

# 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



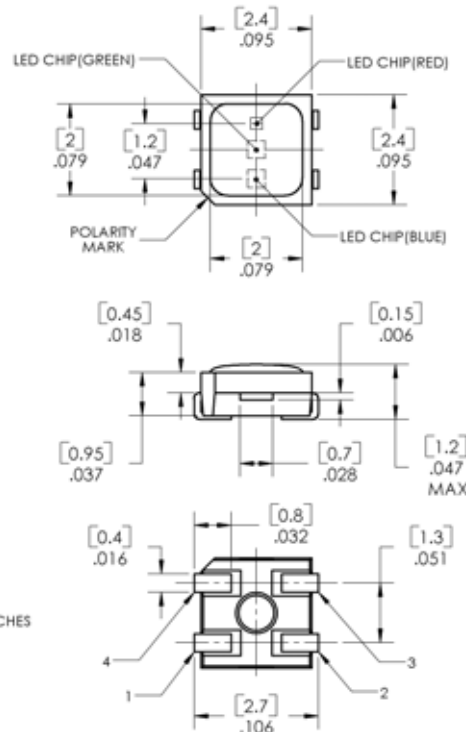
The **OVSTRGBAC6** is a full-color chip LED with multiple viewing angles and the ability to produce all colors of the visible spectrum, plus white. This small package, combined with high-light output, is ideal for miniature applications.

## 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	AlInGaP/InGaN	Red/Green/Blue	100 / 300 / 80	Water Clear

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



DIMENSIONS ARE IN INCHES AND [MILLIMETERS].



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

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### 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 <sup>1</sup>	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	$I_F = 20\text{ mA}$
$\lambda_D$	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	$I_F = 20\text{ mA}$
$\lambda_D$	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	$I_F = 20\text{ mA}$
$\lambda_D$	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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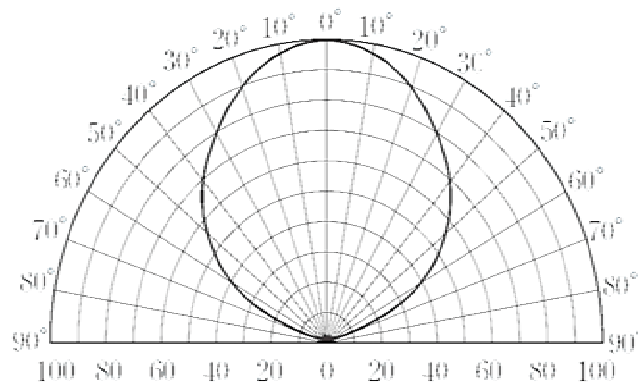
### Ranking

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



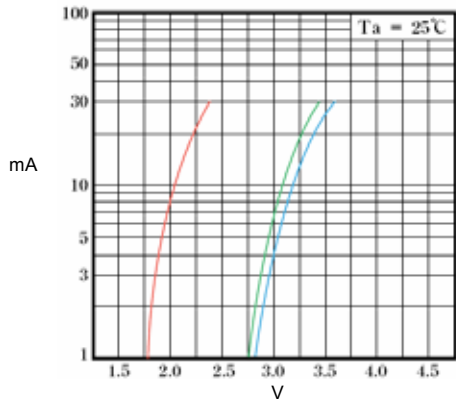
**Relative Luminous Intensity**

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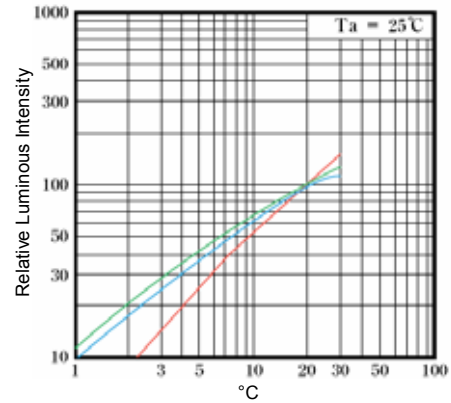
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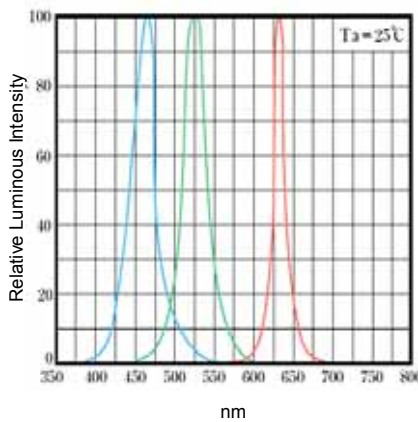
## Typical Electro-Optical Characteristics Curves



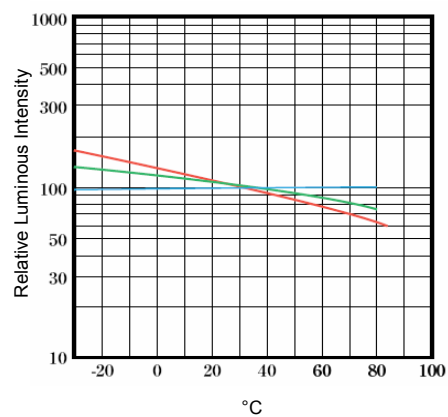
Forward Current vs Forward Voltage



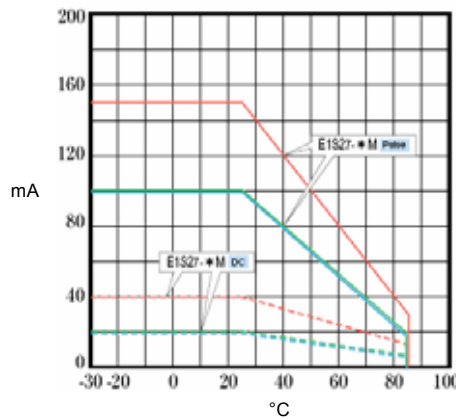
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Wavelength



Relative Luminous Intensity vs Ambient Temperature



Forward Current vs Ambient Temperature

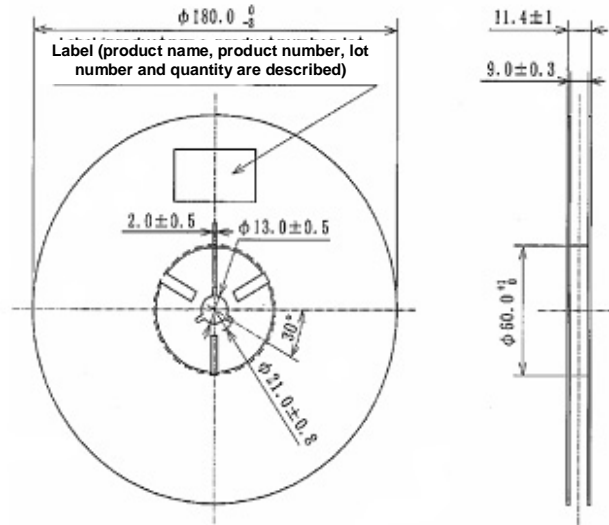
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## OVSTRGBAC6



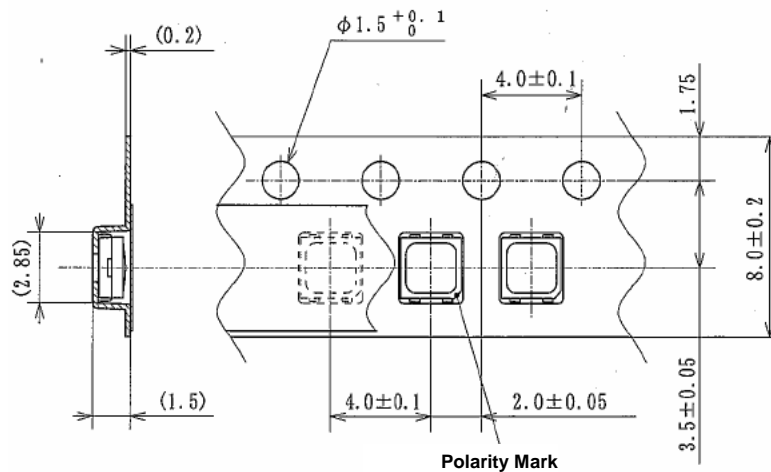
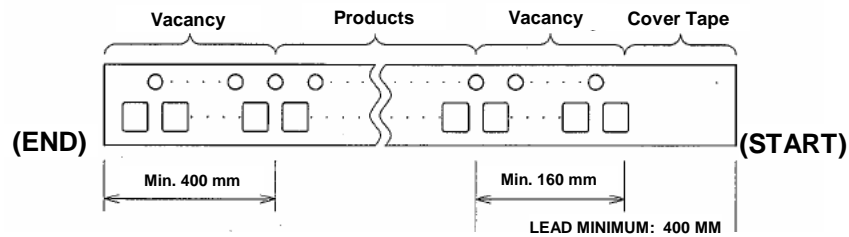
### Packing Information



Carrier Tape Dimensions: Loaded quantity 3000 pieces per reel

TAPING DIMENSIONS

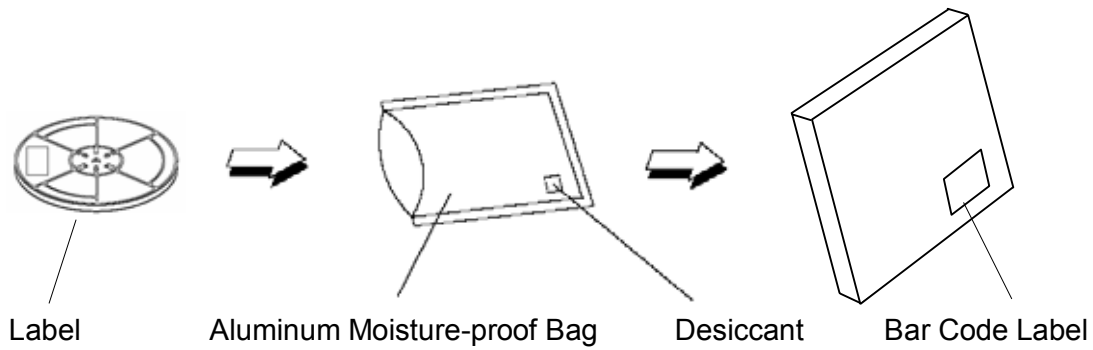
UNIT: MM



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## Moisture Resistant Reel Packaging



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