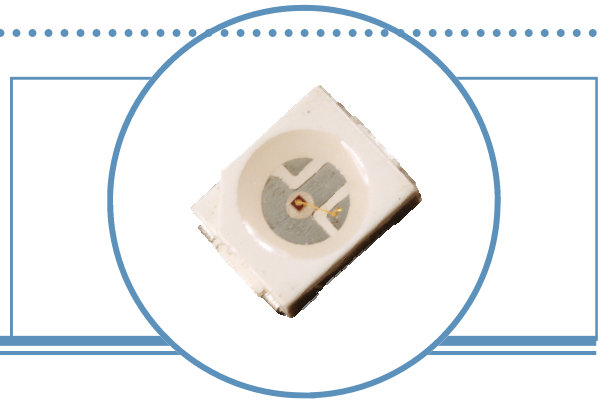
# White PLCC4 Surface Mount LED (120° Viewing Angle)



TT electronics
OPTEK Technology

## OVSAWBCR4

- High luminous intensity
- High efficiency
- Emission color: White
- Wide variety of application possibilities

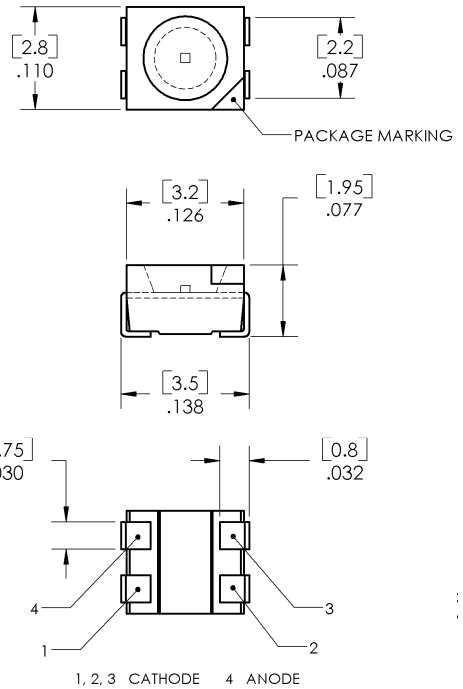


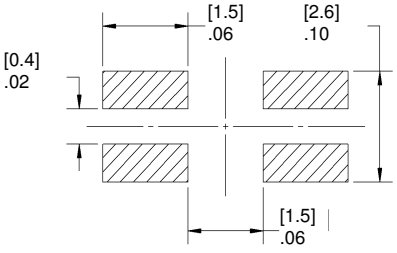
The **OVSAWBCR4** provides high intensity light from a surface mount package. Light output is optimized by an interior reflector and the wide viewing angle adds flexibility for applications ranging from hand-held appliances to automotive interiors.

### Applications

- Backlighting of full color LCD
- Automotive interior lighting
- General lighting
- Coupling into light guides
- Entertainment equipment

| Part Number | Material | Emitted Color | Intensity Typ. | Lens Color |
|---|---|---|---|---|
| OVSAWBCR4 | InGaN | White | 1050 mcd | Water Clear |




RECOMMENDED SOLDER PAD DESIGN

RoHS Moisture 2

ATTENTION
OBSERVE PRECAUTIONS FOR ELECTROSTATIC SENSITIVE DEVICES

**DIMENSIONS ARE IN:** **[MILLIMETERS] INCHES**

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

## Absolute Maximum Ratings

$T_A$ = 25° C (on metal core PCB) unless otherwise noted

| | |
|---|---|
| Storage Temperature Range | -40 ~ + 100℃ |
| Operating Temperature Range | -40 ~ + 100℃ |
| Soldering Temperature (5 second maximum) | 260° C |
| Forward Current | 30mA |
| Peak Forward Current (10% Duty Cycle, 1 KHz) | 200 mA |
| Reverse Voltage | 5 V |
| ESD Threshold (HBM) | 2000 V |
| LED Junction Temperature | 125℃ |
| Power Dissipation | 135 mW |

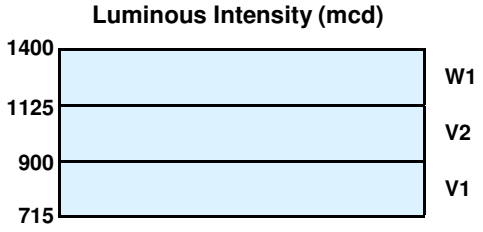
## Electrical Characteristics

$T_A$ = 25° C (on metal core PCB) unless otherwise noted

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|---|---|---|---|---|---|---|
| $I_V$ | Luminous Intensity | 715 | 1050 | 1400 | mcd | $I_F$ = 30 mA |
| $V_F$ | Forward Voltage | 3.05 | 3.4 | 4.0 | V | $I_F$ = 20 mA |
| $I_R$ | Reverse Current | ---- | ---- | 10 | µA | $V_R$ = 5 V |
| 2 Θ½ | 50% Power Angle | ---- | 120 | ---- | deg | $I_F$ = 20 mA |
| x | Chromaticity Coordinates | ---- | 0.32 | ---- | ---- | $I_F$ = 20 mA |
| y | | ---- | 0.33 | ---- | ---- | $I_F$ = 20 mA |

## Standard Bins ($I_F$ = 30 mA)

Lamps are sorted to luminous intensity ($I_V$) and chromaticity coordinates (x, y) bins shown.
Orders for OVSAWBCR4 may be filled with any or all bins contained as below.




Notes:
1. All ranks will be included per delivery, rank ratio will be based on the chip distribution.
2. Pb content <1000 PPM.
3. To designate luminous intensity ranks or chromaticity bins, please contact OPTEK.
4. Part is sensitive to static electricity and precautions must be used when handling products.

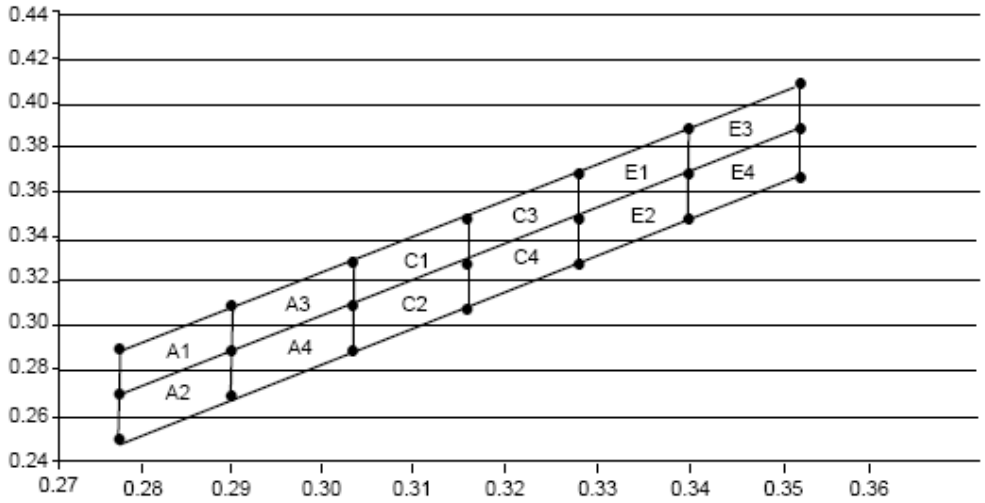



**OPTEK Technology Inc.** — 1645 Wallace Drive, Carrollton, Texas 75006
Phone: (972) 323-2200 or (800) 341-4747 FAX: (972) 323-2396 visibleLED@optekinc.com www.optekinc.com

## Standard Bins ($I_F$ = 30 mA)

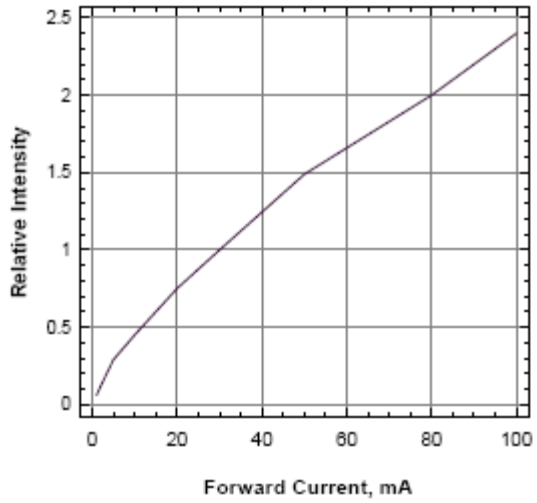
Lamps are sorted to luminous intensity ($I_V$) and chromaticity coordinates bins shown. Orders may be filled with any or all bins contained as below.

**White Bin Structure**

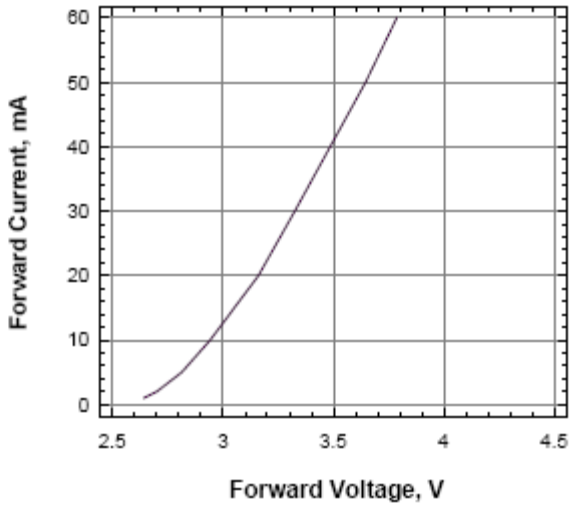



| | | | | | |
|---|---|---|---|---|---|
| A1 | $C_X$ | 0.2775 | 0.2900 | 0.2900 | 0.2775 |
| | $C_Y$ | 0.2732 | 0.2939 | 0.3114 | 0.2907 |
| A2 | $C_X$ | 0.2775 | 0.2900 | 0.2900 | 0.2775 |
| | $C_Y$ | 0.2557 | 0.2764 | 0.2939 | 0.2732 |
| A3 | $C_X$ | 0.2900 | 0.3025 | 0.3025 | 0.2900 |
| | $C_Y$ | 0.2939 | 0.3146 | 0.3321 | 0.3114 |
| A4 | $C_X$ | 0.2900 | 0.3025 | 0.3025 | 0.2900 |
| | $C_Y$ | 0.2764 | 0.2971 | 0.3146 | 0.2939 |
| C1 | $C_X$ | 0.3025 | 0.3150 | 0.3150 | 0.3025 |
| | $C_Y$ | 0.3146 | 0.3354 | 0.3529 | 0.3321 |
| C2 | $C_X$ | 0.3025 | 0.3150 | 0.3150 | 0.3025 |
| | $C_Y$ | 0.2971 | 0.3179 | 0.3354 | 0.3146 |
| C3 | $C_X$ | 0.3150 | 0.3275 | 0.3275 | 0.3150 |
| | $C_Y$ | 0.3354 | 0.3561 | 0.3736 | 0.3529 |
| C4 | $C_X$ | 0.3150 | 0.3275 | .03275 | 0.3150 |
| | $C_Y$ | 0.3179 | 0.3386 | .03561 | 0.3354 |
| E1 | $C_X$ | 0.3275 | 0.3400 | 0.3400 | 0.3275 |
| | $C_Y$ | 0.3561 | 0.3768 | 0.3943 | 0.3736 |
| E2 | $C_X$ | 0.3275 | 0.3400 | 0.3400 | 0.3275 |
| | $C_Y$ | 0.3386 | 0.3593 | 0.3768 | 0.3561 |
| E3 | $C_X$ | 0.3400 | 0.3525 | 0.3525 | 0.3400 |
| | $C_Y$ | 0.3768 | 0.3975 | 0.4150 | 0.3943 |
| E4 | $C_X$ | 0.3400 | 0.3525 | 0.3525 | 0.3400 |
| | $C_Y$ | 0.3593 | 0.3800 | 0.3975 | 0.3768 |

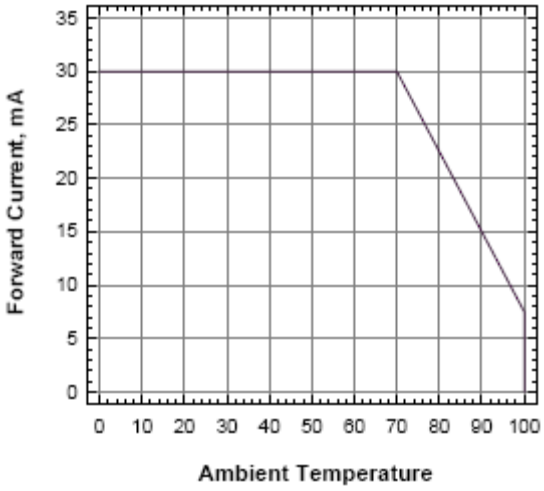
### Relative Intensity Vs Forward Current



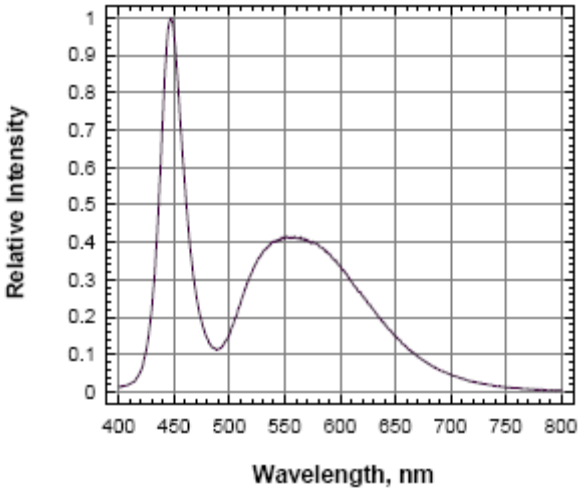

### Forward Current Vs Forward Voltage



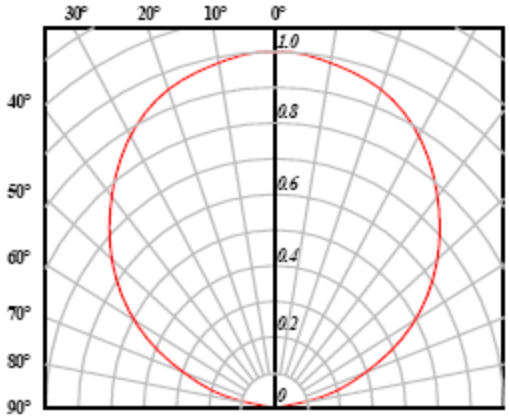

### Maximum Current Vs Temperature




### Wavelength Vs Forward Current




### Radiation Pattern




OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.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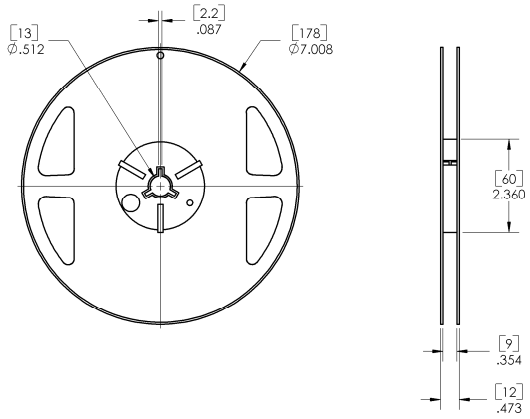
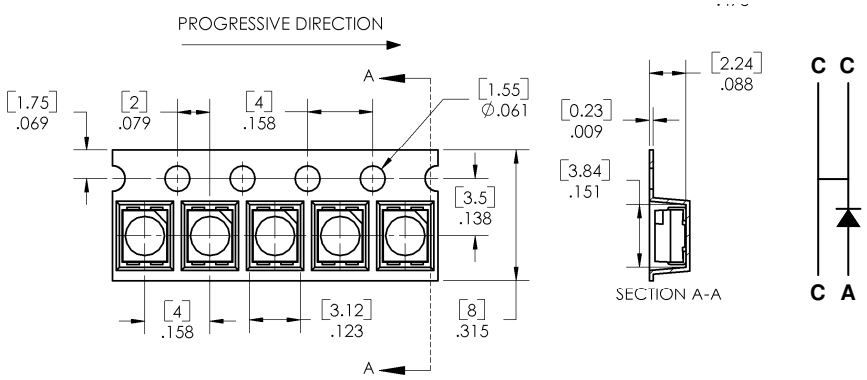
## Reel Dimensions: 7-inch reel

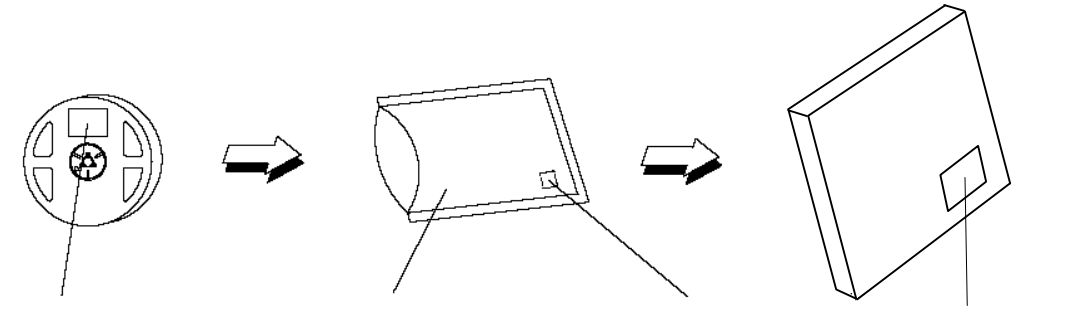



## Carrier Tape Dimensions: Loaded quantity 2000 pieces per reel

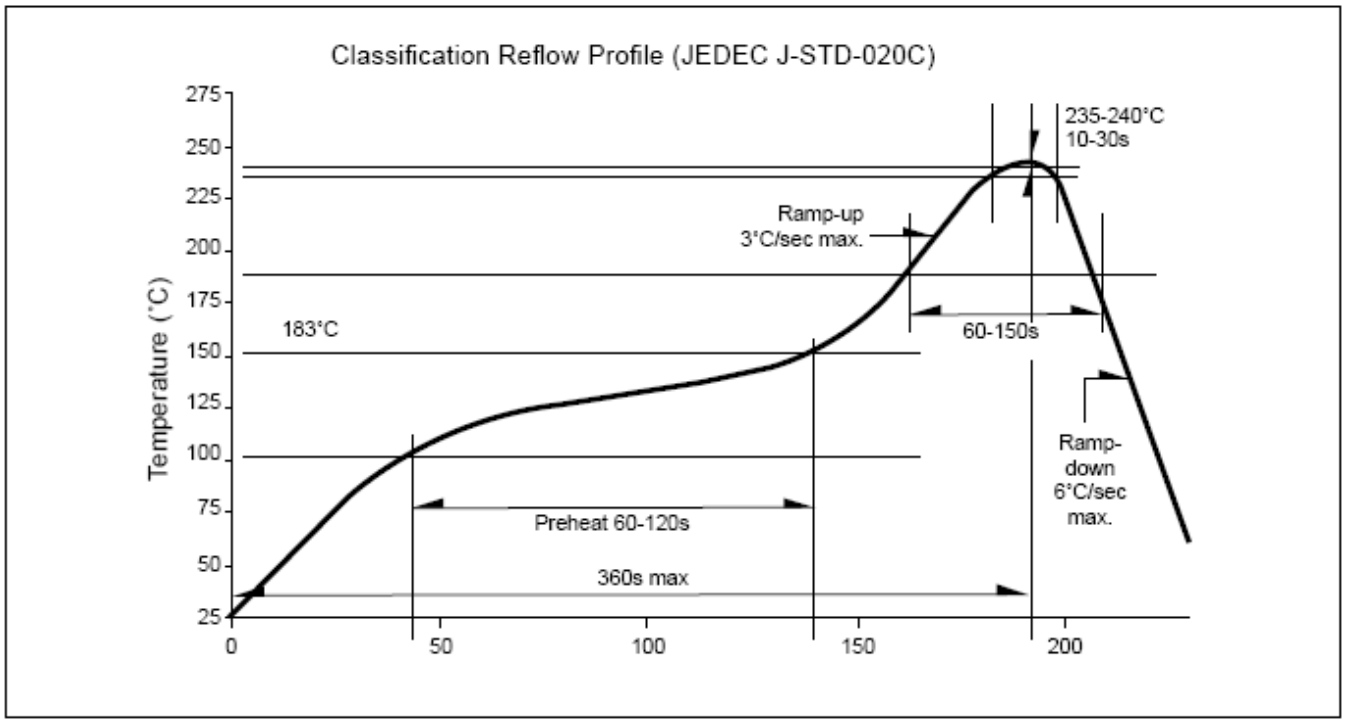



DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

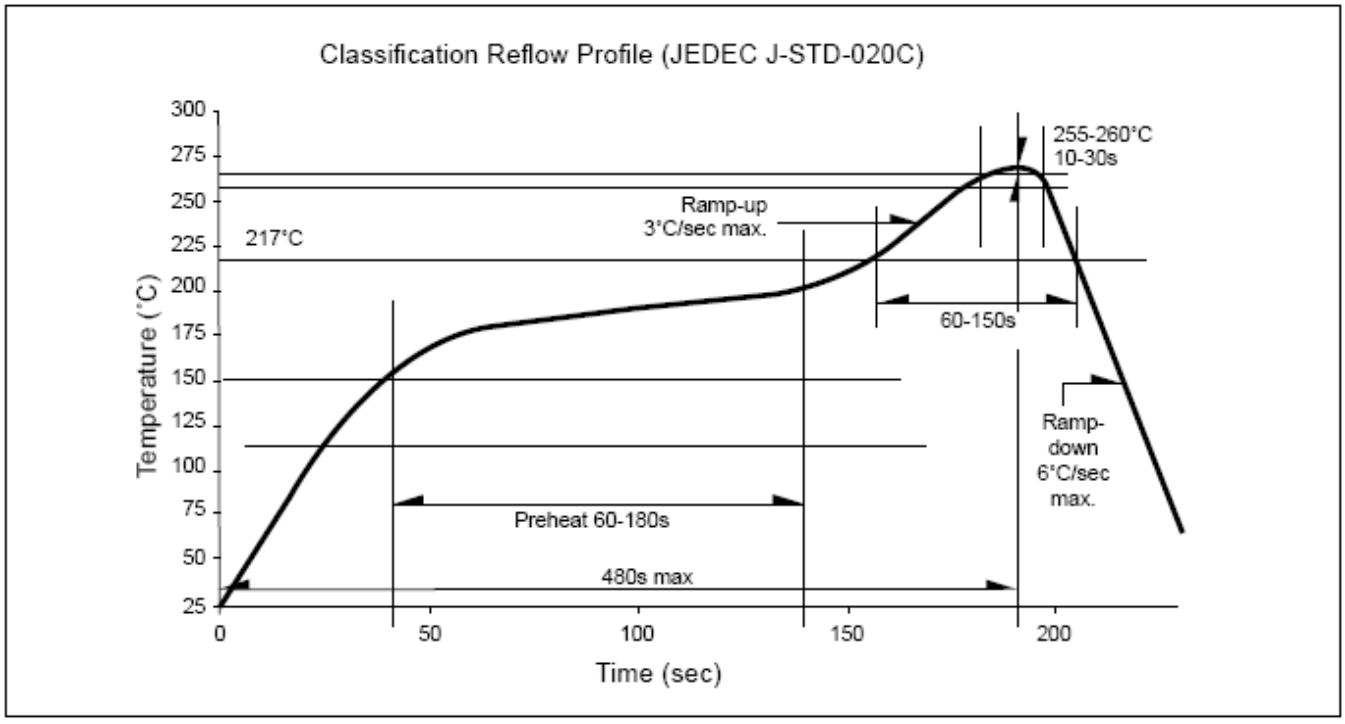
## Moisture Resistant Packaging



## Recommended Sn-Pb IR-Reflow Soldering Profile




## Recommended Pb-free Soldering Profile





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