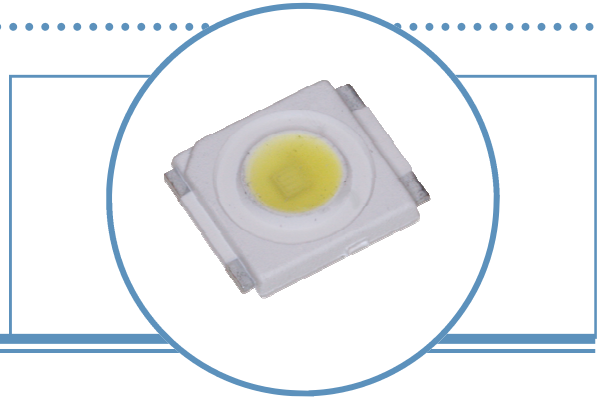


# .5-Watt SMD 6mm White (120° Viewing Angle)

## OVS5WBCR4

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

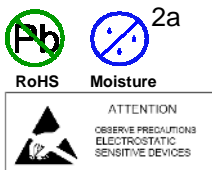
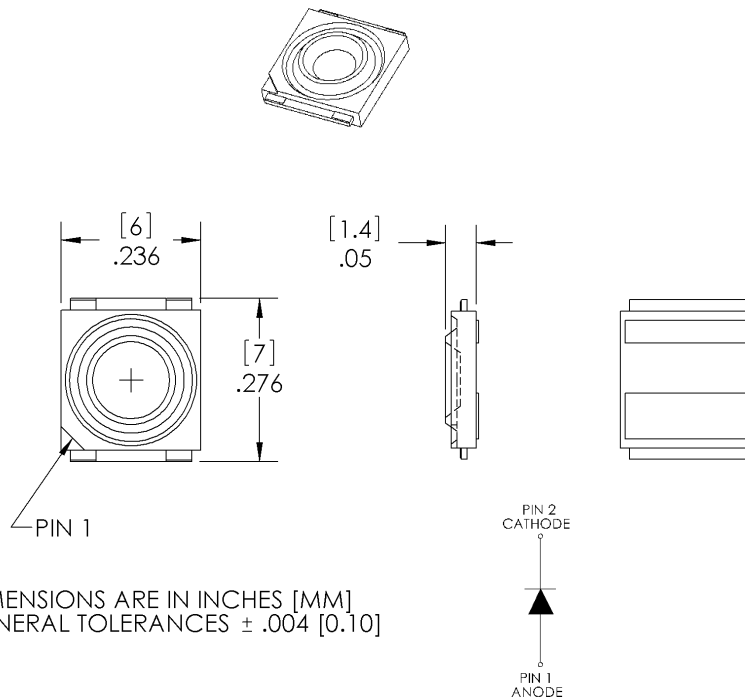


The **OVS5WBCR4** is an energy-efficient packaged LED source that offers high luminance, and a long operating lifespan. This device offers a 120° viewing angle and an ultra-low profile (1.5mm) making it highly suitable for conventional lighting and specialized applications. Optional optics are offered 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)	Lens Color
OVS5WBCR4	120°	White	35	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	5V
Junction Temperature <sup>2</sup>	125°C
Power Dissipation	700mW
Storage & Operating Temperature	-40° ~ +100°C
Electrostatic Discharge Classification (JEDEC-JESD22-A114F & MIL-STD-883E)	Class 2
Moisture Sensitivity Level (IPC/JEDEC J-STD-020C)	2a / 672 Hrs

Notes:

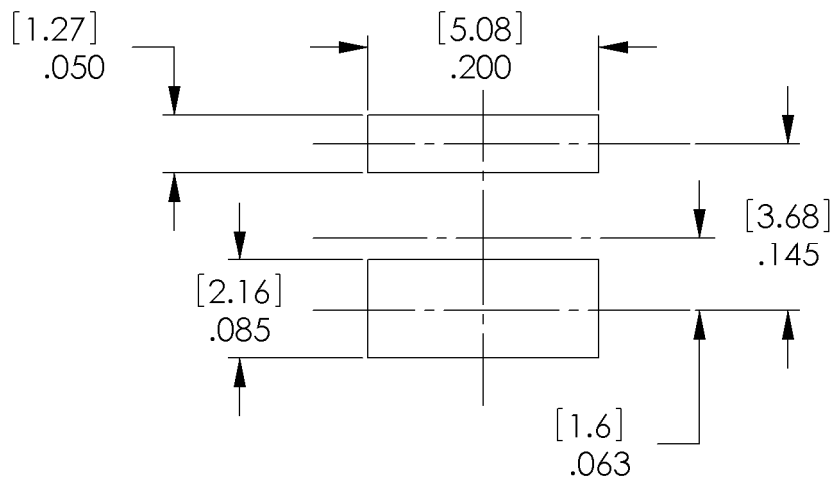
1. Pulse width  $t_p \leq 10\mu\text{s}$ , Duty cycle = 0.1
2. Thermal conductivity = 18K/W for white

## 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	4.1	V
$\Phi$	Luminous Flux	23.5	34.8	39.8	lm
$I_R$	Reverse Current at 5V	----	10	----	$\mu\text{A}$
$2\Theta_{1/2}$	50% Power Angle	----	120	----	deg

## 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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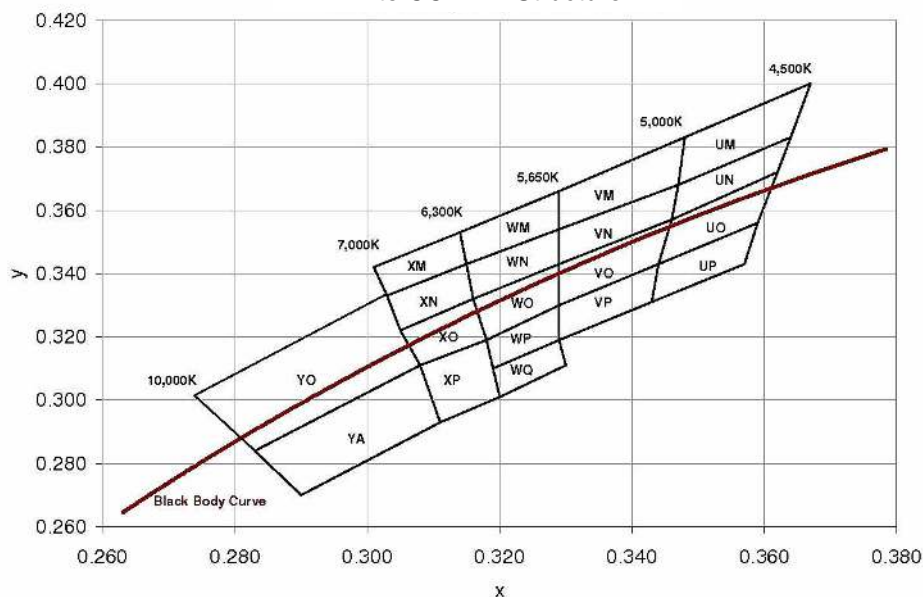
# .5-Watt SMD 6mm White OVS5WBCR4



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

LEDs are sorted to the luminous flux ( $\Phi$ ) and chromaticity coordinate (x, y) bins shown. Each reel consists of a single intensity bin and a single color bin. Orders are filled utilizing all of the intensity bins and color bins listed in the following tables. Optek will not accept orders for single intensity bins or single color bins.

White CCT Bin Structure



$\Phi$	Luminous Flux (lm)	
	Bin	Max
P2	23.5	26.8
P3	26.8	30.5
Q2	30.5	34.8
Q3	34.8	39.8

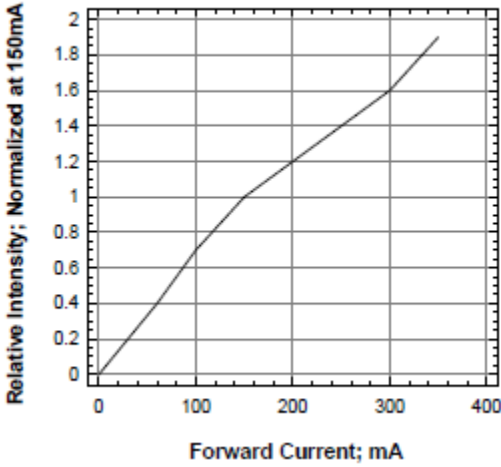
## Chromaticity Coordinates (x, y)

Rank	YO				YA															
Cx	0.274	0.303	0.308	0.283	0.283	0.308	0.311	0.290												
Cy	0.301	0.333	0.311	0.284	0.284	0.311	0.293	0.270												
Rank	XM				XN				XO				XP							
Cx	0.301	0.314	0.315	0.303	0.303	0.315	0.316	0.305	0.305	0.316	0.318	0.308	0.308	0.318	0.320	0.311				
Cy	0.342	0.353	0.343	0.333	0.333	0.343	0.332	0.322	0.322	0.332	0.319	0.311	0.311	0.319	0.301	0.293				
Rank	WM				WN				WO				WP				WQ			
Cx	0.314	0.329	0.329	0.315	0.315	0.329	0.329	0.316	0.316	0.329	0.329	0.318	0.318	0.329	0.329	0.319	0.319	0.329	0.330	0.320
Cy	0.353	0.366	0.354	0.343	0.343	0.354	0.343	0.332	0.332	0.343	0.330	0.319	0.319	0.330	0.319	0.310	0.310	0.319	0.311	0.301
Rank	VM				VN				VO				VP							
Cx	0.329	0.348	0.347	0.329	0.329	0.347	0.346	0.329	0.329	0.346	0.344	0.329	0.329	0.344	0.343	0.329				
Cy	0.366	0.383	0.368	0.354	0.354	0.368	0.357	0.343	0.343	0.357	0.343	0.330	0.330	0.343	0.331	0.319				
Rank	UM				UN				UO				UP							
Cx	0.348	0.367	0.364	0.347	0.347	0.364	0.362	0.346	0.346	0.362	0.359	0.344	0.344	0.359	0.357	0.343				
Cy	0.383	0.400	0.383	0.368	0.368	0.383	0.372	0.357	0.357	0.372	0.356	0.343	0.343	0.356	0.343	0.331				

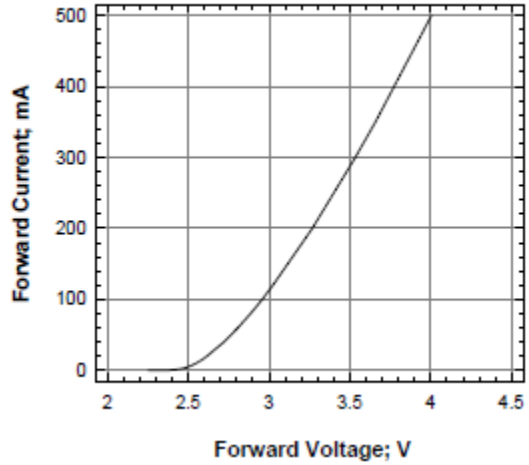
OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Typical Electro-Optical Characteristics Curves—White

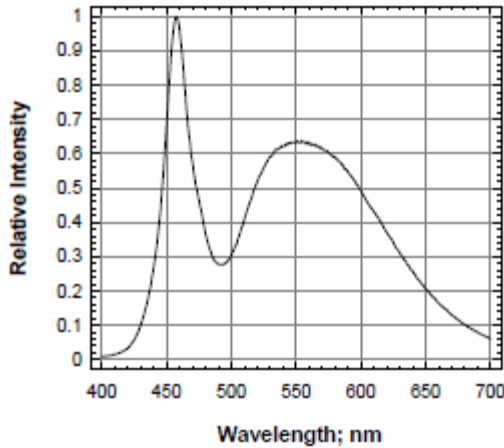
Relative Intensity Vs Forward Current



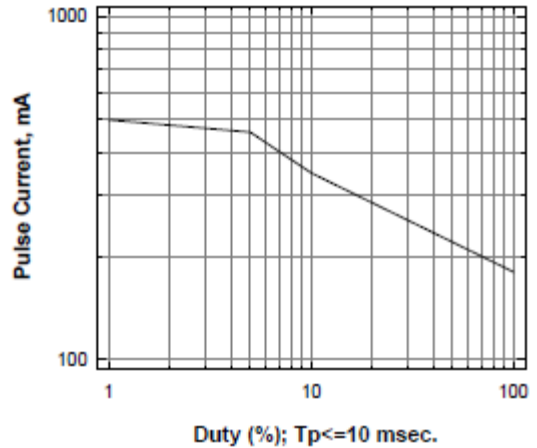
Forward Current vs Forward Voltage



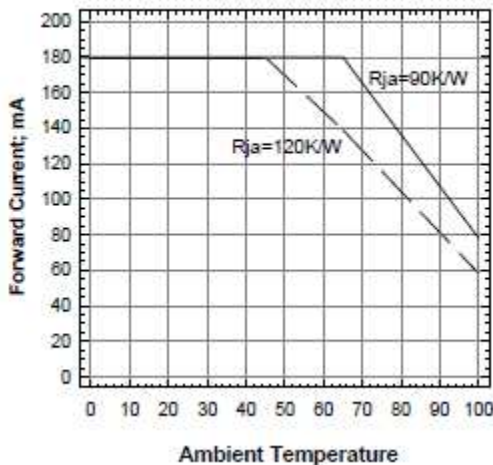
Relative Intensity Vs Wavelength



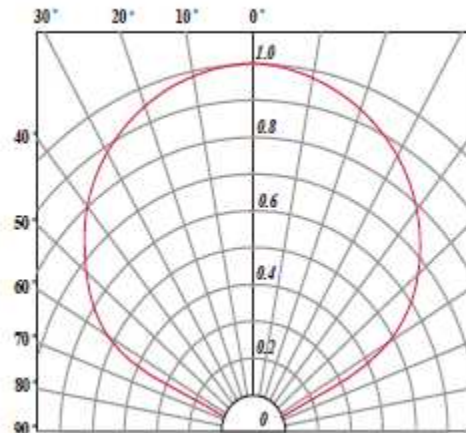
Max. Pulse Current Vs Duty Cycle



Maximum Current vs Ambient Temperature

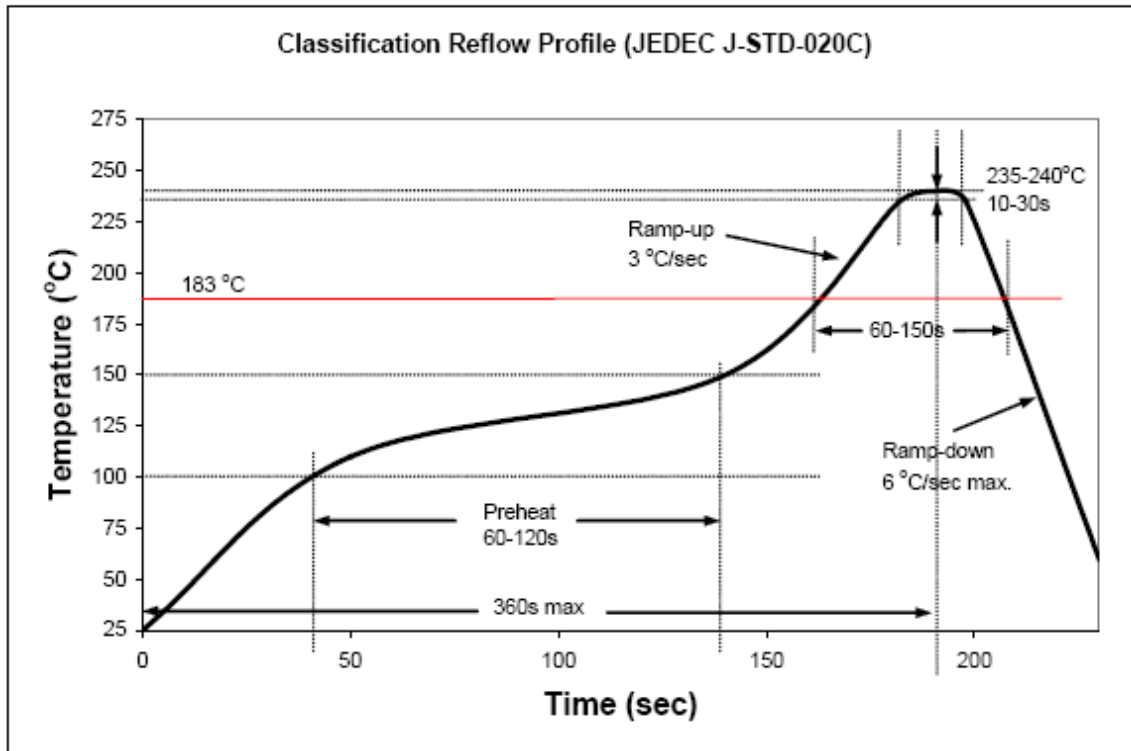


Beam Angle

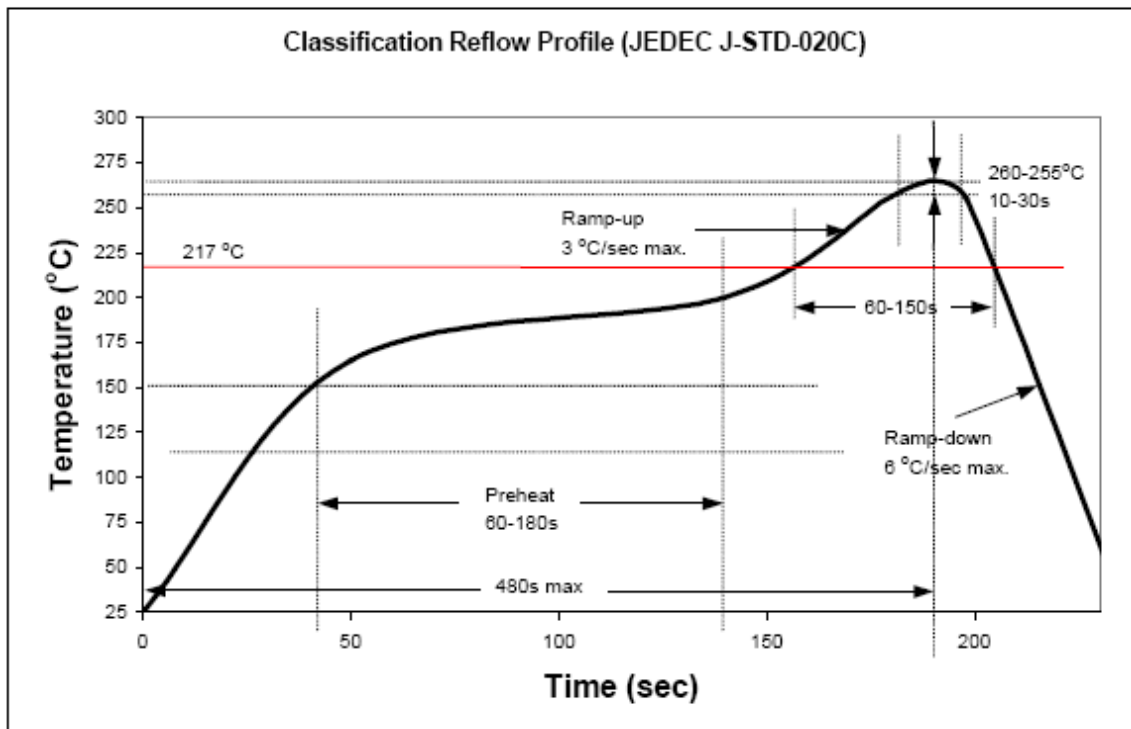


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**Recommended Sn-Pb IR-Reflow Soldering Profile.**



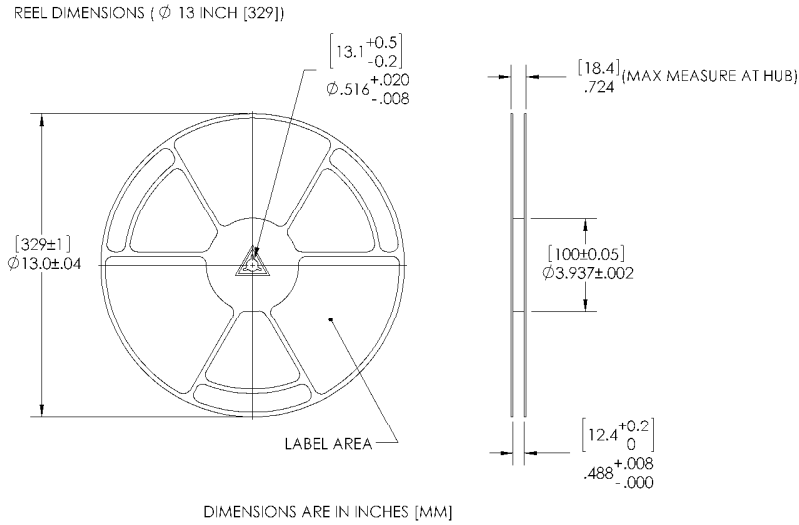
**Recommended Pb Free IR-Reflow Soldering Profile.**



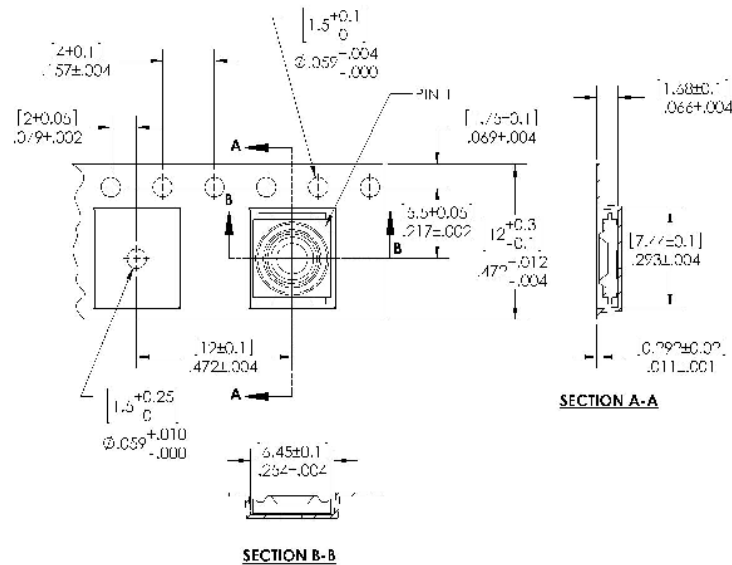
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# .5-Watt SMD 6mm White OVS5WBCR4

## Reel Dimensions: 13 -inch reel

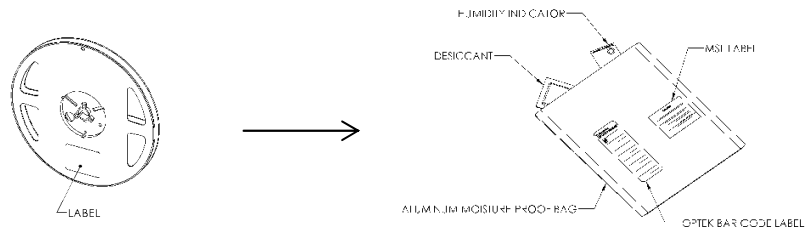


## Carrier Tape Dimensions: Loaded quantity 2000 pieces per reel



DIMENSIONS ARE IN INCHES [MM]  
TOLERANCES ARE ± .007 [0.1] UNLESS OTHERWISE SPECIFIED

## Moisture Resistant Packaging



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