

White Surface Mount LED Lamp

OVSRWAC1R6

- Side-view white LED
- Surface mount lead frame package with two pins
- Wide viewing angles

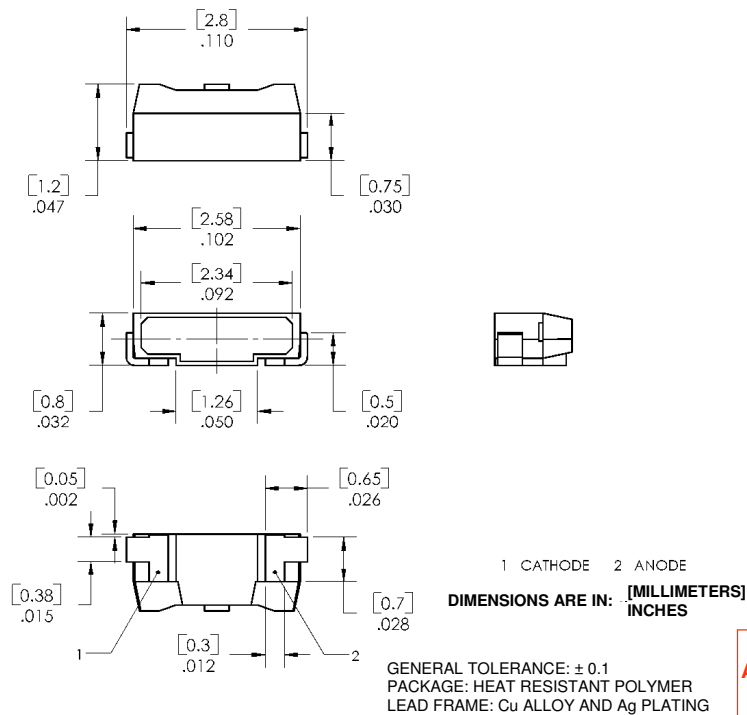


The **OVSRWAC1R6** is ideal for backlighting LCD screens and for coupling with light guides. This design combines high optical efficiency with wide viewing angles ($x = 120^\circ$, $y = 110^\circ$) and low power consumption.

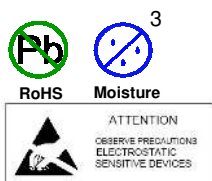
Applications

- LCD backlight
- Hand-held appliances
- Indicators
- Switch and message illumination

Part Number	Material	Emitted Color	Intensity Typ. mcd	Lens Color
OVSRWAC1R6	GaN	White	2000	Water Clear



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



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Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$ (on metal core PCB) unless otherwise noted

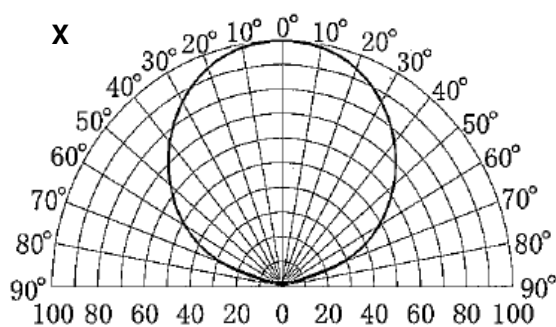
Storage Temperature Range	-40 ~ +100° C
Operating Temperature Range	-30 ~ +85° C
Reverse Voltage	5 V
Continuous Forward Current	30 mA
Forward Current Reduction	-0.50 mA/° C
Peak Forward Current (10% Duty Cycle, Pulse Width 10msec)	80 mA
Power Dissipation	120 mW
ESD Threshold (HBM)	2000V

Electrical Characteristics

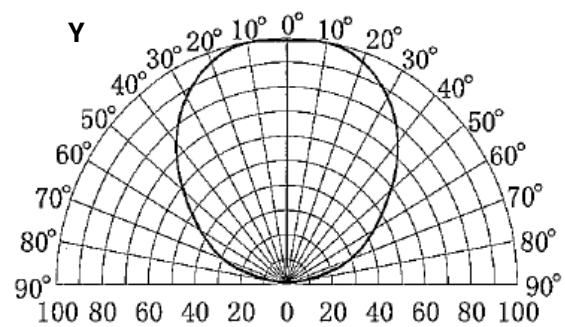
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SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I_V	Luminous Intensity	1860	2000	2210	mcd	$I_F = 20\text{ mA}$
V_F	Forward Voltage	3.0	3.2	3.4	V	$I_F = 20\text{ mA}$
I_R	Reverse Current	----	----	2.0	μA	$V_R = 5\text{ V}$
$2\Theta_{1/2}$	50% Power Angle	----	$x=120^\circ$ $y=110^\circ$	----	deg	$I_F = 20\text{ mA}$
x	Chromaticity Coordinates	Ranking Table Applies (see Pages 3 and 5)			----	$I_F = 20\text{ mA}$
y					----	$I_F = 20\text{ mA}$

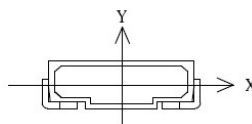
Radiation Pattern



Relative Luminous Intensity



Relative Luminous Intensity



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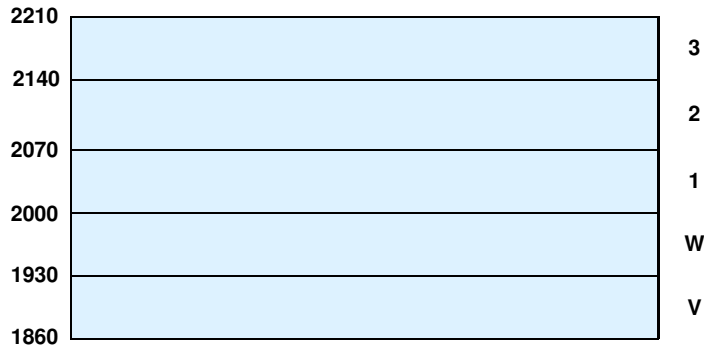
OVSRWAC1R6



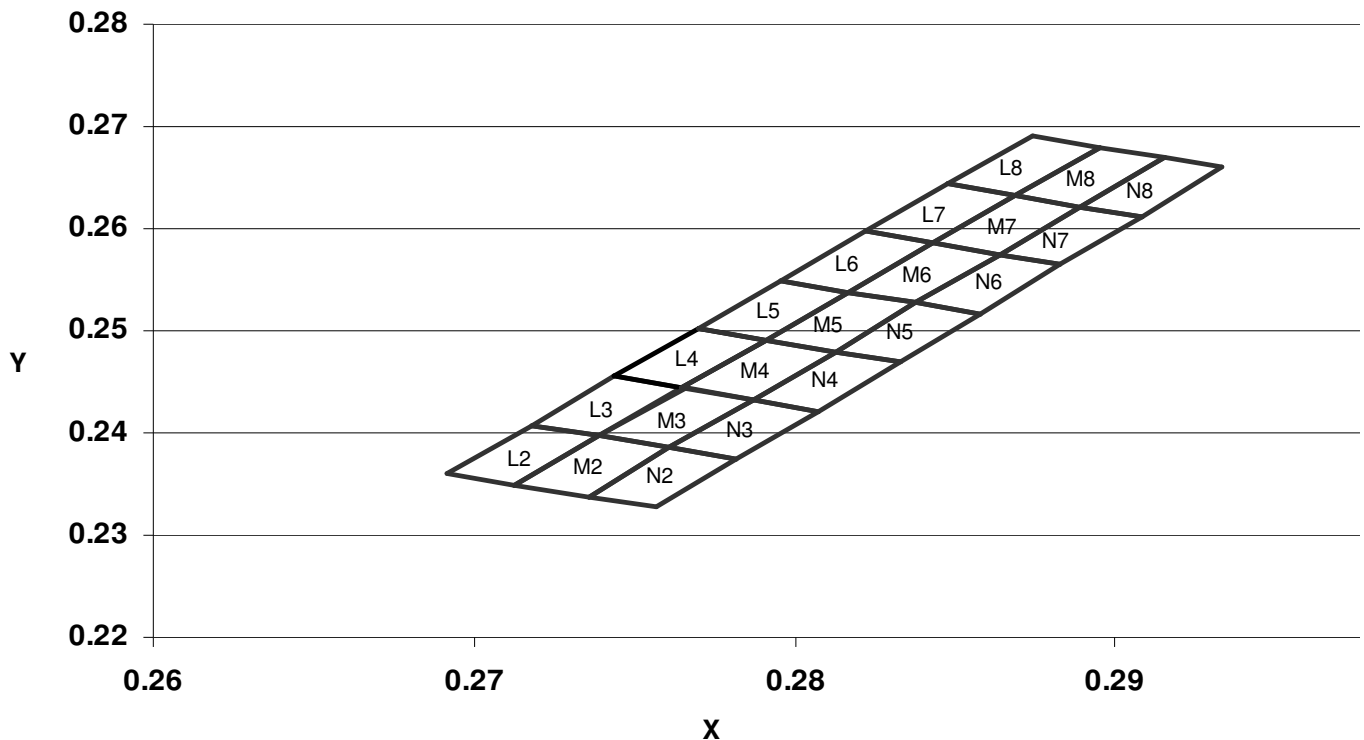
Standard Bins ($I_F = 20 \text{ mA}$)

Lamps are sorted to luminous intensity (I_V) and chromaticity coordinates (x, y) bins shown. Orders for OVSWAC1R6 may be filled with any or all bins contained as below.

Luminous Intensity



CIE Chromaticity Diagram



Notes:

1. All ranks will be included per delivery, rank ratio will be based on the chip distribution.
2. Pb content <1000 PPM.
3. Luminous intensity measurement allowance $\pm 5\%$.
4. Chromaticity coordinates measurement allowance ± 0.005 .
5. To designate luminous intensity ranks or chromaticity bins, please contact OPTEK.

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Lamps are sorted to luminous intensity (I_v) and chromaticity coordinates (x, y) bins shown.
Orders for OVSWAC1R6 may be filled with any or all bins contained as below.

Chromaticity Coordinates

Rank		L2				L3				L4			
Chromaticity Coordinates	x	0.2692	0.2713	0.2739	0.2718	0.2718	0.2739	0.2765	0.2744	0.2744	0.2765	0.2791	0.2770
	y	0.2361	0.2350	0.2397	0.2408	0.2408	0.2397	0.2444	0.2455	0.2455	0.2444	0.2491	0.2502
Rank		L5				L6				L7			
Chromaticity Coordinates	x	0.2770	0.2791	0.2817	0.2796	0.2796	0.2817	0.2843	0.2822	0.2822	0.2843	0.2869	0.2848
	y	0.2502	0.2491	0.2538	0.2550	0.2550	0.2538	0.2586	0.2597	0.2597	0.2586	0.2633	0.2644

Rank		L8			
Chromaticity Coordinates	x	0.2848	0.2869	0.2895	0.2874
	y	0.2644	0.2633	0.2680	0.2691

Rank		M2				M3				M4			
Chromaticity Coordinates	x	0.2713	0.2736	0.2761	0.2739	0.2739	0.2761	0.2787	0.2766	0.2765	0.2787	0.2813	0.2791
	y	0.2350	0.2338	0.2385	0.2397	0.2397	0.2385	0.2433	0.2444	0.2444	0.2433	0.2480	0.2491
Rank		M5				M6				M7			
Chromaticity Coordinates	x	0.2791	0.2813	0.2838	0.2817	0.2817	0.2838	0.2864	0.2843	0.2843	0.2864	0.2889	0.2869
	y	0.2491	0.2480	0.2527	0.2538	0.2538	0.2527	0.2575	0.2586	0.2586	0.2575	0.2622	0.2633

Rank		M8			
Chromaticity Coordinates	x	0.2869	0.2889	0.2915	0.2895
	y	0.2633	0.2622	0.2670	0.2680

Rank		N2				N3				N4			
Chromaticity Coordinates	x	0.2736	0.2757	0.2782	0.2761	0.2761	0.2782	0.2807	0.2787	0.2787	0.2807	0.2833	0.2813
	y	0.2338	0.2327	0.2374	0.2385	0.2385	0.2374	0.2422	0.2433	0.2433	0.2422	0.2470	0.2480
Rank		N5				N6				N7			
Chromaticity Coordinates	x	0.2813	0.2833	0.2858	0.2838	0.2838	0.2858	0.2883	0.2864	0.2864	0.2883	0.2908	0.2889
	y	0.2480	0.2470	0.2517	0.2527	0.2527	0.2517	0.2565	0.2575	0.2575	0.2565	0.2612	0.2622

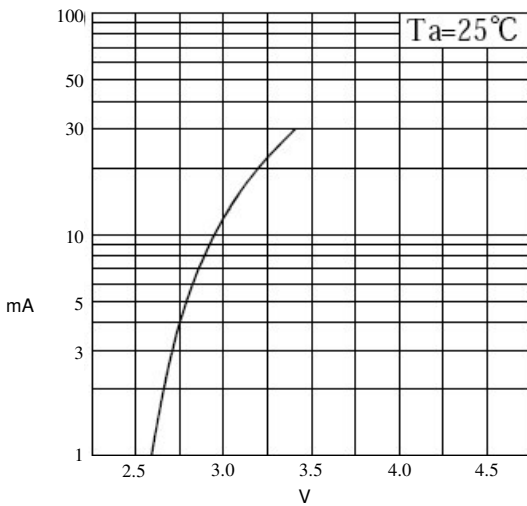
Rank		N8			
Chromaticity Coordinates	x	0.2889	0.2908	0.2933	0.2915
	y	0.2622	0.2612	0.2660	0.2670

Notes:

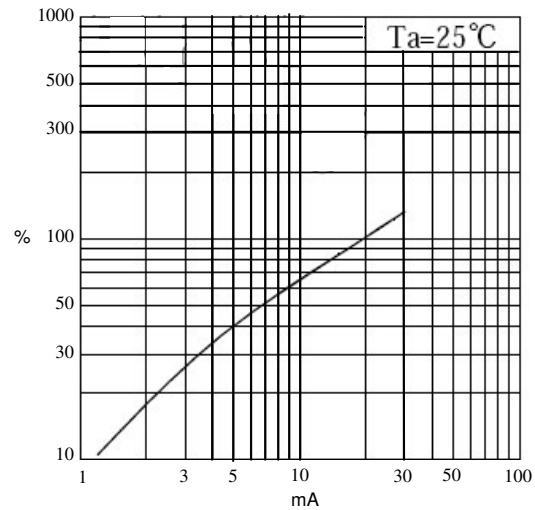
1. All ranks will be included per delivery, rank ratio will be based on the chip distribution.
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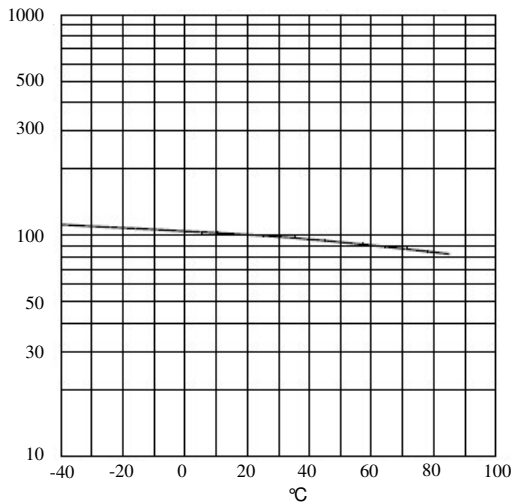
Typical Electro-Optical Characteristics Curves



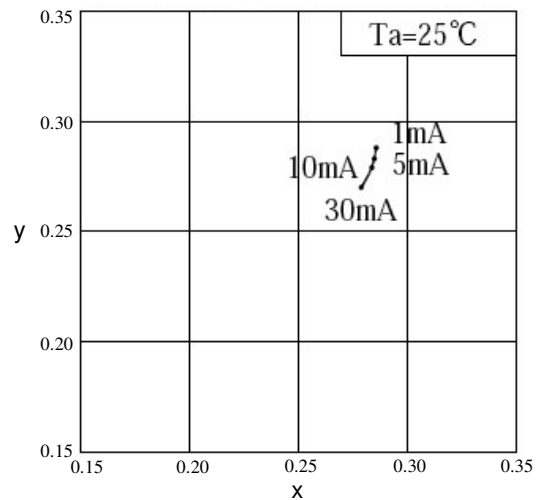
Forward Current vs Forward Voltage



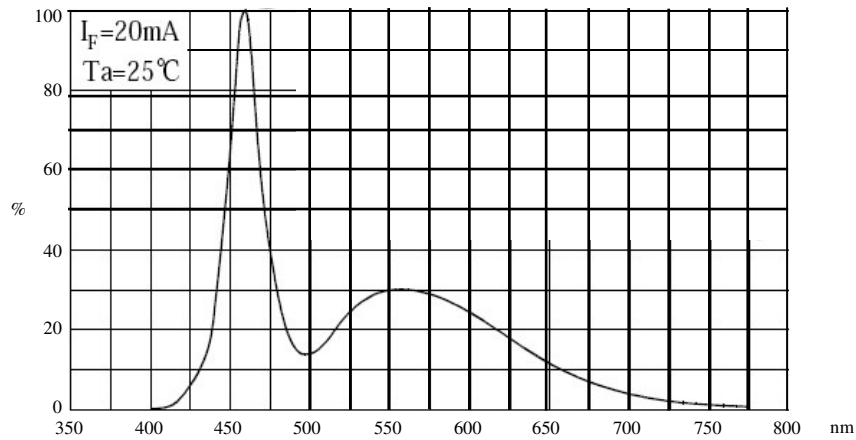
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature



Chromaticity vs Forward Current



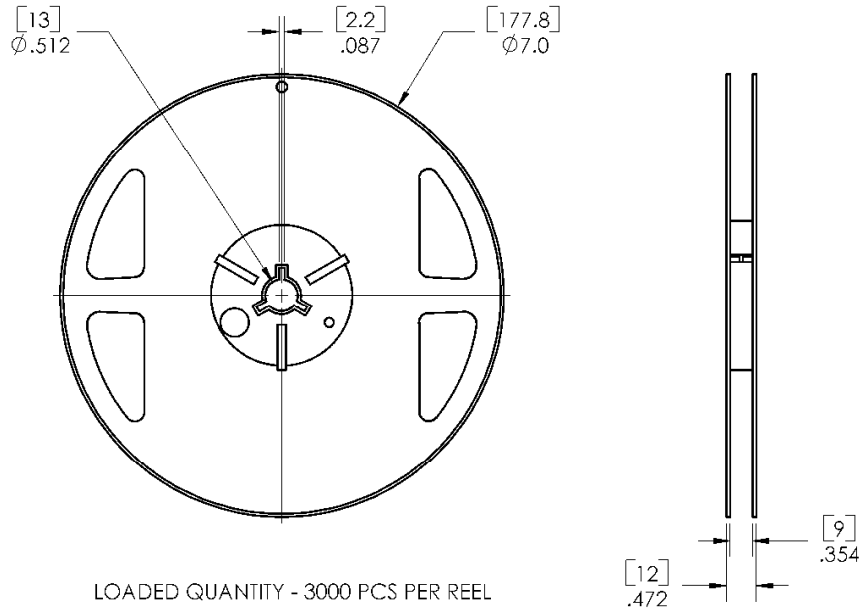
Relative Emission Intensity

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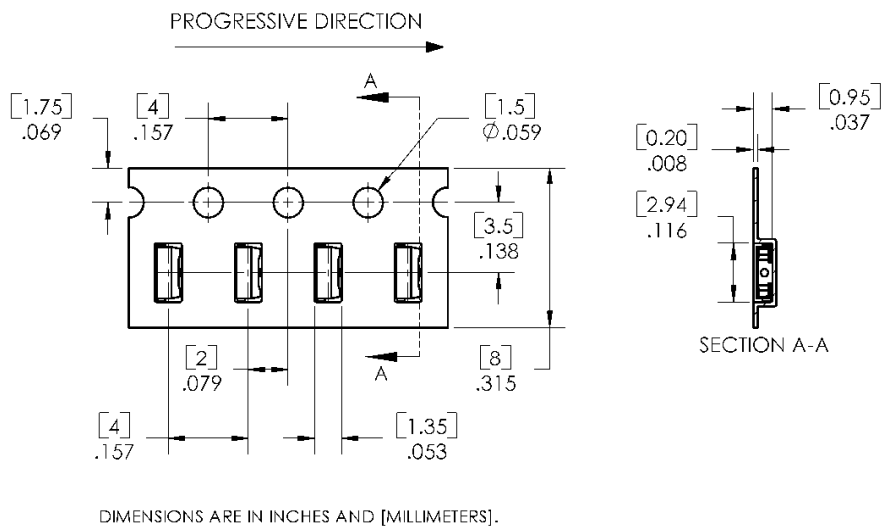
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Packing Information: 7-inch reel

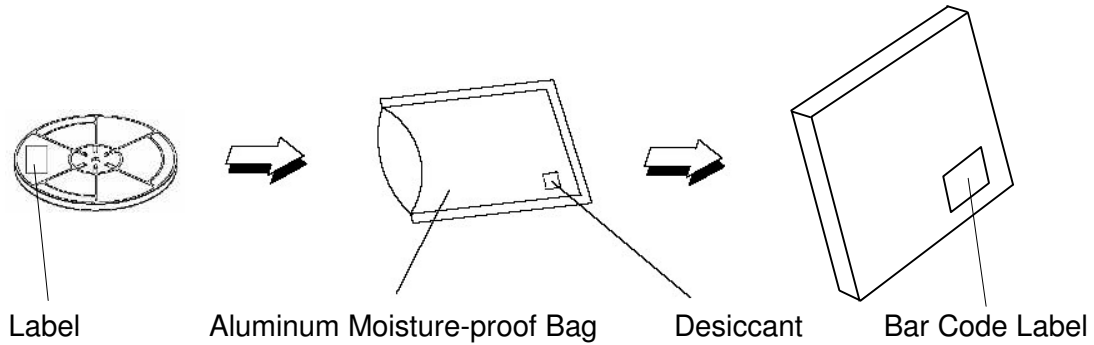


Carrier Tape Dimensions: Loaded quantity 3000 pieces per reel

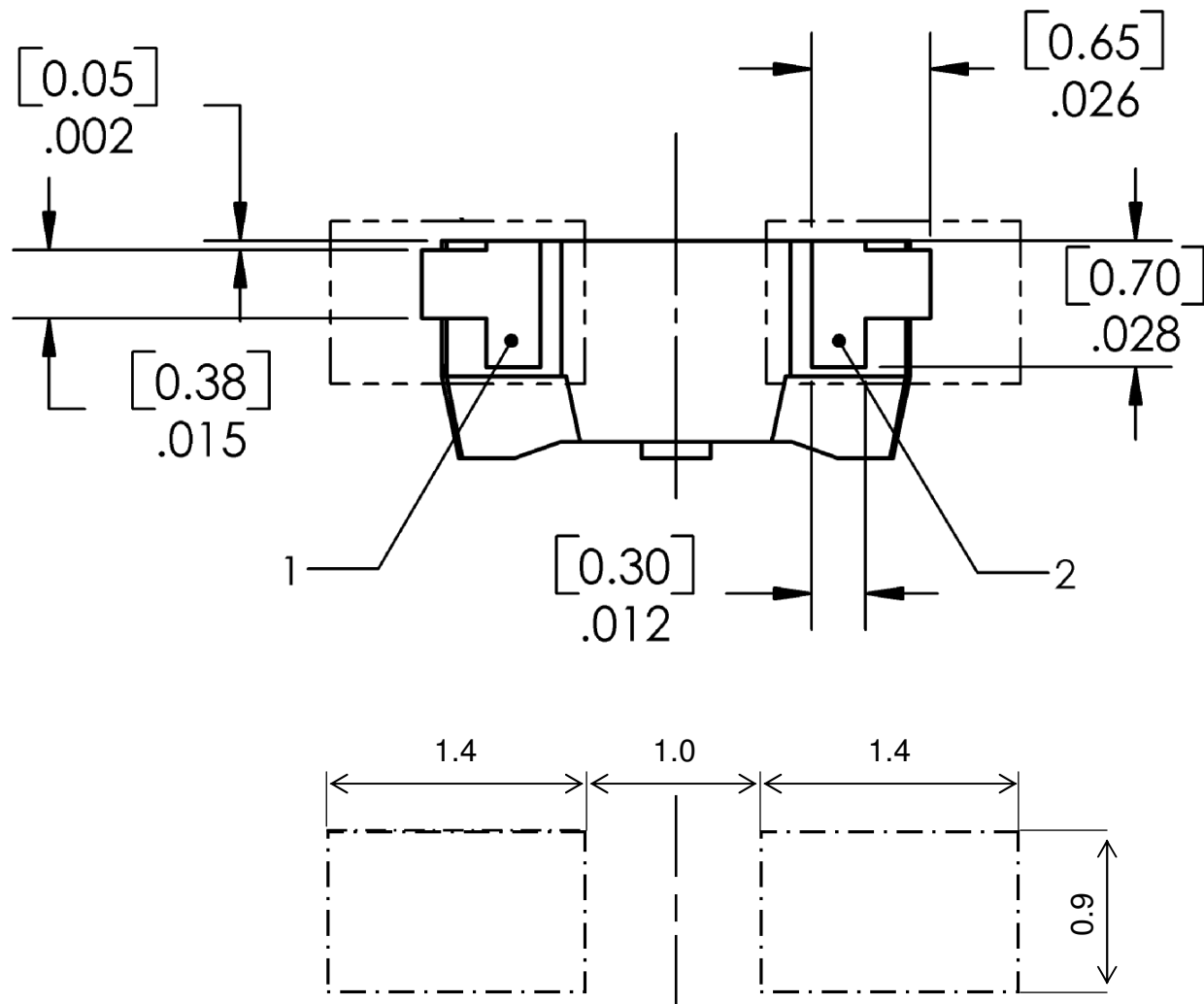


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Moisture Resistant Reel Packaging

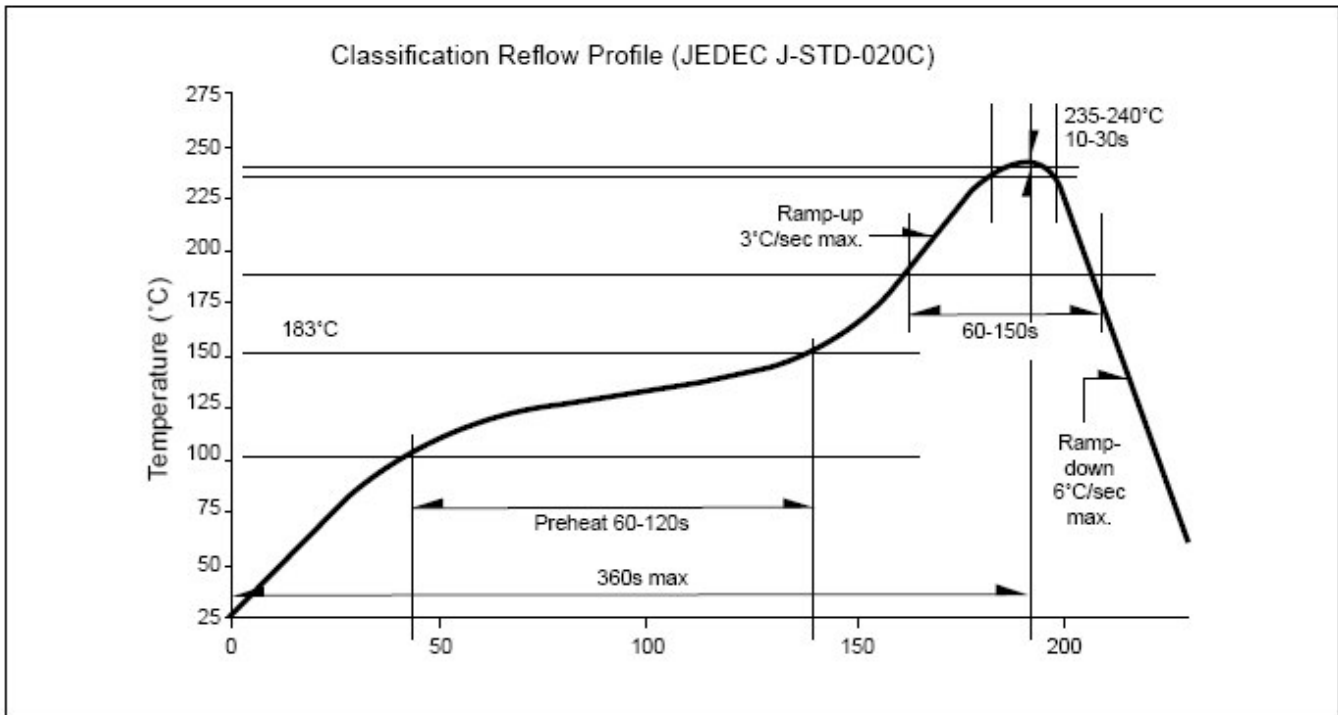


Recommended Soldering Pattern (Unit: mm)

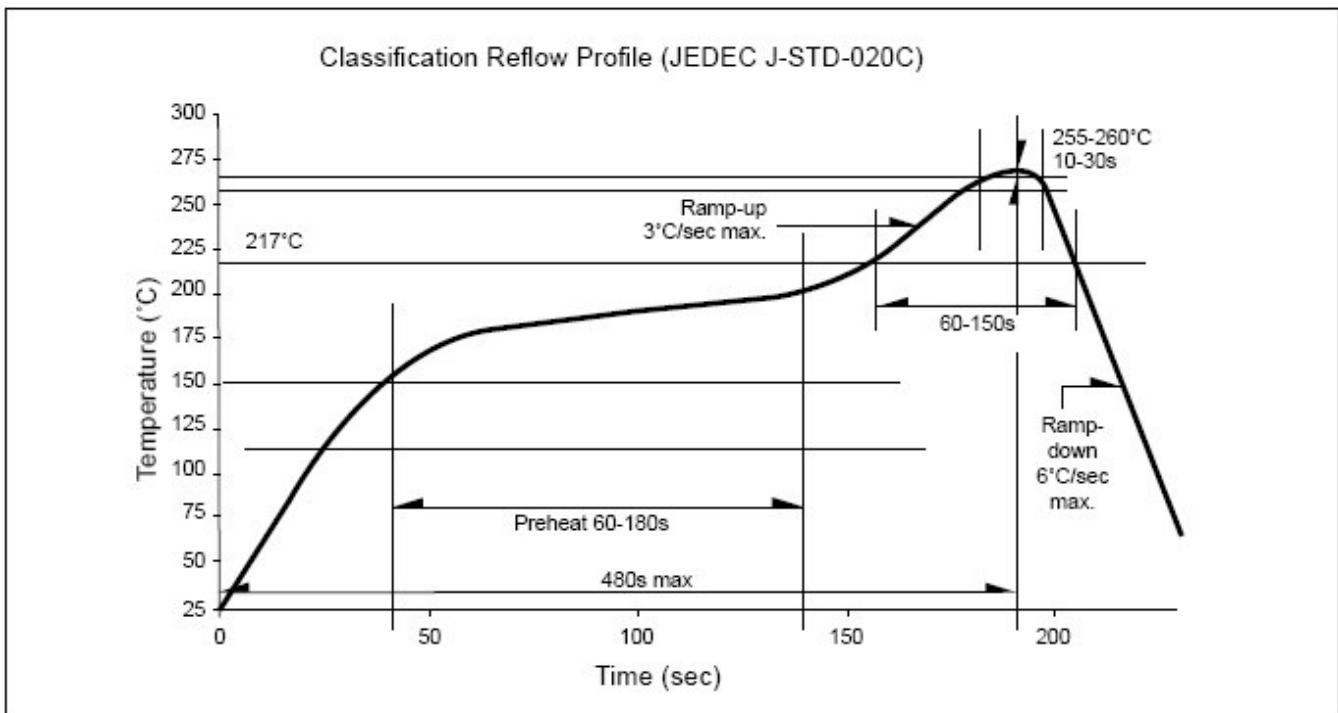


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Recommended Sn-Pb IR-Reflow Soldering Profile



Recommended Pb-free Soldering Profile



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