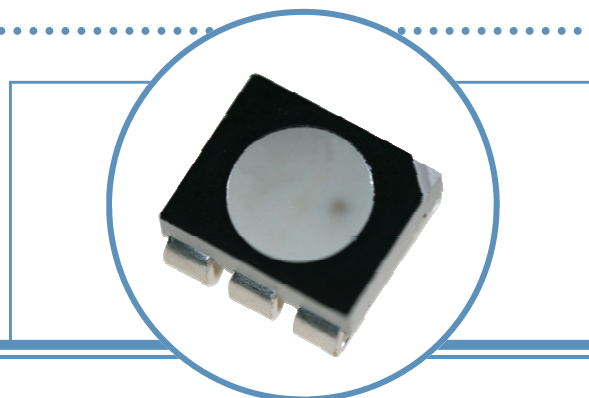


# Full Color PLCC6 LED

## OVSTRGGB1CR8

- Full-color red/green/blue
- PLCC package with 6 pins
- Wide viewing angle
- High performance
- Tuneable color mix

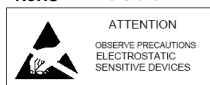
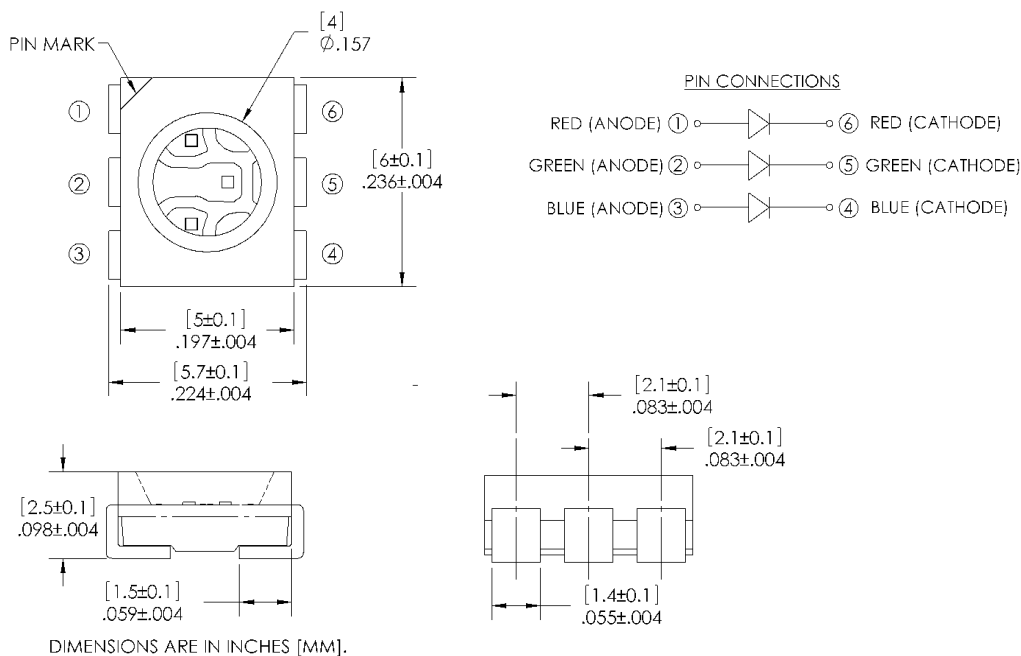


The **OVSTRGGB1CR8** package design provides wide viewing angle, low power consumption, and high luminous intensity. Color on demand is made possible by isolated chip circuits, allowing each LED to be driven individually or in tuneable color combinations.

### Applications

- Amusement equipment
- Information boards
- Automotive interior lighting
- Portable appliances
- Indoor and outdoor displays
- Backlighting
- RGB full-color displays

Part Number	Chip				Lens Color
	Type	Material	Emitted Color	Intensity Typ. mcd	
OVSTRGGB1CR8	R	AlInGaP	Red	700	Diffused
	G	InGaN	Green	1800	
	B	InGaN	Blue	400	



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

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# Full Color PLCC6 LED

## OVSTRGBB1CR8



### Absolute Maximum Ratings

T<sub>A</sub> = 25°C unless otherwise noted

PARAMETER	RATING			UNIT
	R	G	B	
Storage Temperature	-40 ~ +100			°C
Operating Temperature	-40 ~ +100			°C
Reverse Voltage	5			V
Continuous Forward Current (1 chip on)	50	50	50	mA
Peak Forward Current (10% Duty Cycle, PW ≤ 100 μsec, 1 chip on)	200	100	100	mA
Power Dissipation	130	200	200	mW
Junction Temperature	110	110	110	°C
Junction/ambient (1 chip on)	450	400	450	°C/W
Junction/ambient (3 chips on)	650	580	680	°C/W
Junction/solder point (1 chip on)	300	280	300	°C/W
Junction/solder point (3 chips on)	450	430	480	°C/W
Electrostatic Discharge Classification (JEDEC-JESD22-A114F)				Class 1C
Moisture Sensitivity Level (IPC/JEDEC J-STD-020C)				5a / 24 Hrs

### Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

SYMBOL	PARAMETER	VALUES			UNIT	CONDITIONS	
			R	G			B
I <sub>V</sub>	Luminous Intensity	Min	560	1120	280	mcd	I <sub>F</sub> = 50 mA
		Avg	700	1600	400		
V <sub>F</sub>	Forward Voltage	Avg	2.0	3.2	3.2	V	I <sub>F</sub> = 50 mA
		Max	2.6	4.0	4.0		
I <sub>R</sub>	Reverse Current (max)		10	10	10	μA	V <sub>R</sub> = 5 V
λ <sub>D</sub>	Dominant Wavelength		619-624	520-540	460-480	nm	I <sub>F</sub> = 50 mA
λ <sub>P</sub>	Wavelength at Peak Emission		630	527	470	nm	I <sub>F</sub> = 50 mA
2 Θ <sub>½</sub>	Beam Angle		120	120	120	deg	I <sub>F</sub> = 50 mA
Δλ	Spectral Radiation Bandwidth		24	38	28	nm	I <sub>F</sub> = 50 mA

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# Full Color PLCC6 LED

## OVSTRGBB1CR8



### Standard Bins

LEDs are sorted to luminous intensity ( $I_v$ ) and dominant wavelength (nm) bins shown. Each reel consists of a single intensity bin and a single color bin. Orders are filled using all intensity and color bins listed in the following tables. Optek will not accept orders for single intensity bins or single color bins.

#### Luminous Intensity ( $I_v$ ) @ 50mA

RED		
Code	Min (mcd)	Max (mcd)
K	560	710
M	710	900
N	900	1120

GREEN		
Code	Min (mcd)	Max (mcd)
P	1120	1400
Q	1400	1800
R	1800	2240

BLUE		
Code	Min (mcd)	Max (mcd)
G	280	355
H	355	450
J	450	560

#### Dominant Wavelength (nm)

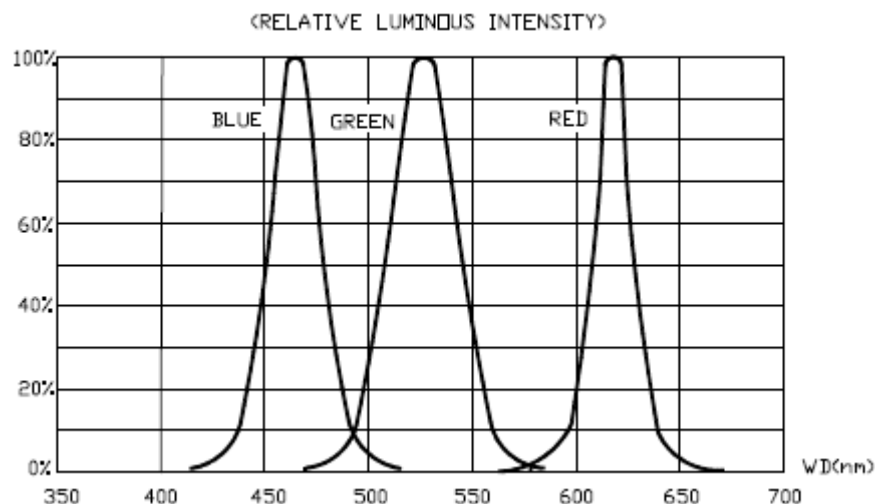
RED		
Code	Min (nm)	Max (nm)
RB	619	624

GREEN		
Code	Min (nm)	Max (nm)
G7	520	525
G8	525	530
G9	530	535
Ga	535	540

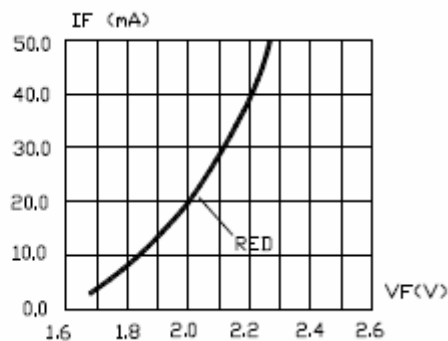
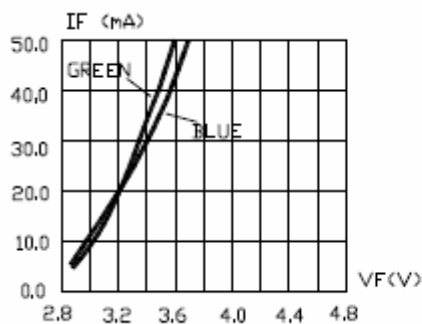
BLUE		
Code	Min (nm)	Max (nm)
B3	460	465
B4	465	470
B5	470	475
B6	475	480

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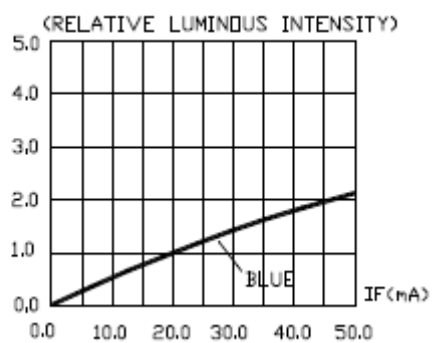
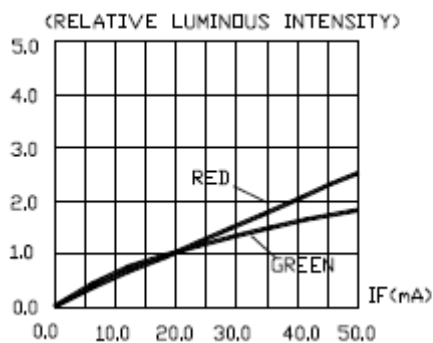
## Typical Electro-Optical Characteristics Curves



Relative Intensity vs Dominant Wavelength



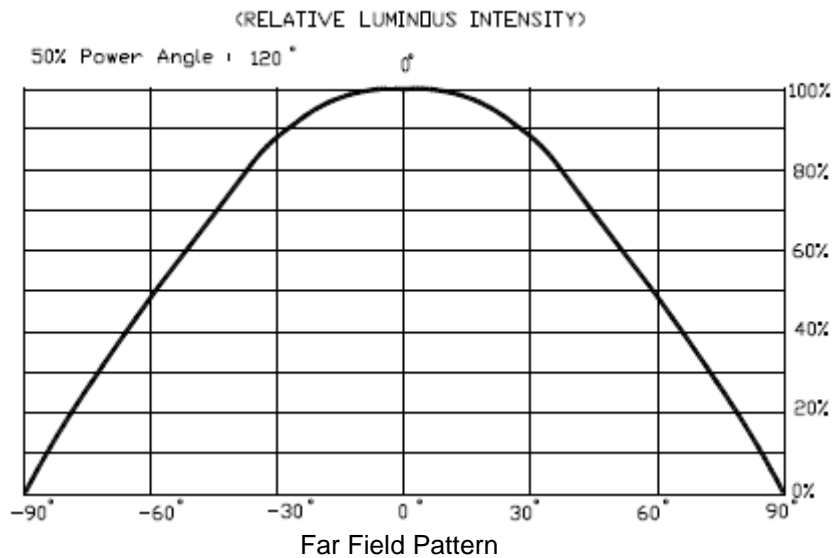
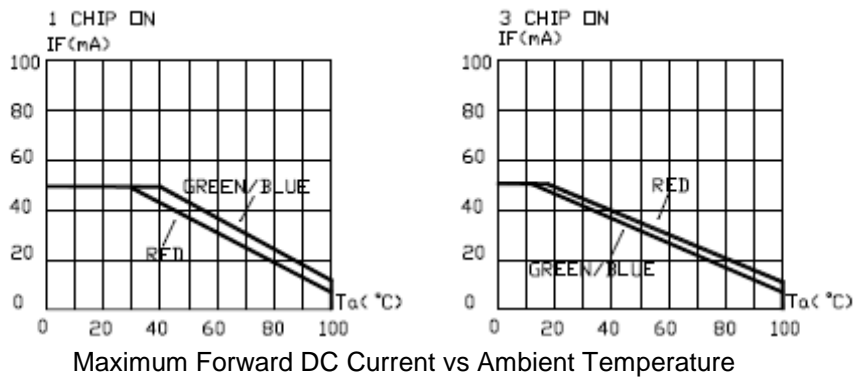
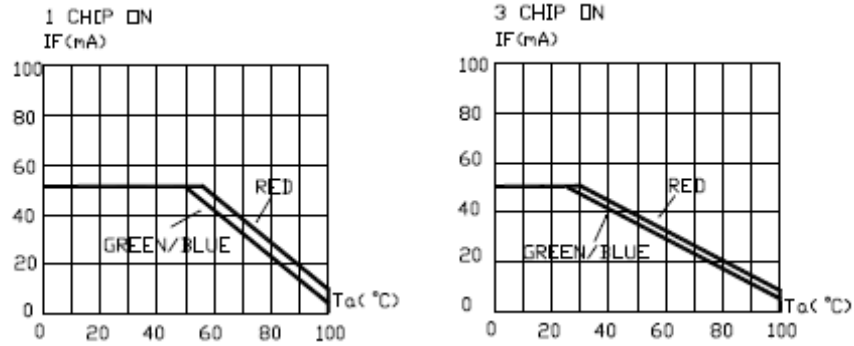
Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current

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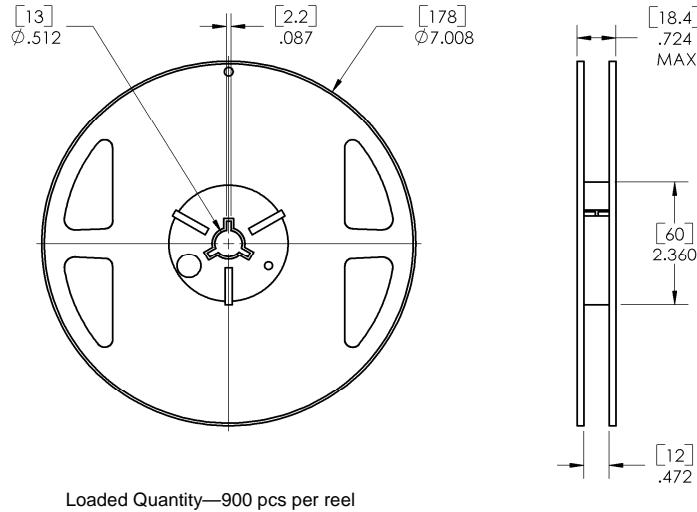
Typical Electro-Optical Characteristics Curves



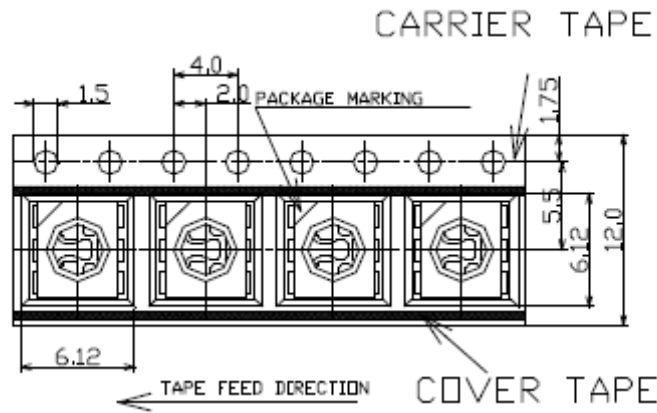
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# Full Color PLCC6 LED OVSTRGBB1CR8

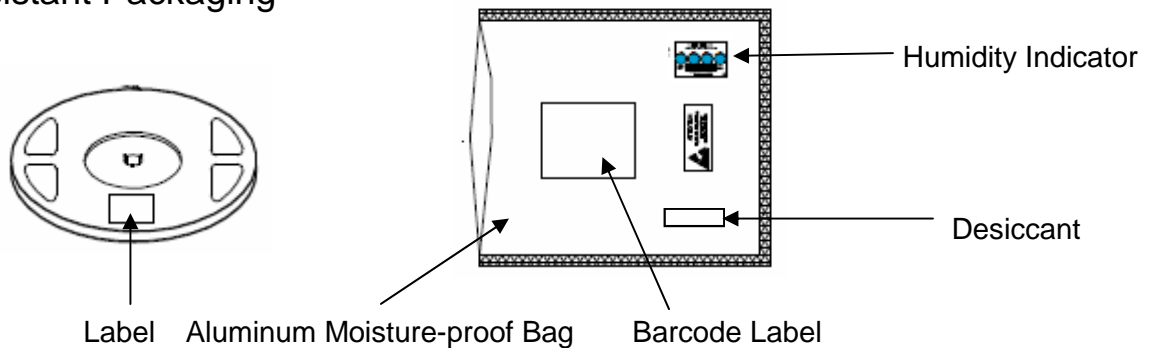
## Reel Dimensions: 7-inch reel



## Carrier Tape Dimensions: Loaded quantity 900 pieces per reel



## Moisture Resistant Packaging



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