

.5-Watt SMD 3.7 mm x 3.5 mm White (120° Viewing Angle)



OVS5WBCR4A

Features:

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



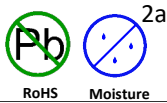
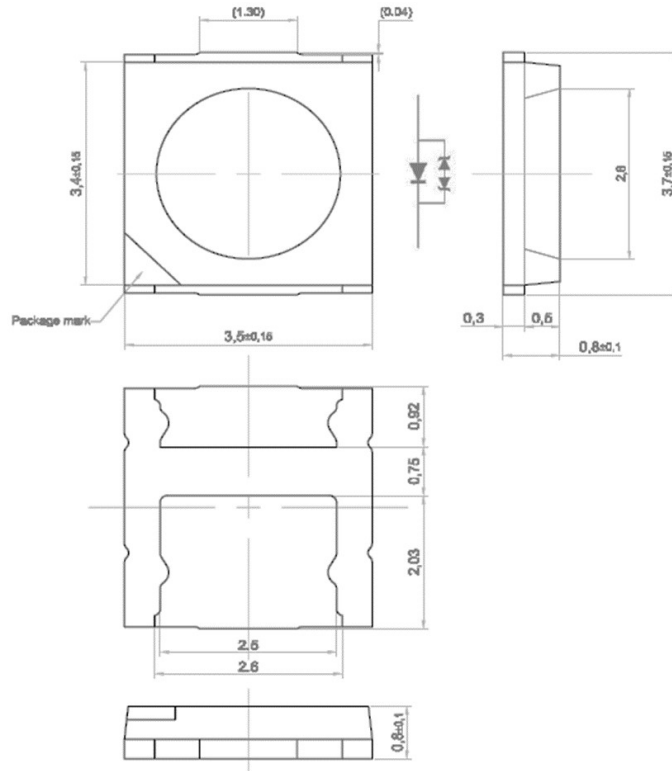
Description

The **OVS5WBCR4A** 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 (1.5 mm) 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
OVS5WBCR4A	120°	White	45	Water Clear



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

General Note

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2900 E. Plano Pkwy, Plano, TX 75074 | Ph: +1 972 323 2200
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Electrical Specifications

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

DC Forward Current	200 mA
Peak Pulsed Forward Current ¹	300 mA
Reverse Voltage	5 V
Junction Temperature ²	125 °C
Power Dissipation	700 mW
Storage & Operating Temperature	-40 ~ +125 °C
Electrostatic Discharge Classification (JEDEC-JESD22-A114F & MIL-STD-883E)	Class 3A
Moisture Sensitivity Level (IPC/JEDEC K-STD-020C)	2a /672 Hrs

Notes:

1. Pulse width $t_p \leq 10 \mu\text{s}$, Duty cycle = 0.1
2. Thermal conductivity = 18 K/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	2.9	3.25	3.45	V
Φ	Luminous Flux	30.6	45.0	59.0	lm
I_R	Reverse Current at 5V	----	10	----	μA
$2\theta_{\frac{1}{2}}$	50% Power Angle	----	120	----	deg

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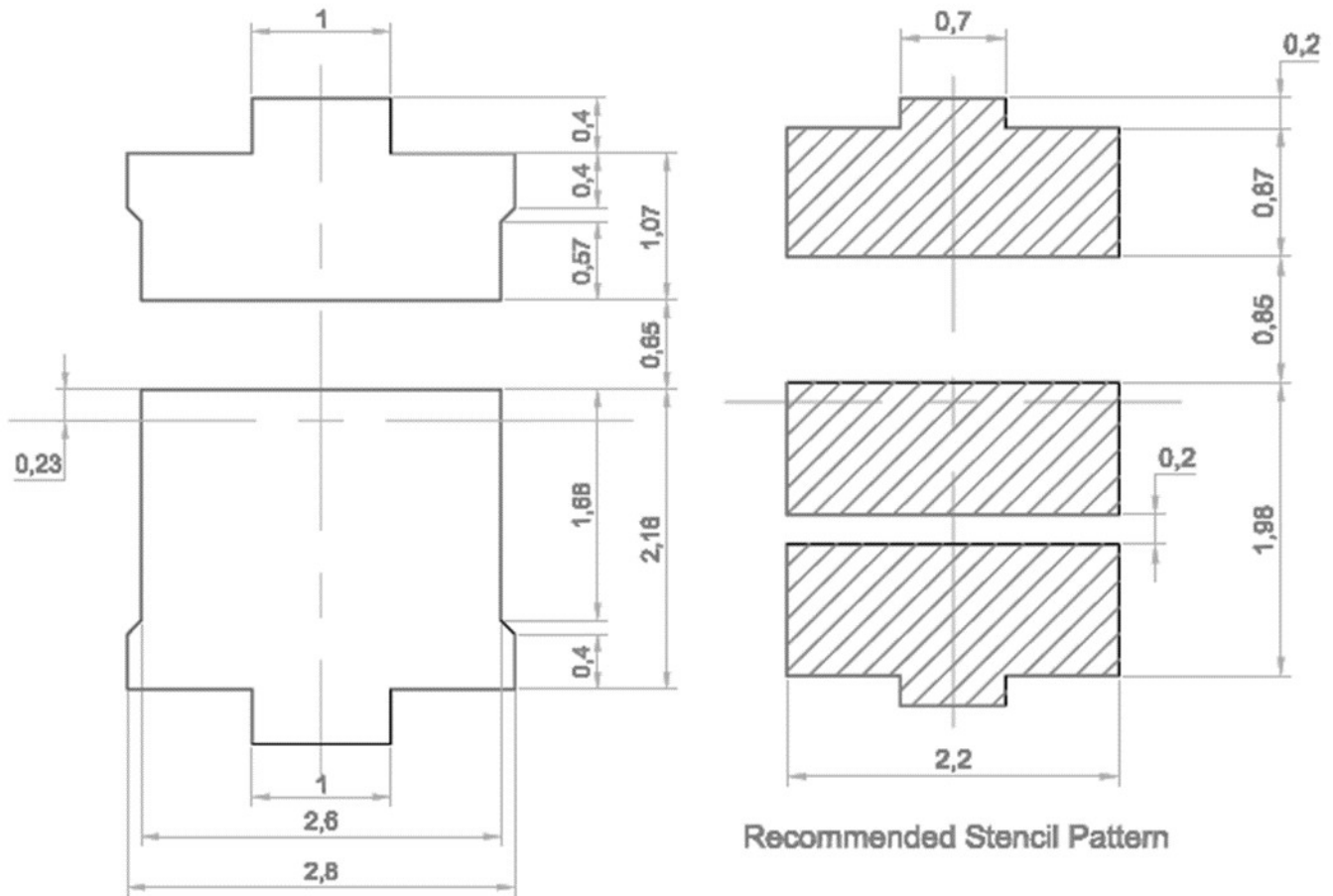
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Recommended Solder Pad



Solder Pad Design

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

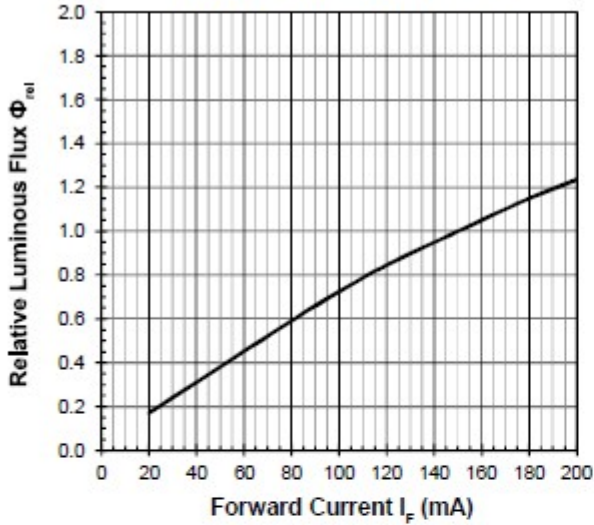
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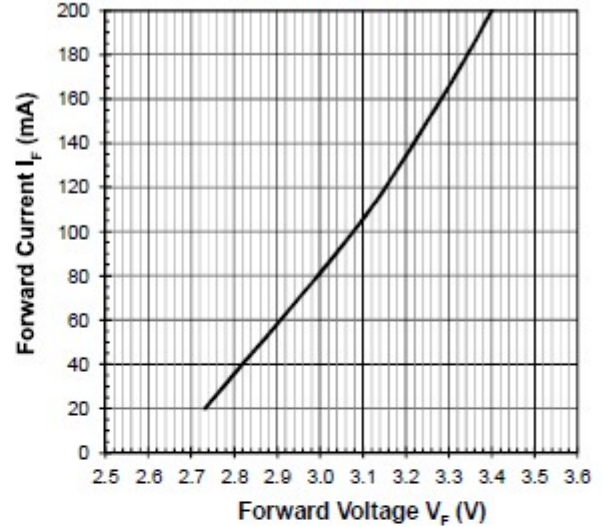
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Typical Electro-Optical Characteristics Curves—White

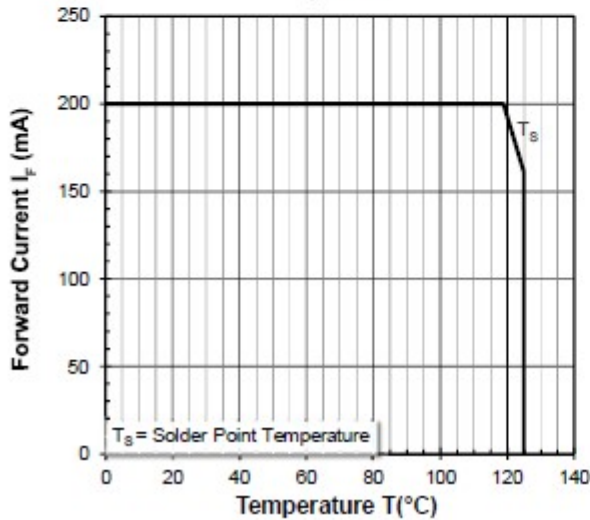
Relative Luminous Flux Vs Forward Current
 $\Phi_v / \Phi_v(150\text{mA}) = f(I_F); T_J = 25^\circ\text{C}$



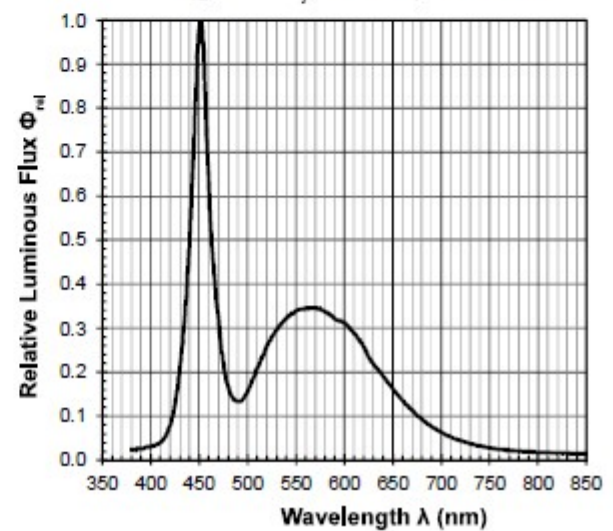
Forward Current Vs Forward Voltage
 $I_F = f(V_F); T_J = 25^\circ\text{C}$



Maximum Current Vs Temperature
 $I_F = f(T)$



Relative Spectral Emission
 $\Phi_{rel} = f(\lambda); T_J = 25^\circ\text{C}; I_F = 150\text{mA}$



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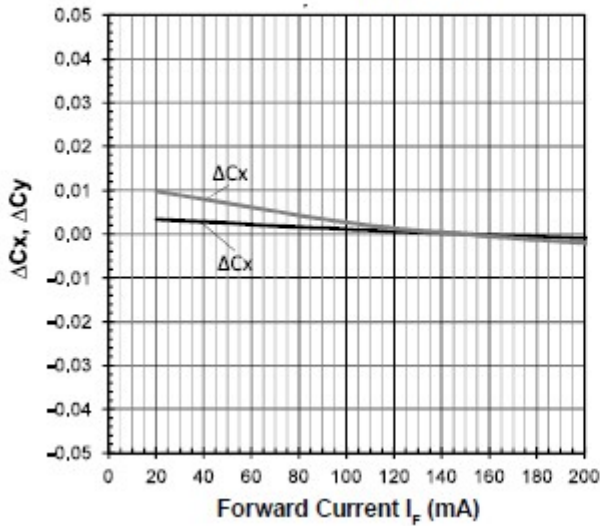
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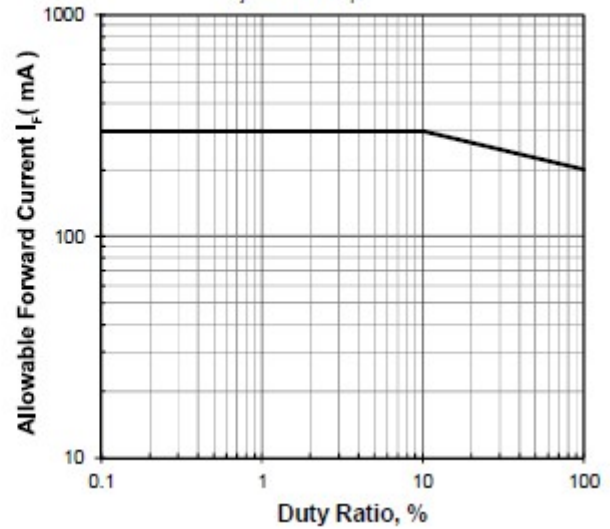
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Typical Electro-Optical Characteristics Curves—White

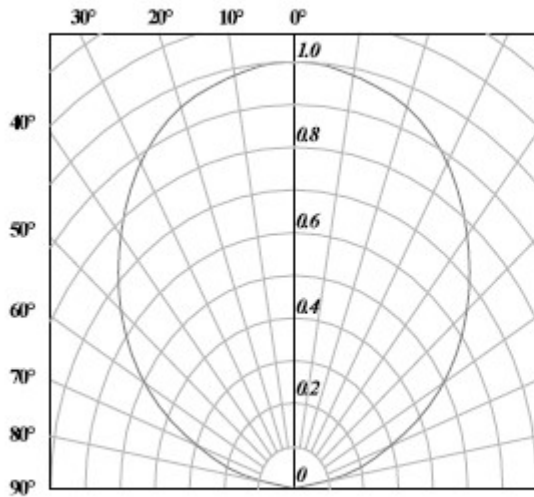
Chromaticity Coordinate Shift Vs Forward Current
 $\Delta Cx, \Delta Cy = f(I_F); T_J = 25^\circ C$



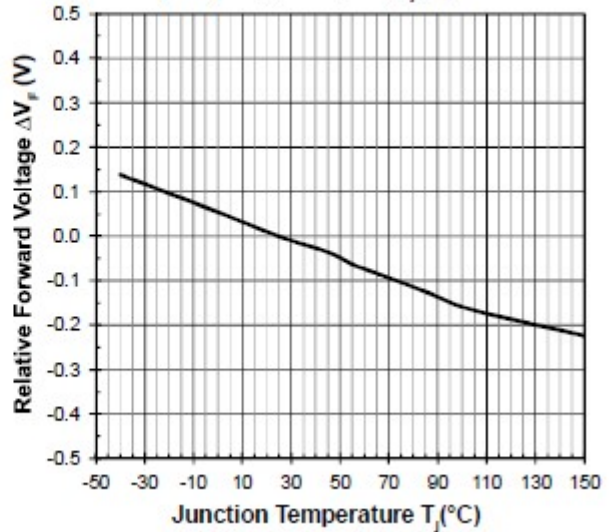
Allowable Forward Current Vs Duty Ratio
 $(T_J = 25^\circ C; t_p \le 10\mu s)$



Radiation Pattern



Relative Forward Voltage Vs Junction Temperature
 $\Delta V_F = V_F - V_F(25^\circ C) = f(T_J); I_F = 150mA$



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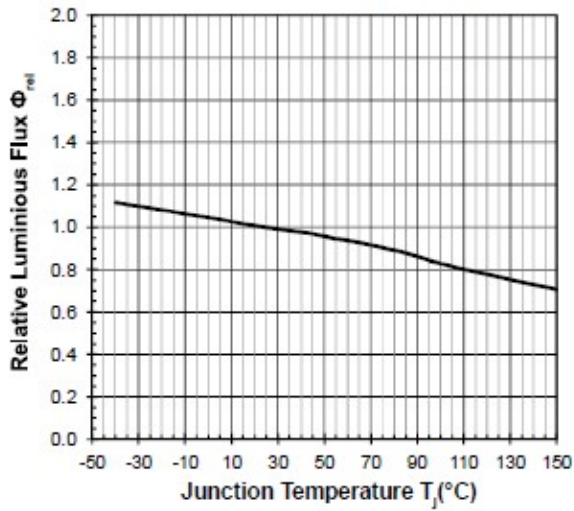
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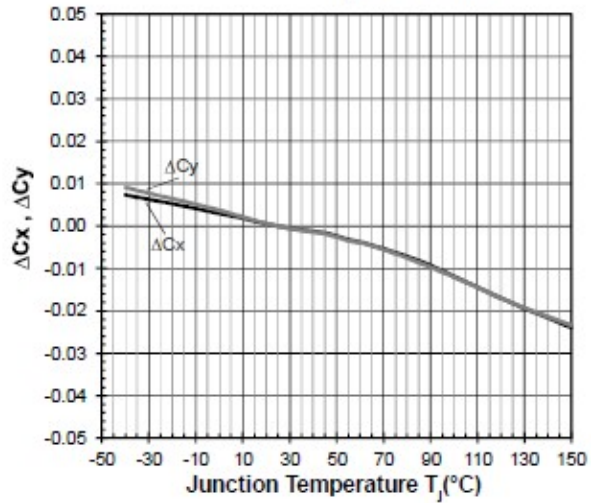
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Typical Electro-Optical Characteristics Curves—White

Relative Luminous Flux Vs Junction Temperature
 $\Phi_V/\Phi_V(25^\circ\text{C}) = f(T_J); I_F = 150\text{mA}$



Chromaticity Coordinate Shift Vs Junction Temperature
 $\Delta C_x, \Delta C_y = f(T_J); I_F = 150\text{mA}$



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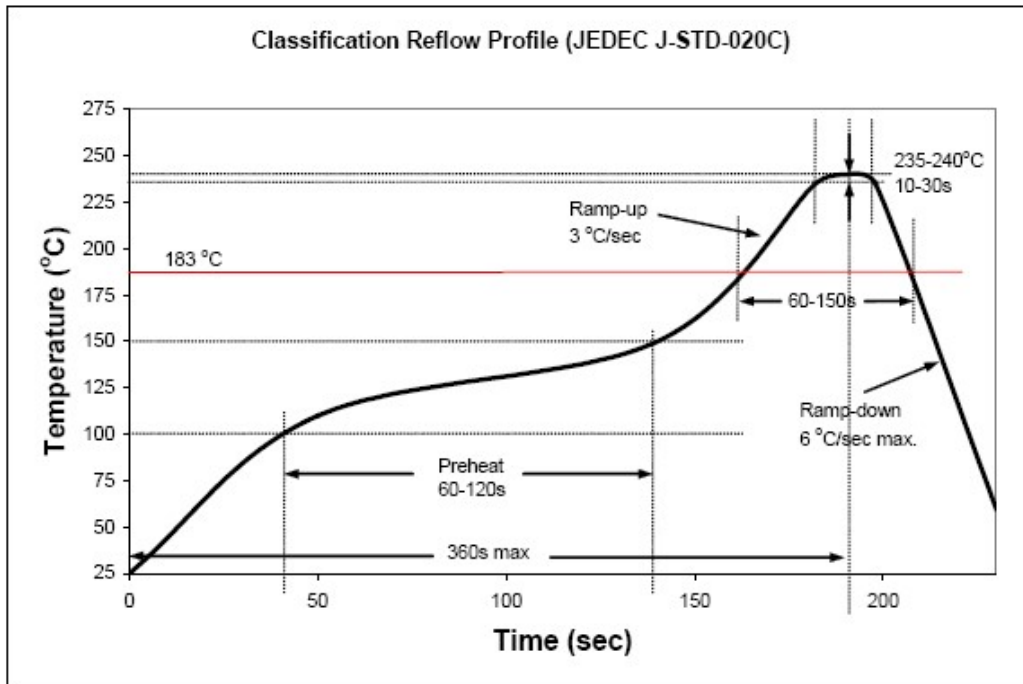
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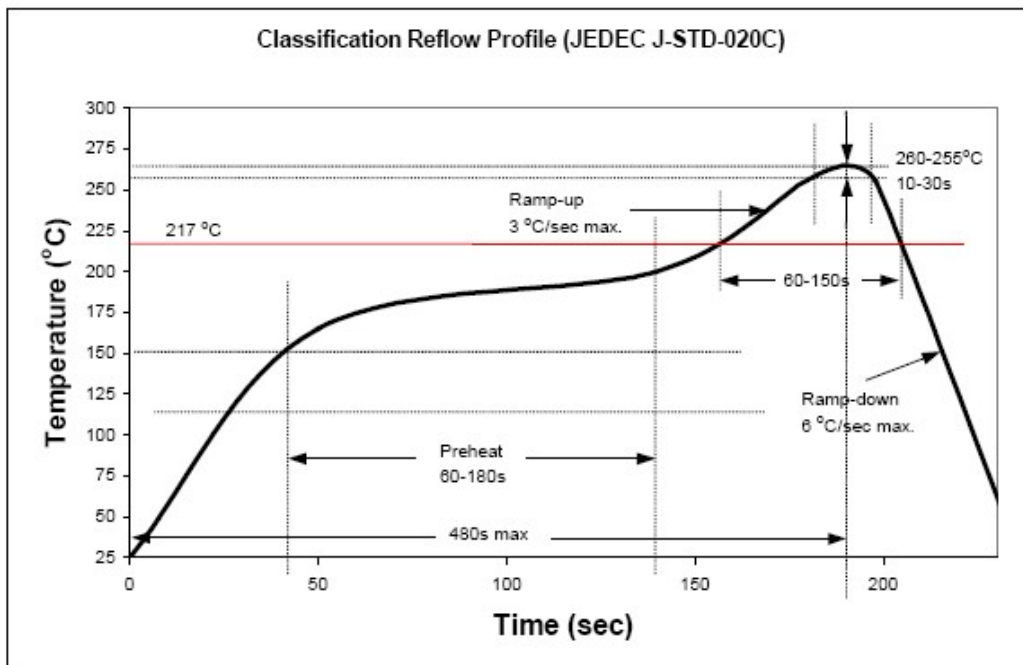


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Recommended Sn-Pb IR-Reflow Soldering Profile.



Recommended Pb Free IR-Reflow Soldering Profile.



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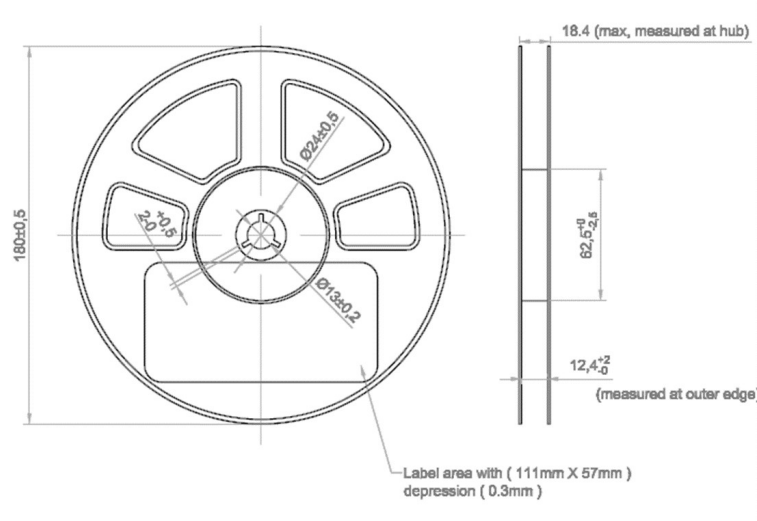
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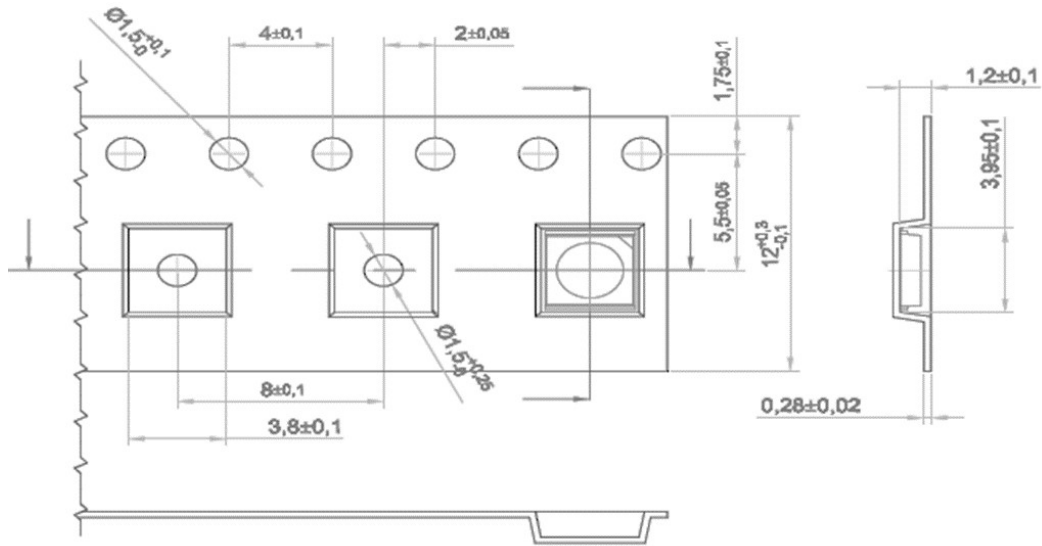


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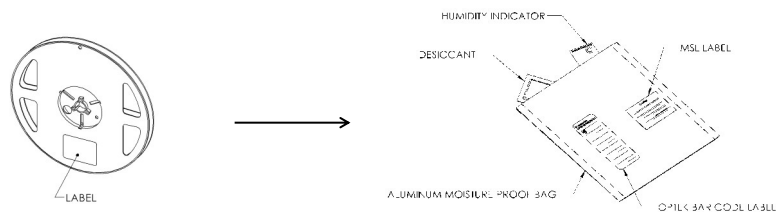
Reel Dimensions: 13 -inch reel



Carrier Tape Dimensions: Loaded quantity 1500 pieces per reel



Moisture Resistant Packaging



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