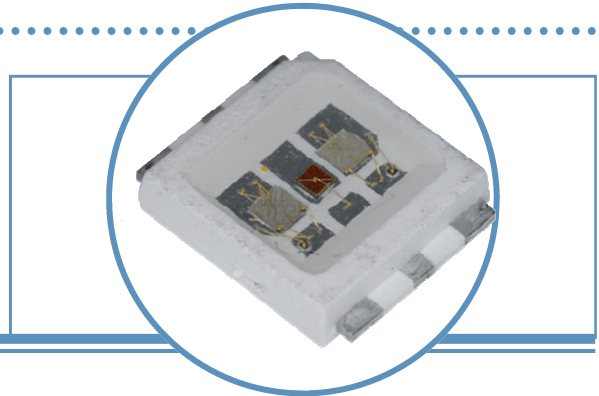


# Full-color Power SMD 6mm (130° Viewing Angle)

## OVSPRGBCR4

- Surface mount RGB designed for high current drive
- Low thermal resistance—20K/W
- Ultra low profile of 1.5mm
- High flux output

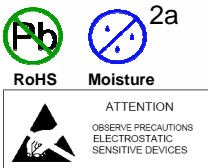
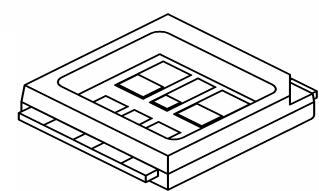
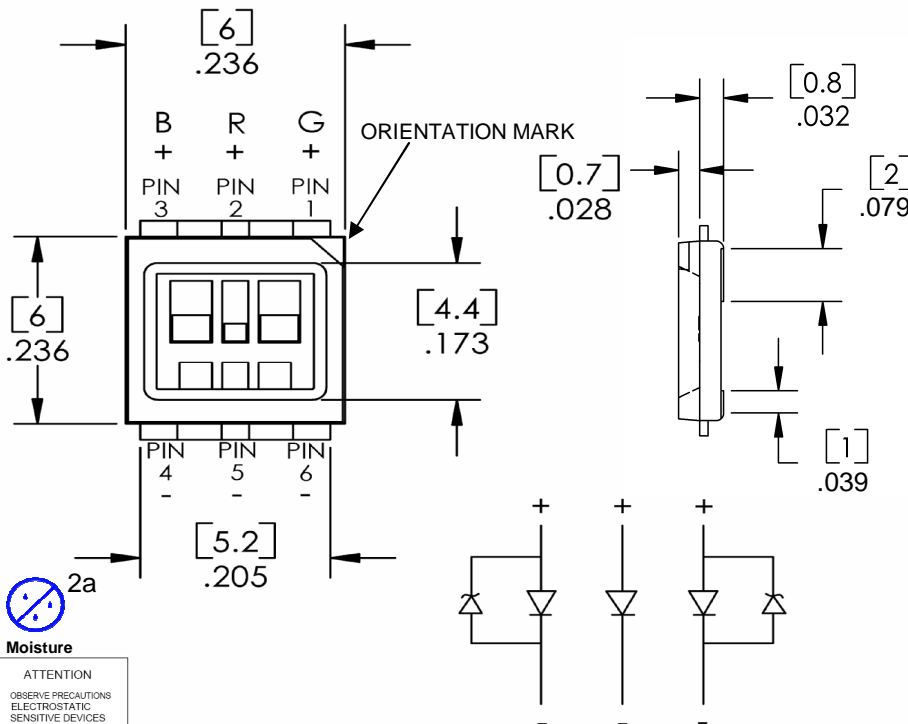


The **OVSPRGBCR4** is an energy-efficient packaged LED source that offers high luminance, and a long operating lifespan. This full-color power device offers a 130° viewing angle and an ultra-low profile (1.5mm) making it highly suitable for conventional lighting and specialized applications. Optional 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
- LED backlighting

Part Number	Viewing Angle	Emitted Color	Typical Luminous Flux (lm)	Typical Intensity (mcd)	Lens Color
OVSPRGBCR4	130°	Red	27	9000	Water Clear
		Green	57	18000	Water Clear
		Blue	14	4500	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.

# Full-color Power SMD 6mm OVSPRGBCR4

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

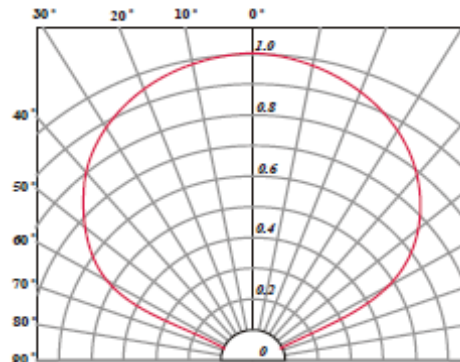
DC Forward Current (per chip)	250mA
Peak Pulsed Forward Current (per chip) <sup>1</sup>	500mA
Reverse Voltage	Not designed for reverse bias drive
Junction Temperature	125°C
Storage and Operating Temperature	-40° ~ +100 °C
ESD Threshold (HBM)	2000V

Notes:

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

## Optical and Electrical Characteristics ( $I_F = 250\text{ mA}$ , $T_A = 25^\circ\text{C}$ )

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	
$V_F$	Forward Voltage	Red	2.0	2.3	2.8	V
		Green	3.0	3.3	3.8	V
		Blue	3.0	3.3	3.8	V
$\Phi$	Luminous Flux	Red	21.1	26.6	33.2	lm
		Green	44.1	56.7	70.6	lm
		Blue	10.8	13.7	17.1	lm
$I_V$	Luminous Intensity	Red	7150	9000	11250	mcd
		Green	14000	18000	22400	mcd
		Blue	3550	4500	5600	mcd
$\lambda_D$	Dominant Wavelength	Red	620	—	630	nm
		Green	521	530	536	nm
		Blue	460	465	470	nm
$2\Theta_{1/2}$	50% Power Angle	----	130	----	deg	

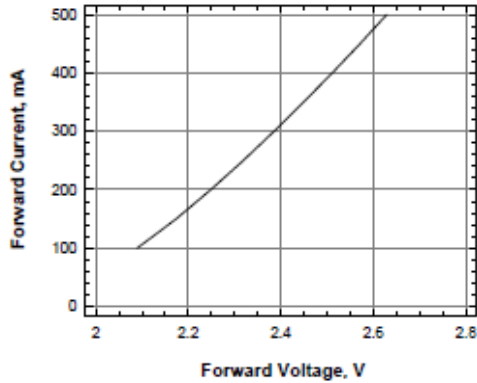


Beam Angle

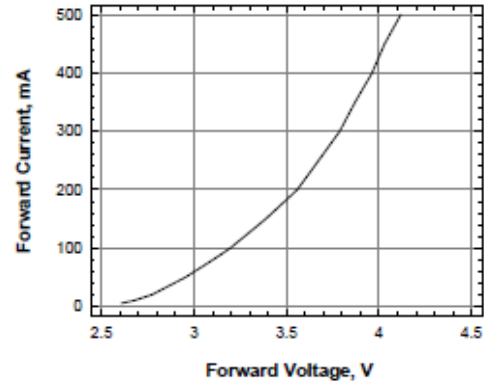
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## Typical Electro-Optical Characteristics Curves

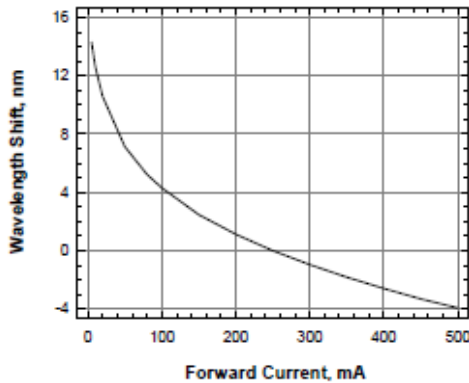
Forward Current Vs Forward Voltage (Red)



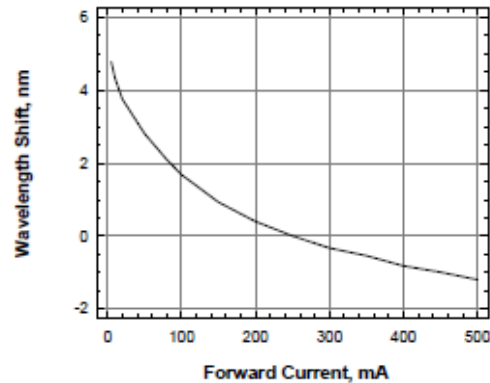
Forward Current Vs Forward Voltage (Blue and True Green)



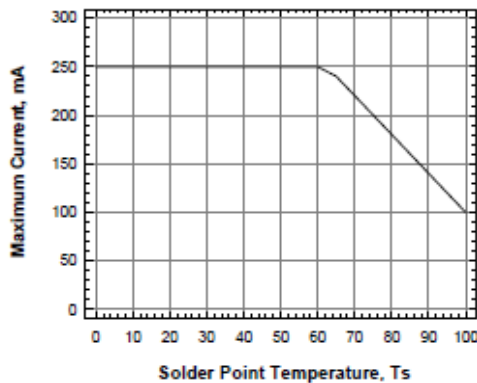
Wavelength Shift Vs Forward Current (True Green)



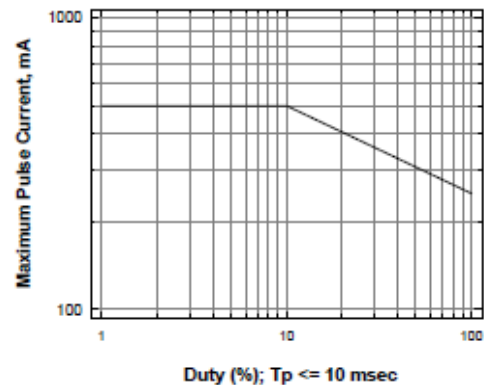
Wavelength Shift Vs Forward Current (Blue)



Maximum Current Vs Solder Point Temperature



Maximum Pulse Current Vs Duty Cycle

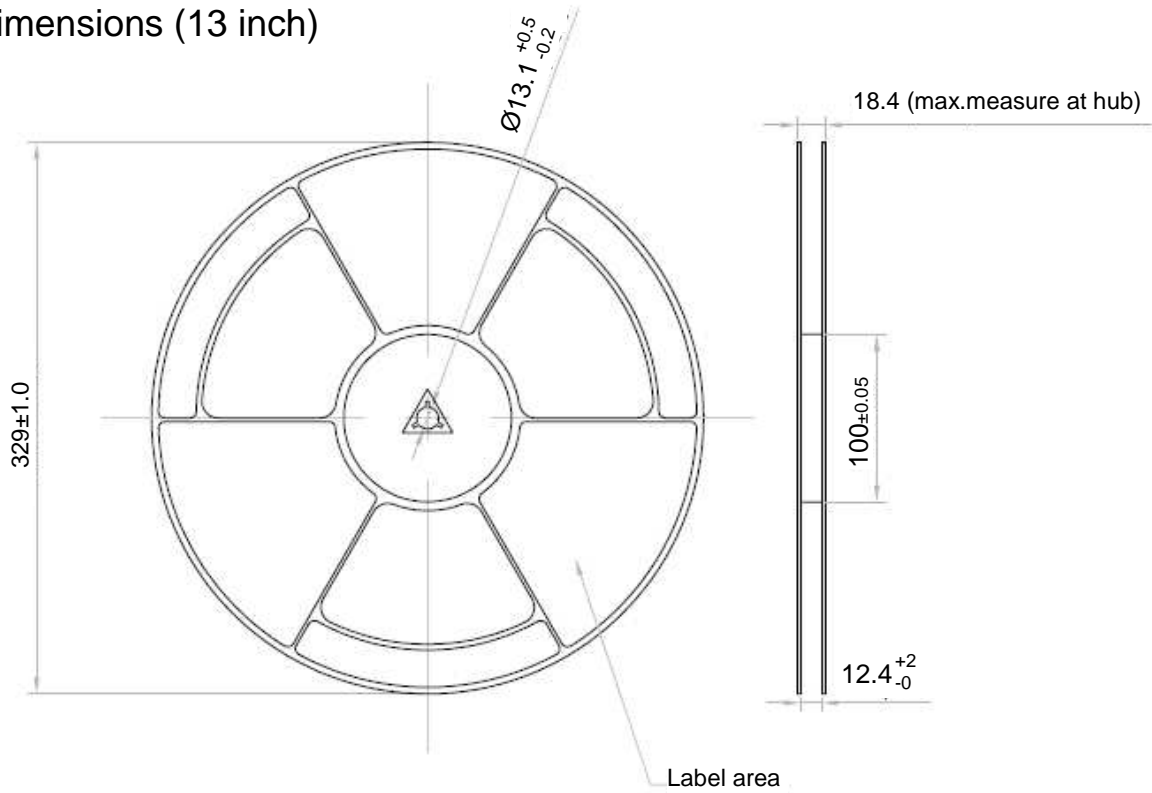


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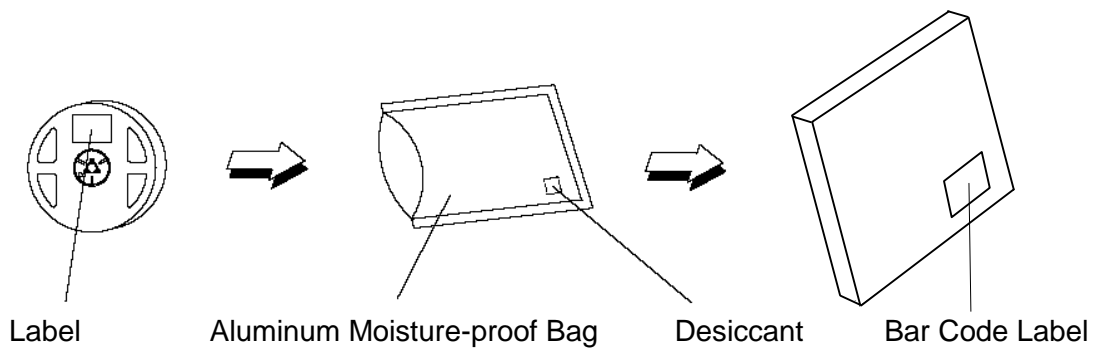


# Full-color Power SMD 6mm OVSPRGBCR4

## Reel Dimensions (13 inch)

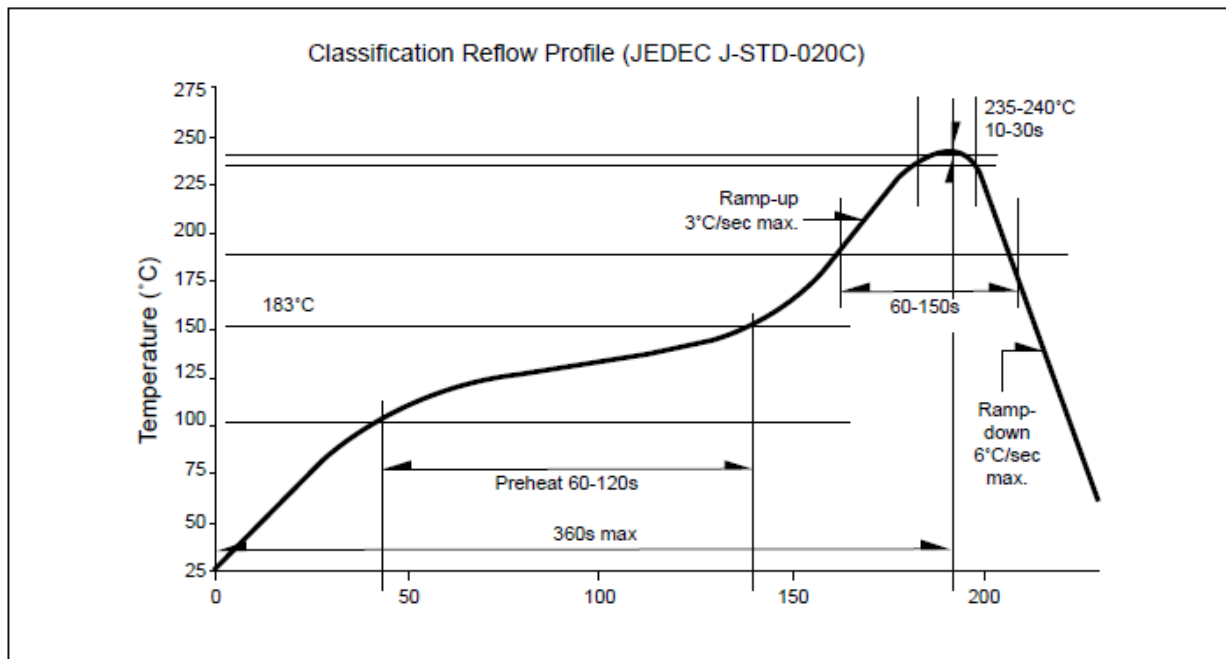


## Moisture Resistant Packaging

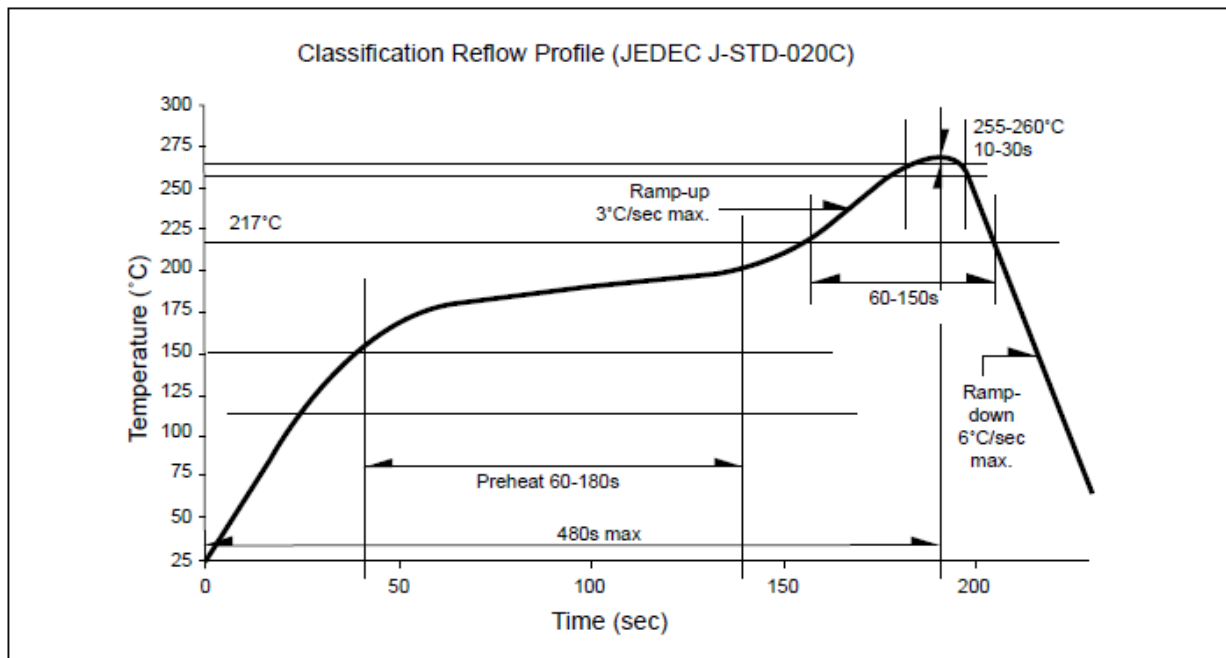


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**Recommended Sn-Pb IR-Reflow Soldering Profile**



**Recommended Pb-free Soldering Profile**



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