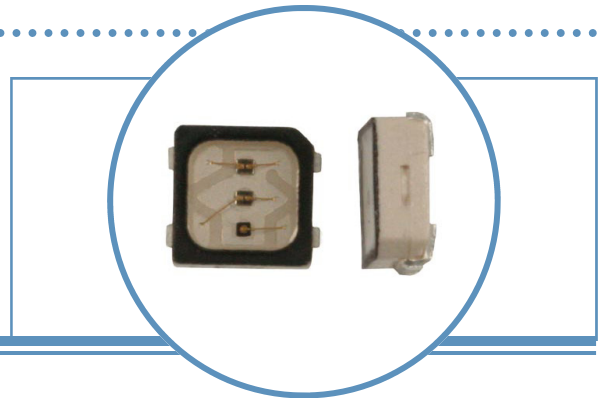


Full-Color Top-View Chip LED (2.7 x 2.4 x .95 mm, 110° View Angle)

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

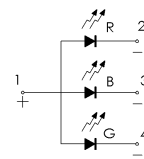
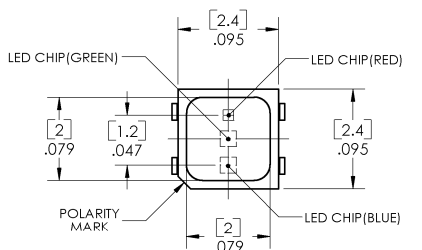


The **OVSTRGBAC6** is a full-color chip LED with multiple viewing angles and the ability to produce all colors of the visible spectrum, plus white. This small package, combined with high-light output, is ideal for miniature applications.

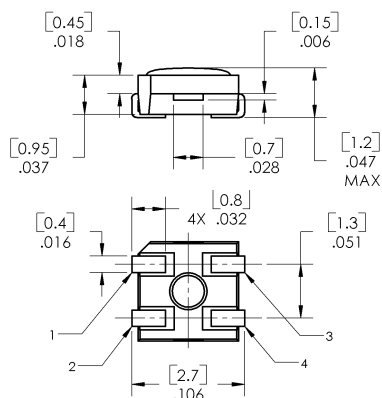
Applications

- 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)

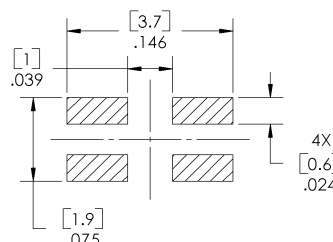
| Part Number | Material | Emitted Color | Intensity Typ. mcd | Lens Color |
|-------------|-----------------|--------------------|--------------------|-------------|
| OVSTRGBAC6 | AllnGaP / InGaN | Red / Green / Blue | 100 / 300 / 80 | Water Clear |



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



RECOMMENDED SOLDERING PATTERN



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

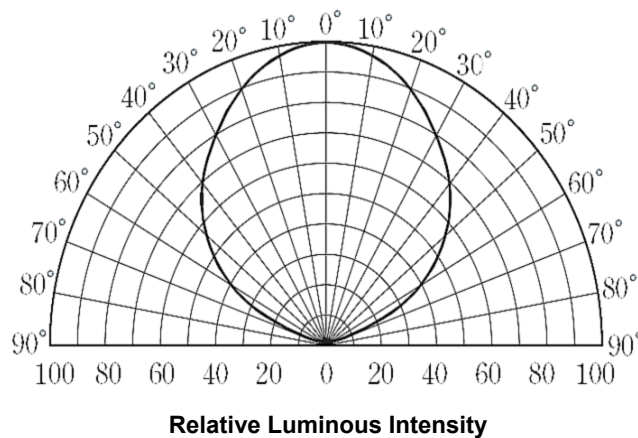
Ranking

| 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:

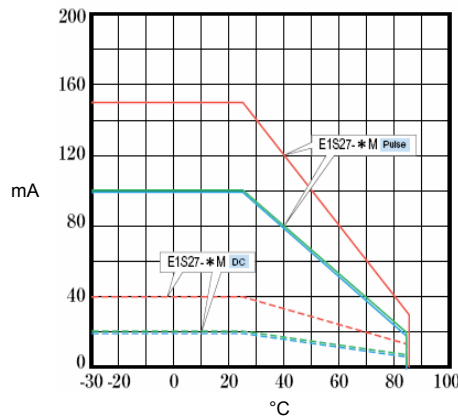
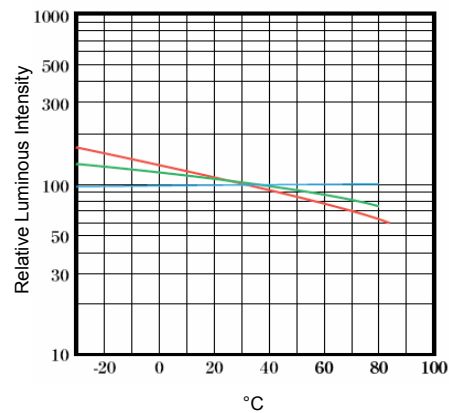
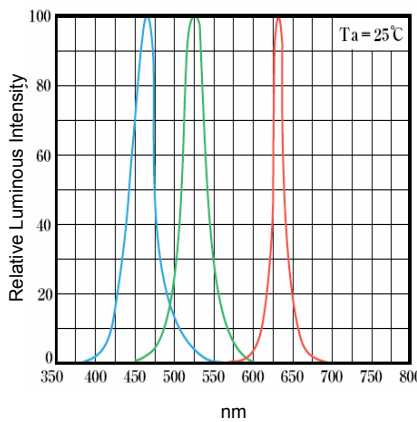
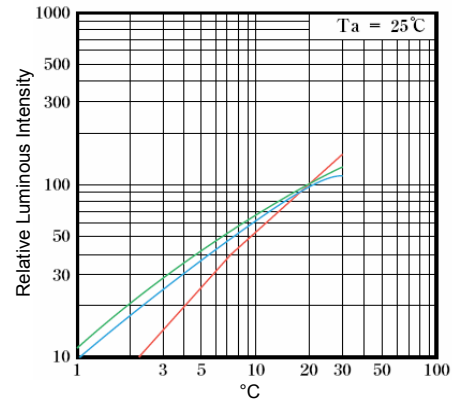
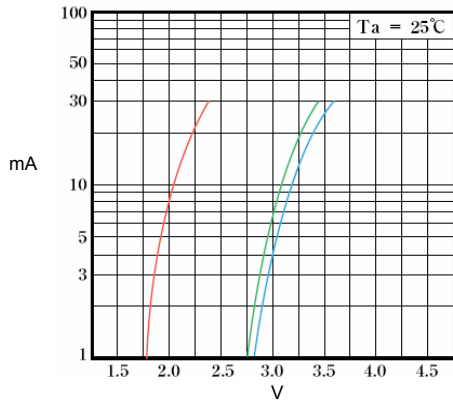
1. All ranks will be included per delivery. Rank ratio will be based on the chip distribution.
2. To designate luminous intensity ranks, please contact OPTEK.

Beam Pattern



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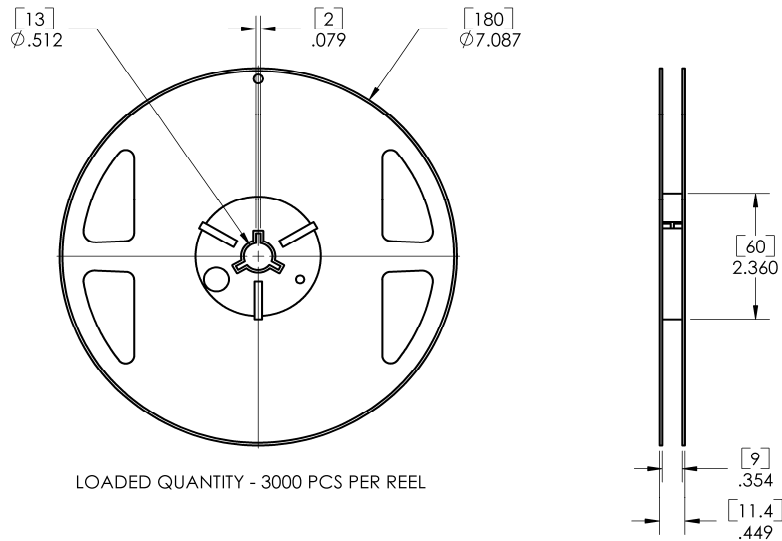
Typical Electro-Optical Characteristics Curves



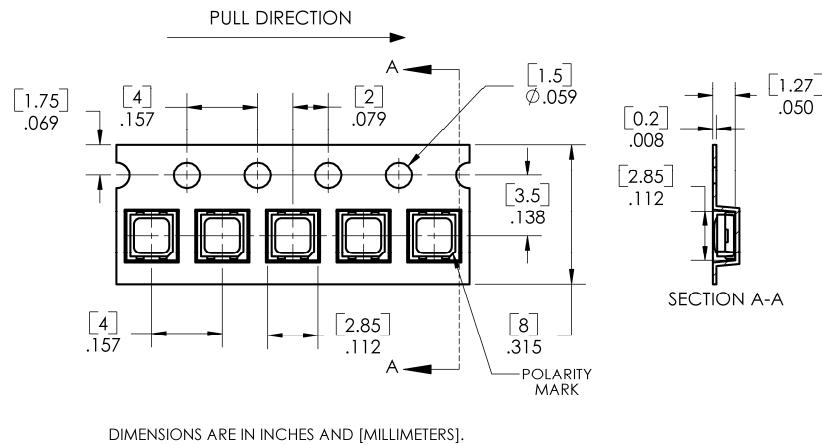
OPTeK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Full-Color Top-View Chip LED OVSTRGBAC6

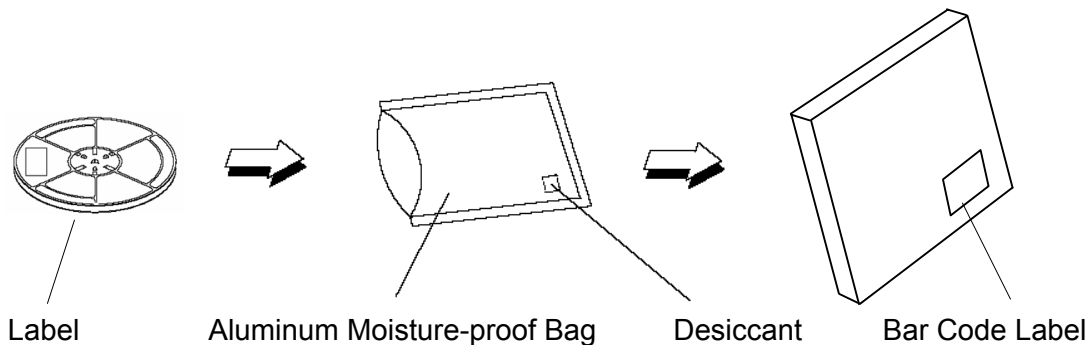
Packing Information



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.