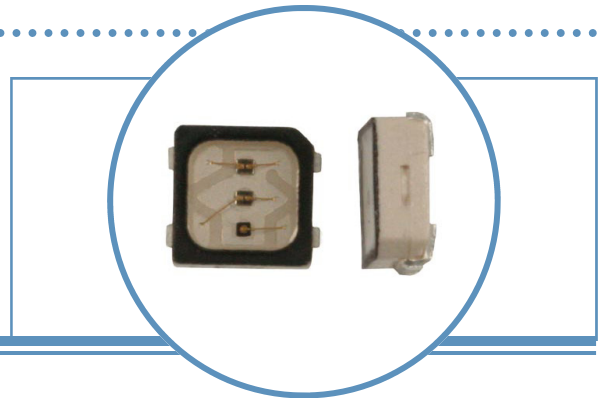


Full-Color Top-View Chip LED (2.7 x 2.4 x .95 mm, 110° View Angle)

OVSTRGBAC6

- Red/green/blue + white in single surface mount package
- 8 mm tape on 7" reel compatible with automatic placement equipment
- Each chip individually addressable to provide color on-demand

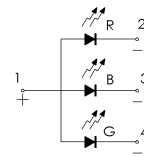
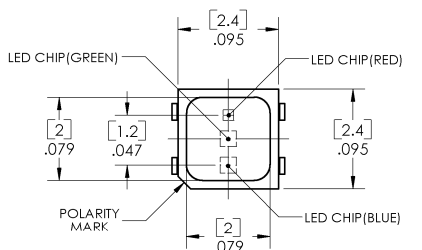


The **OVSTRGBAC6** is a full-color chip LED with multiple viewing angles and the ability to produce all colors of the visible spectrum, plus white. This small package, combined with high-light output, is ideal for miniature applications.

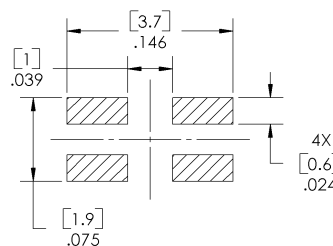
Applications

- Automotive (backlighting in dashboard and switches)
- Telecommunications (indicator and backlighting in telephone and fax)
- Flat backlight (LCDs, membrane switches and symbols)
- Personal/portable appliances (mobile phones, pagers, audio/video players and GPS)

Part Number	Material	Emitted Color	Intensity Typ. mcd	Lens Color
OVSTRGBAC6	AllInGaP / InGaN	Red / Green / Blue	100 / 300 / 80	Water Clear



RECOMMENDED SOLDERING PATTERN



Pin #	Description
1	Common Anode
2	Red Cathode
3	Blue Cathode
4	Green Cathode



DIMENSIONS ARE IN: [MILLIMETERS]
[INCHES]

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.

Absolute Maximum Ratings

SYMBOL	PARAMETER	VALUE			UNIT
		RED	GREEN	BLUE	
P_D	Power Dissipation (per lamp)	----	135	----	mW
I_F	DC Forward Current (per chip)	40	20	20	mA
I_{FP}	Pulsed Forward Current ¹	150	100	100	mA
V_R	Reverse Voltage (per chip)	5	5	5	V
T_{OPR}	Operating Temperature	-30 ~ +85			°C
T_{STG}	Storage Temperature	-40 ~ +100			°C

Note:

1. Duty \leq 1/10 pulse width 10 msec.

Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

RED						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I_V	Luminous Intensity (axial direction)	62	100	170	mcd	$I_F = 20\text{ mA}$
V_F	Forward Voltage	----	2.0	2.8	V	$I_F = 20\text{ mA}$
λ_D	Dominant Wavelength	613.5	----	627.5	nm	$I_F = 20\text{ mA}$
$\Delta\lambda$	Spectral Line Half Width	----	20	----	nm	$I_F = 20\text{ mA}$

GREEN						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I_V	Luminous Intensity (axial direction)	233	300	476	mcd	$I_F = 20\text{ mA}$
V_F	Forward Voltage	----	3.4	3.9	V	$I_F = 20\text{ mA}$
λ_D	Dominant Wavelength	520	----	540	nm	$I_F = 20\text{ mA}$
$\Delta\lambda$	Spectral Line Half Width	----	35	----	nm	$I_F = 20\text{ mA}$

BLUE						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I_V	Luminous Intensity (axial direction)	60	80	128	mcd	$I_F = 20\text{ mA}$
V_F	Forward Voltage	----	3.4	3.9	V	$I_F = 20\text{ mA}$
λ_D	Dominant Wavelength	465	----	480	nm	$I_F = 20\text{ mA}$
$\Delta\lambda$	Spectral Line Half Width	----	25	----	nm	$I_F = 20\text{ mA}$

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Full-Color Top-View Chip LED

OVSTRGBAC6

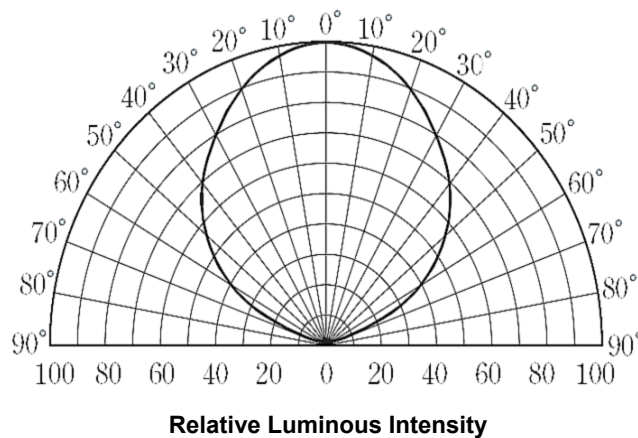
Ranking

LUMINOUS INTENSITY (MCD)			
RANK	RED	GREEN	BLUE
B	62 ~ 87	233 ~ 333	60 ~ 88
C			88 ~ 128
D		333 ~ 476	60 ~ 88
E	88 ~ 128		
F	87 ~ 122	233 ~ 333	60 ~ 88
G			88 ~ 128
H		333 ~ 476	60 ~ 88
J			88 ~ 128
K	122 ~ 170	233 ~ 333	60 ~ 88
L			88 ~ 128
M		333 ~ 476	60 ~ 88
N			88 ~ 128

Notes:

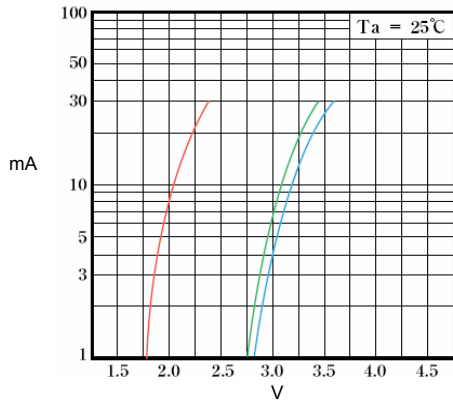
1. All ranks will be included per delivery. Rank ratio will be based on the chip distribution.
2. To designate luminous intensity ranks, please contact OPTEK.

Beam Pattern

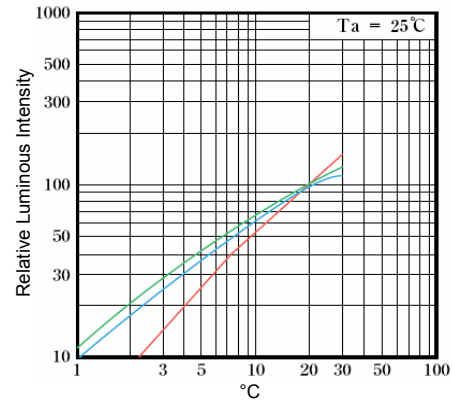


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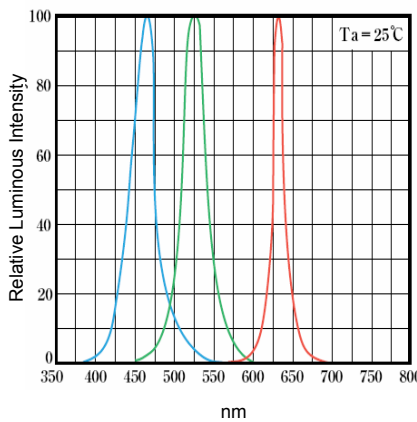
Typical Electro-Optical Characteristics Curves



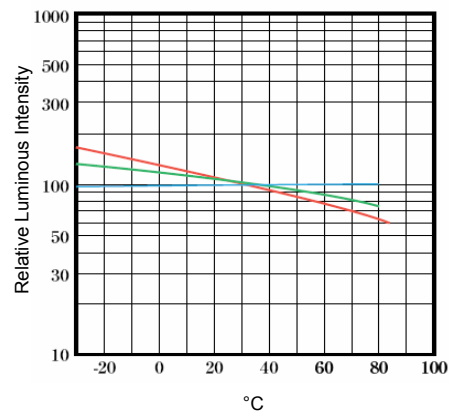
Forward Current vs Forward Voltage



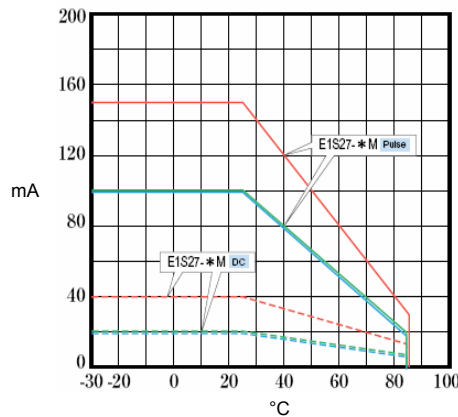
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Wavelength



Relative Luminous Intensity vs Ambient Temperature

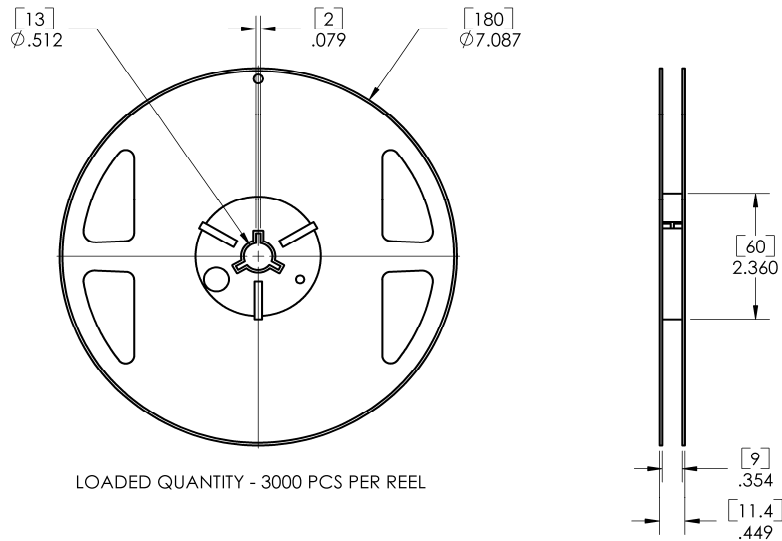


Forward Current vs Ambient Temperature

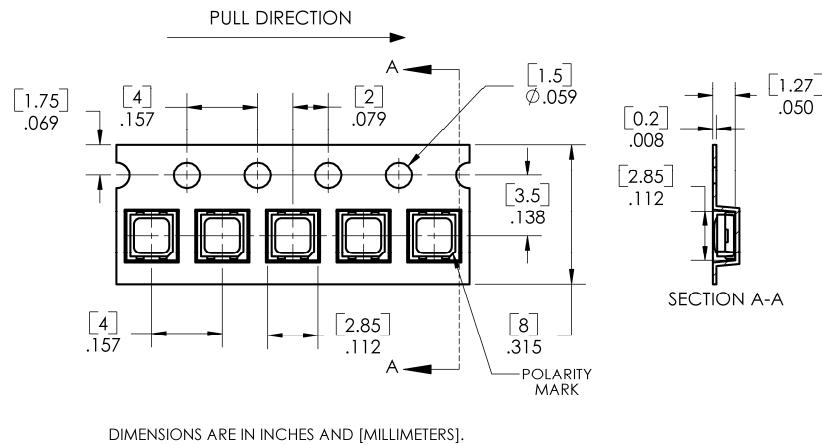
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Full-Color Top-View Chip LED OVSTRGBAC6

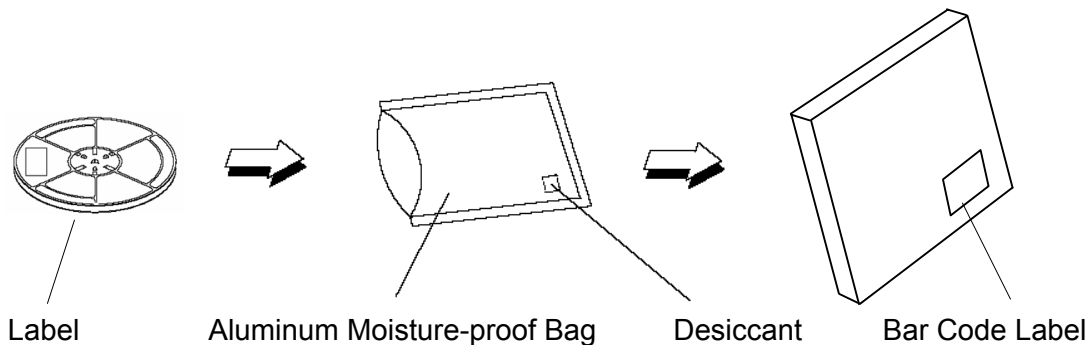
Packing Information



Carrier Tape Dimensions: Loaded quantity 3000 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.