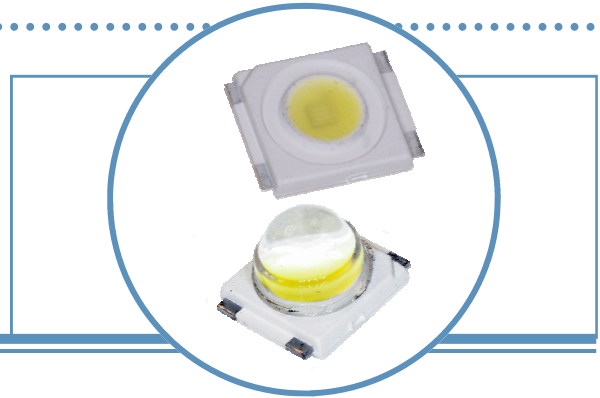


# .3-Watt SMD 6x6mm White

## OVS3W Series

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



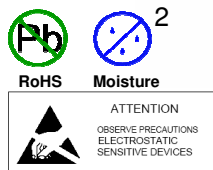
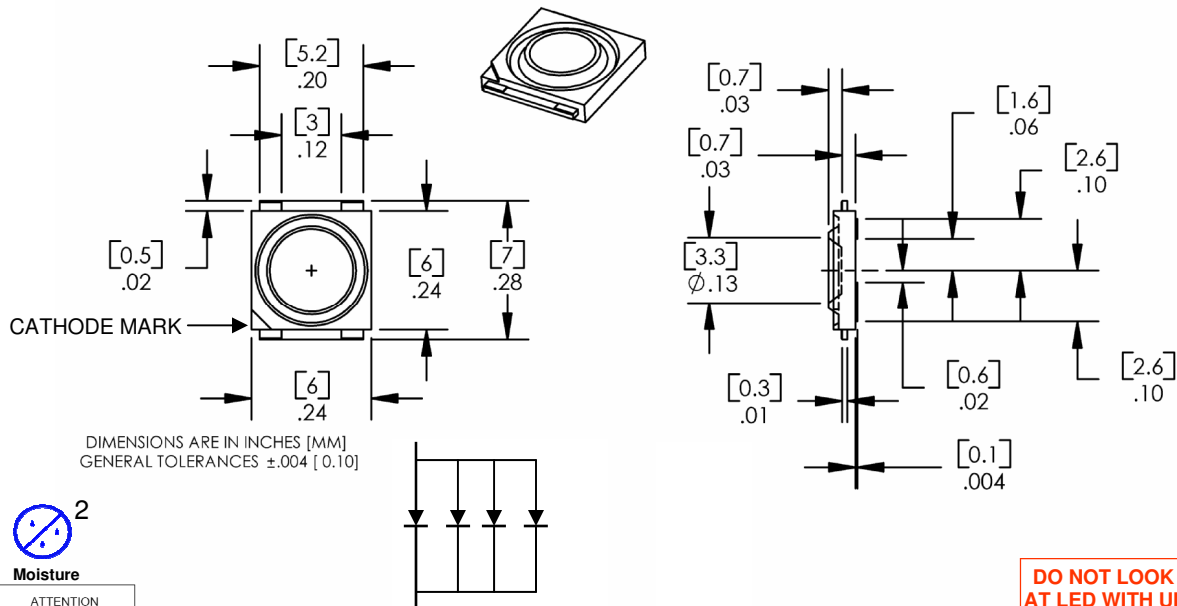
The **OVS3W Series** features energy-efficient packaged LEDs that offer high luminance, and a long operating lifespan. This series includes a flat-lens, ultra-low profile (1.5mm) package with a 120° viewing angle, and a domed lens package with a 60° viewing angle, making them highly suitable for conventional 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

Part Number	Viewing Angle	Emitted Color	Typical Luminous Flux (lm)	Typical On-Axis Intensity (cd)	Lens
OVS3WBCR4	120°	White	7	3.2	Water Clear/Flat
OVS3WBCR44	60°	White	7	9	Water Clear/Dome

## OVS3WBCR4

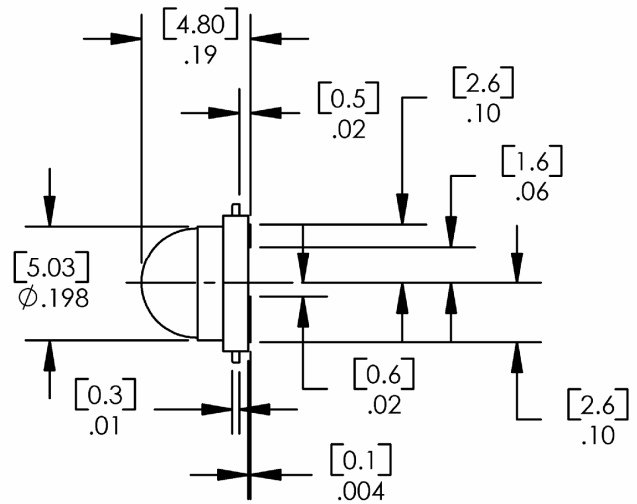
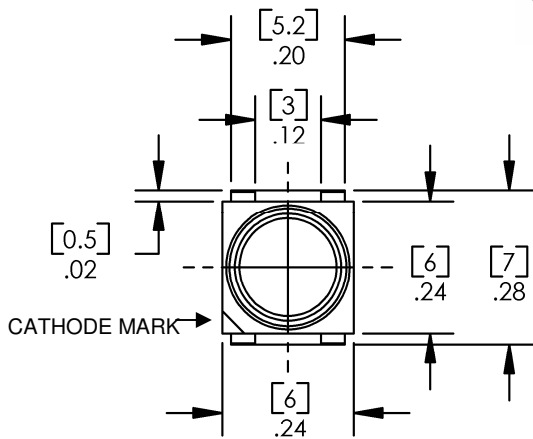
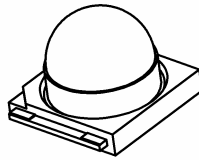


**DO NOT LOOK DIRECTLY AT LED WITH UNSHIELDED EYES OR DAMAGE TO RETINA MAY OCCUR.**

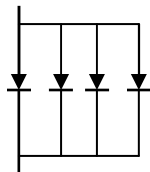
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# .3-Watt SMD 6mm White OVS3W Series

## OVS3WBCR44



DIMENSIONS ARE IN INCHES [MM]  
GENERAL TOLERANCES ±.004 [0.10]



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

DC Forward Current	120mA
Peak Pulsed Forward Current <sup>1</sup>	500mA
Reverse Voltage	5V
Junction Temperature <sup>2</sup>	125°C
Power Dissipation	450mW
Storage and Operating Temperature	-40° ~ +100 °C
ESD Threshold (HBM)	>1000V

#### Notes:

1. Pulse width  $t_p \leq 10\mu\text{s}$ , Duty cycle = 0.1
2. Thermal conductivity = 20K/W for white

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Optical and Electrical Characteristics—Flat Lens ( $I_F = 120 \text{ mA}$ ,  $T_A = 25^\circ \text{ C}$ )

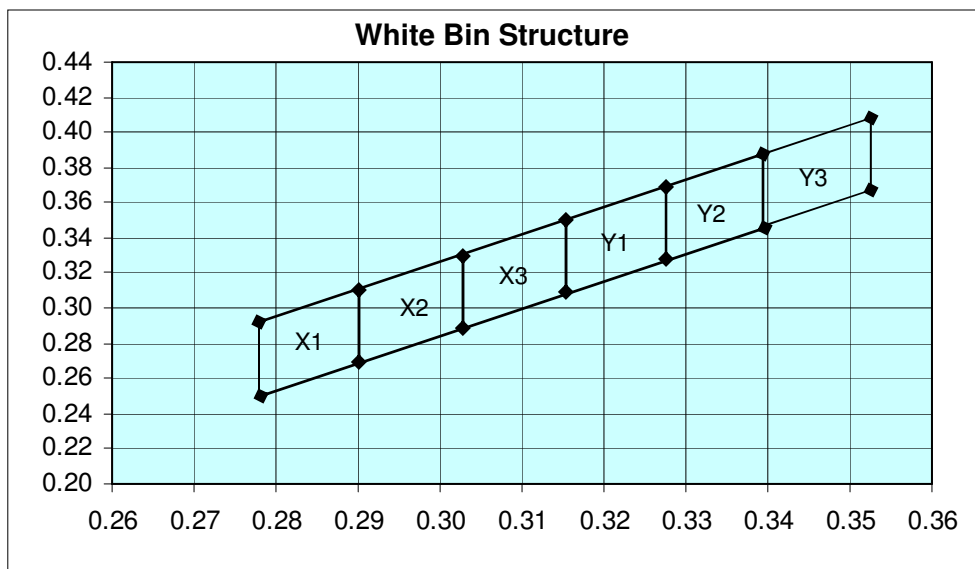
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS
$V_F$	Forward Voltage	----	3.6	4.2	V
$\Phi$	Luminous Flux	----	7	----	lm
$I_F$	Luminous Intensity	2.8	3.2	4.5	cd
$I_R$	Reverse Current at 5V	----	10	----	$\mu\text{A}$
$2 \Theta_{1/2}$	50% Power Angle	----	120	----	deg

Optical and Electrical Characteristics—Dome Lens ( $I_F = 120 \text{ mA}$ ,  $T_A = 25^\circ \text{ C}$ )

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS
$V_F$	Forward Voltage	----	3.6	4.0	V
$\Phi$	Luminous Flux	----	7	----	lm
$I_V$	Luminous Intensity	7	9	14	cd
$I_R$	Reverse Current at 5V	----	10	----	$\mu\text{A}$
$2 \Theta_{1/2}$	50% Power Angle	----	60	----	deg

Standard Bins

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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# .3-Watt SMD 6mm White

## OVS3W Series



### Standard Bins

Lamps are sorted to chromaticity coordinates and intensity ( $I_v$ ) bins shown. Orders may be filled with any or all bins contained as below.

### Chromaticity Coordinates

Bin		1	2	3	4
X 1	$C_x$	0.2775	0.290	0.290	0.2775
	$C_y$	0.243	0.265	0.310	0.288
X2	$C_x$	0.290	0.3025	0.3025	0.290
	$C_y$	0.265	0.286	0.331	0.310
X3	$C_x$	0.3025	.0315	0.315	0.3025
	$C_y$	0.286	0.308	0.353	0.331
Y1	$C_x$	0.315	0.3275	0.3275	0.315
	$C_y$	0.308	0.330	0.375	0.353
Y2	$C_x$	0.3275	0.340	0.340	0.3275
	$C_y$	0.330	0.351	0.396	0.375
Y3	$C_x$	0.34	0.3525	0.3525	0.34
	$C_y$	0.351	0.373	0.418	0.396

### Correlated Color Temperature (CCT)

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

#### OVS3WBCR4 Flat Lens

$I_v$	Luminous Intensity (cd)		
	Bin	Min	Max
Y1	2.8	3.5	
Y2	3.5	4.5	

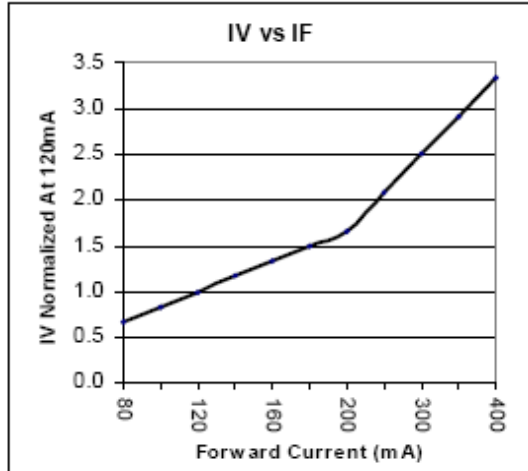
#### OVS3WBCR44 Dome Lens

$I_v$	Luminous Intensity (cd)		
	Bin	Min	Max
AA	7.1	9	
AB	9	11	
AC	11	14	

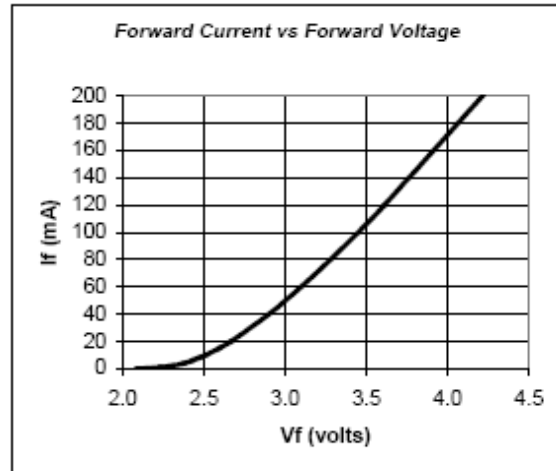
OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Typical Electro-Optical Characteristics Curves

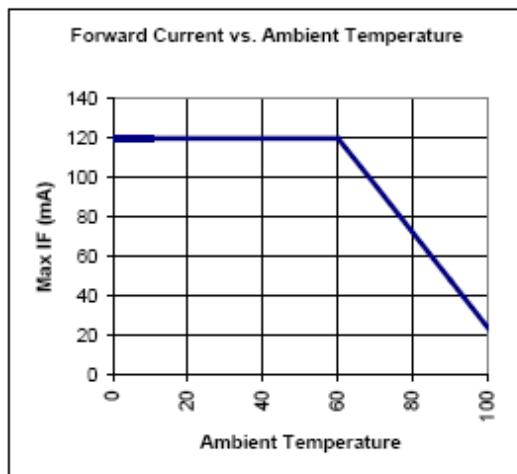
Luminous intensity vs. forward current.



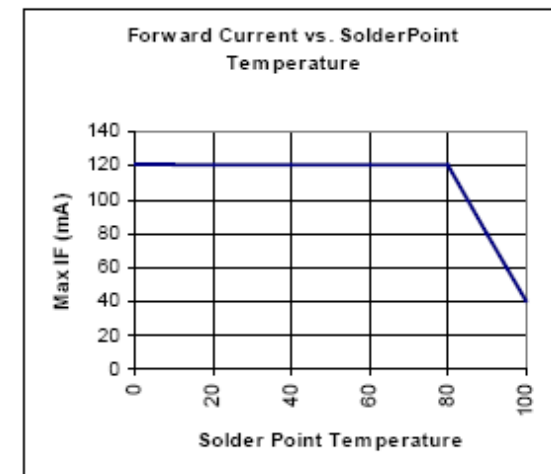
Forward current vs. forward voltage.



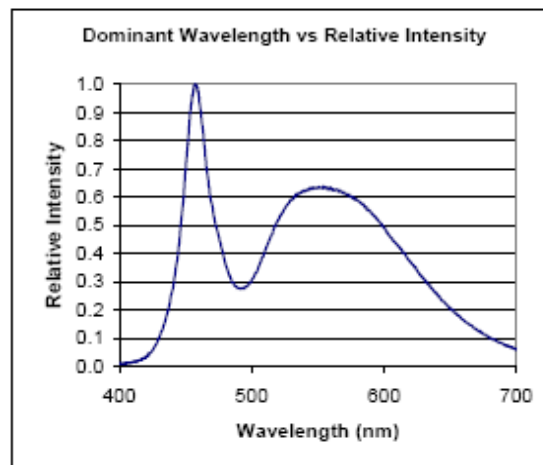
Maximum Permissible Current.



Maximum Permissible Current.



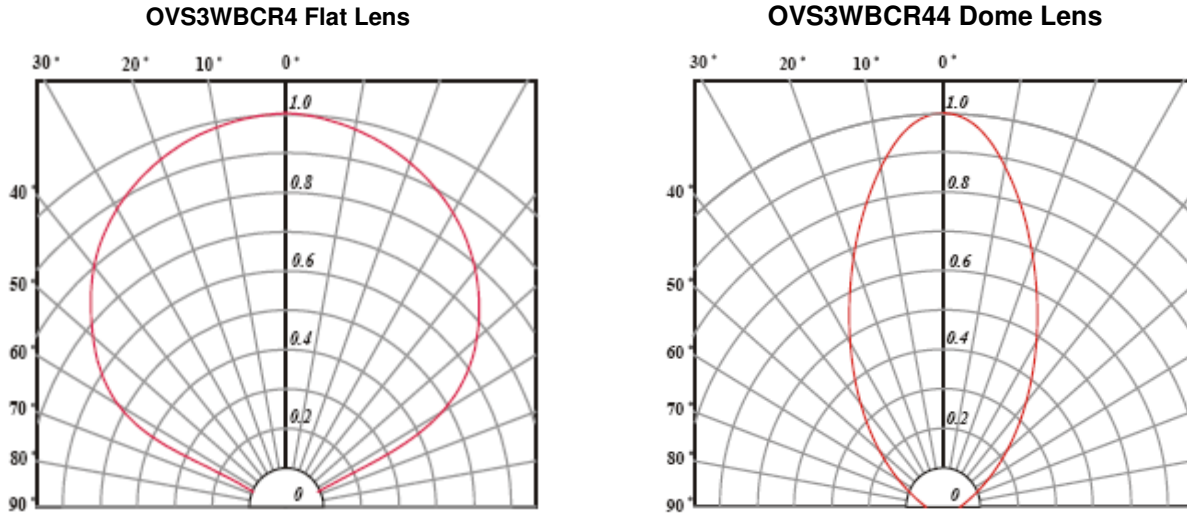
Relative Spectra Emission



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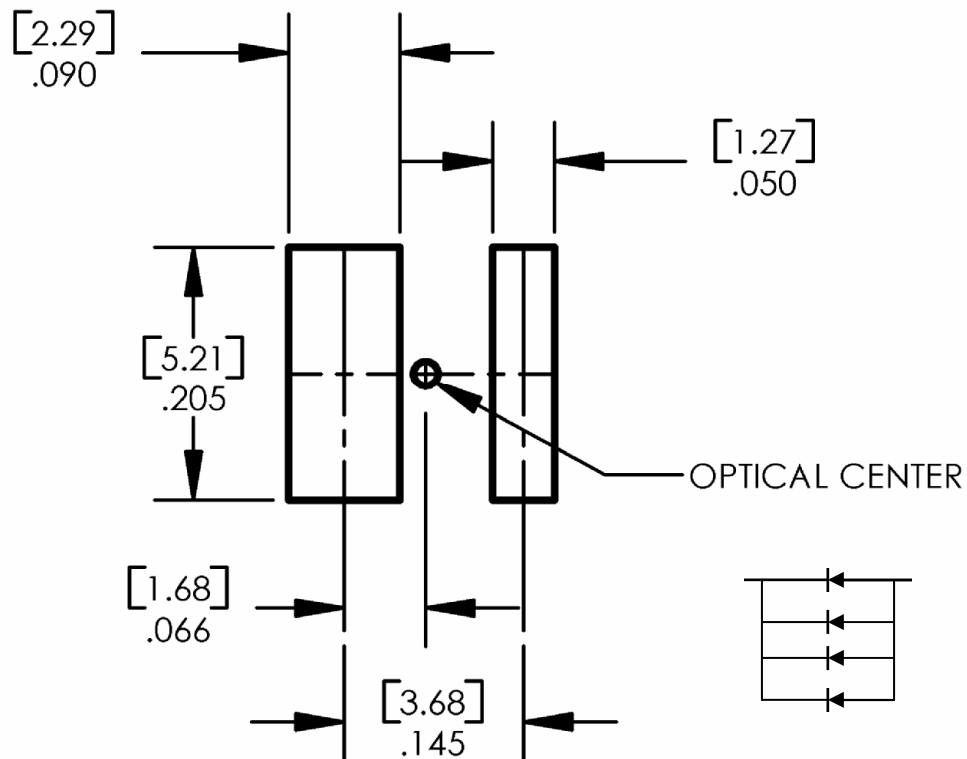
Typical Electro-Optical Characteristics Curves

Radiation Patterns



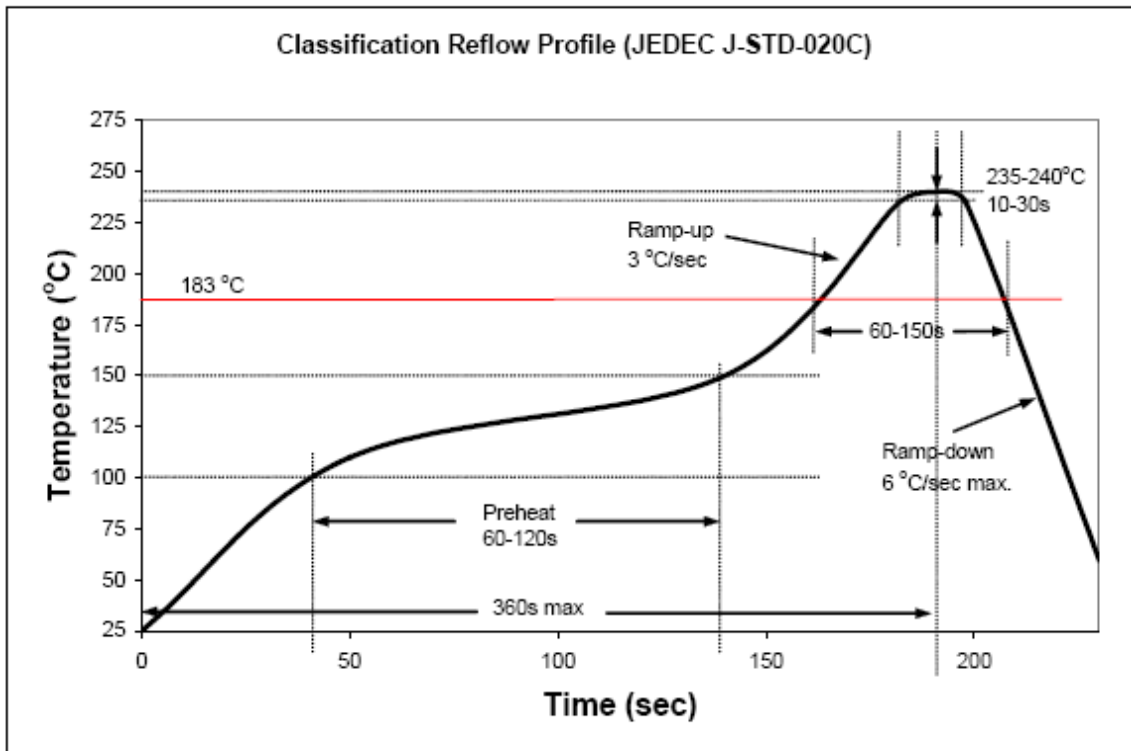
Solder Pad Design

Note: Metal core circuit board (MCPCB) is highly recommended for high density applications.

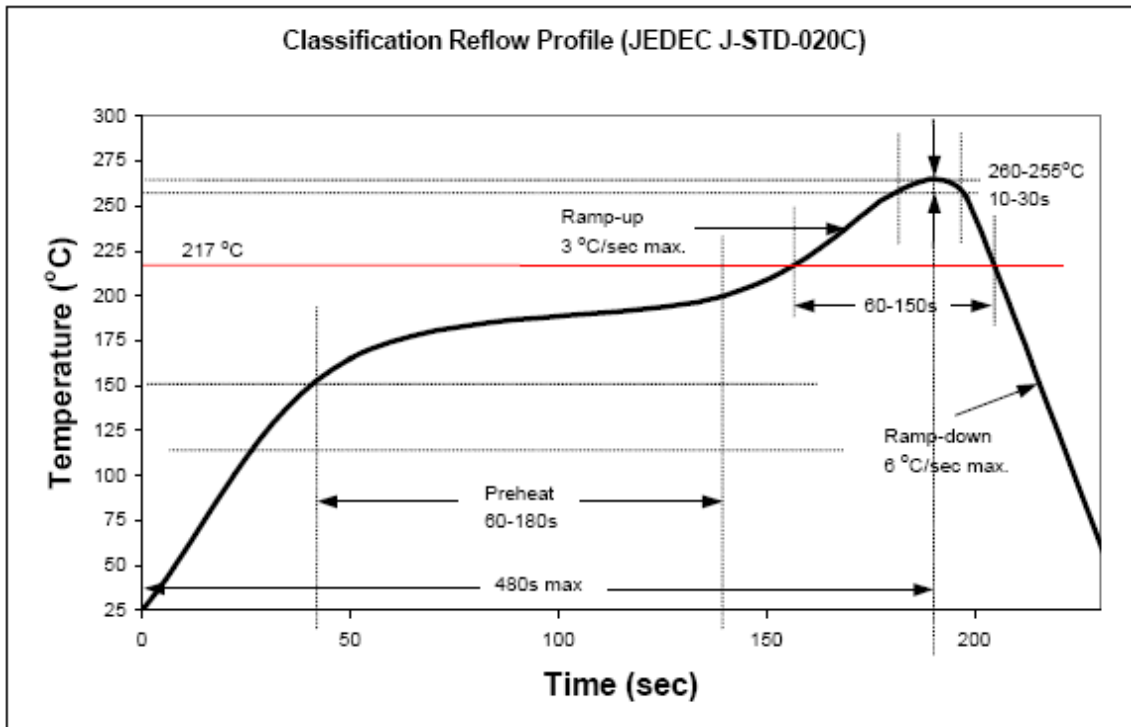


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**Recommended Sn-Pb IR-Reflow Soldering Profile.**



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

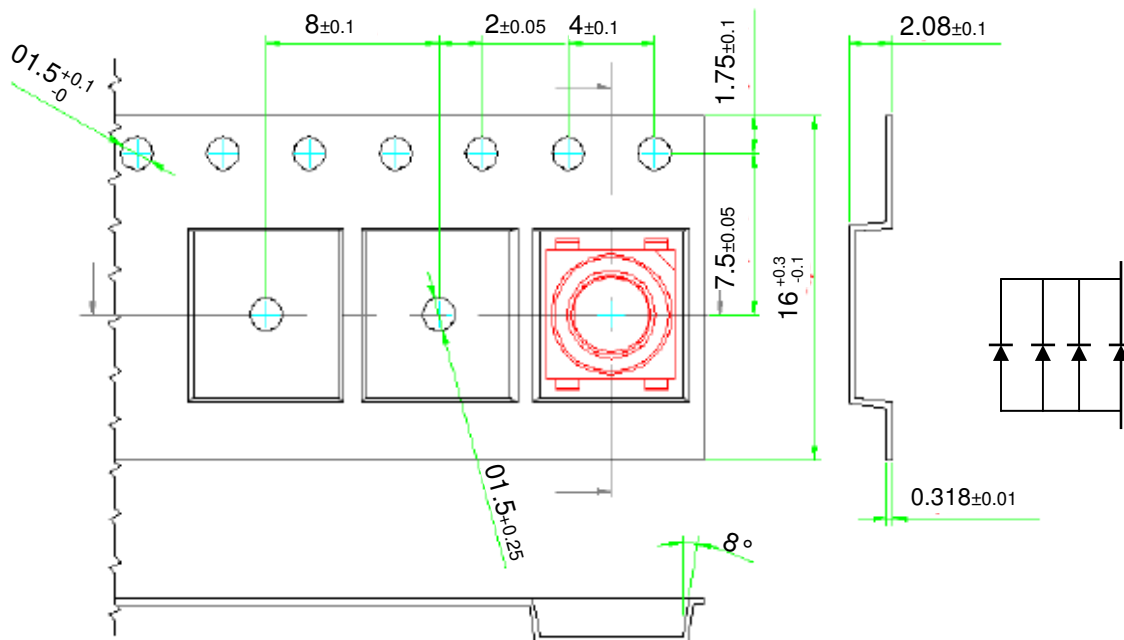


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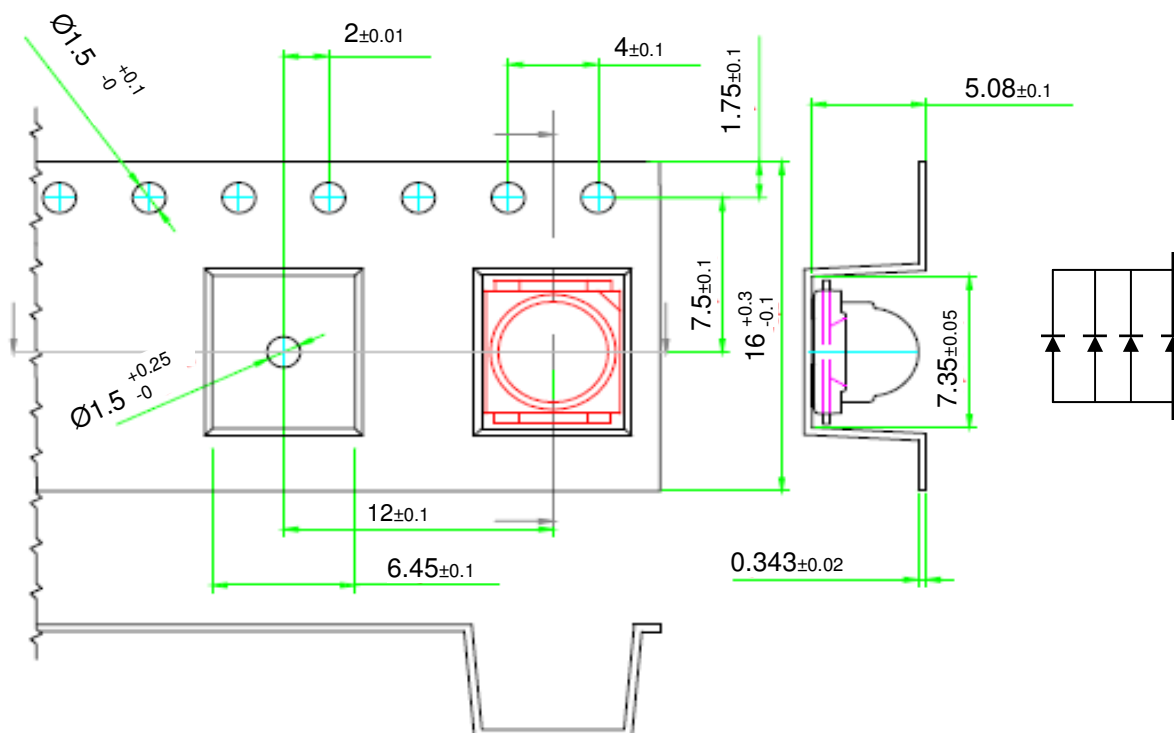
# .3-Watt SMD 6mm White

## OVS3W Series

Taping and Orientation—Flat Lens  
Loaded quantity 2000 pieces per reel



Taping and Orientation—Dome Lens  
Loaded quantity 1000 pieces per reel

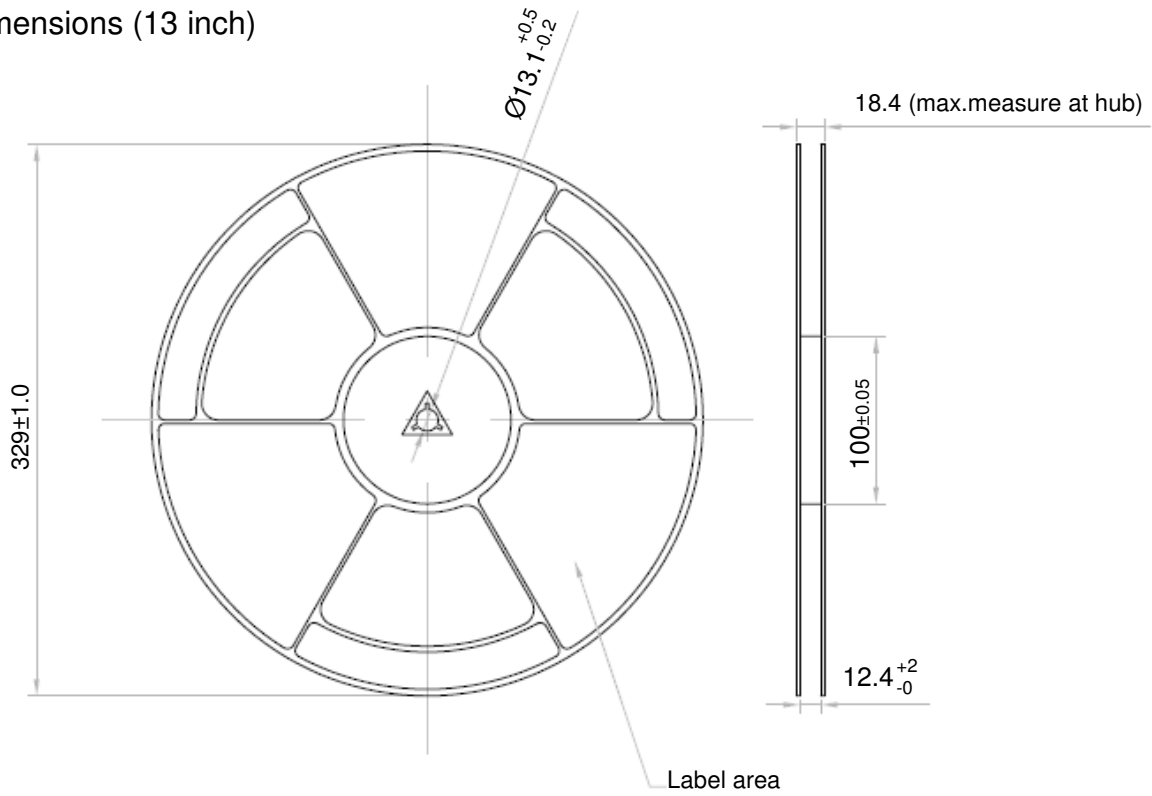


OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

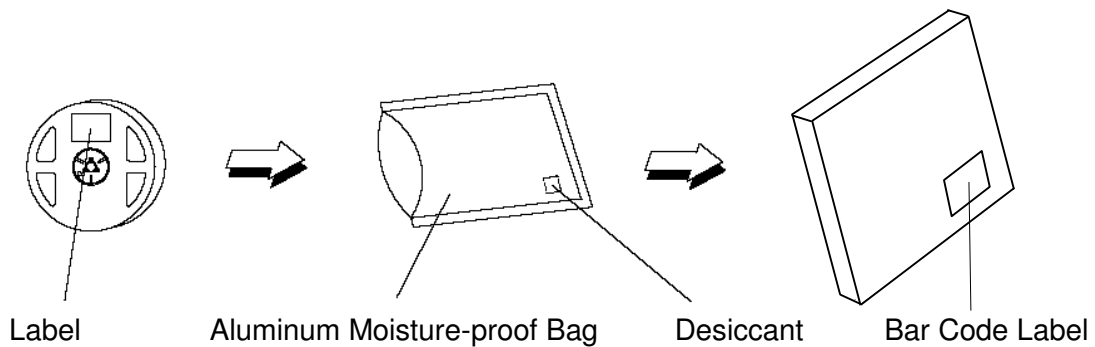


# .3-Watt SMD 6mm White OVS3W Series

## Reel Dimensions (13 inch)



## Moisture Resistant Packaging



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