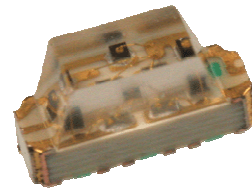


Full-Color Right-Angle SMD (120° Viewing Angle)

OVSRRGBBC9

- Full-color type
- Compatible with automatic placement equipment
- Compatible with infrared and vapor phase reflow solder process

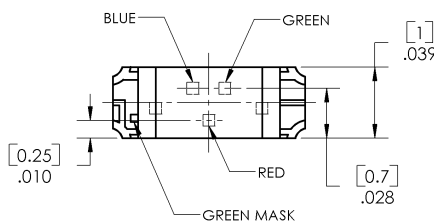
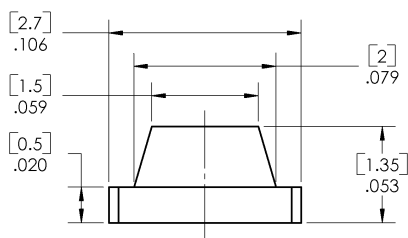


The **OVSRRGBBC9** is a compact full-color (RGB) right-angle surface mount LED with a 120° viewing angle. The device can be used in smaller boards with a higher packing density, which reduces storage space and makes it practical for use in miniature and portable applications.

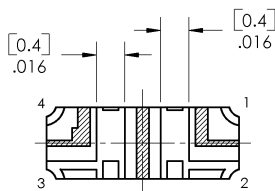
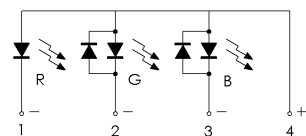
Applications

- Automotive backlighting for dashboard and switches
- Telecommunications (backlighting for telephones and faxes)
- Flat backlight for LCD, switch and symbol

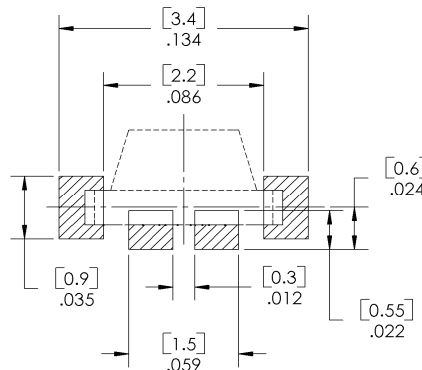
Part Number	Material	Emitted Color	Intensity Typ. mcd	Lens Color
OVSRRGBBC9	AlInGaN	Red	72 mcd	Water Clear
	InGaN	Green	180 mcd	
	InGaN	Blue	45 mcd	



UNLESS OTHERWISE MENTIONED:
TOLERANCE = $\pm .1$ MM
UNIT = mm

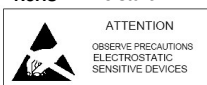


FOR REFLOW SOLDERING PURPOSE



1, 2, 3 CATHODE 4 ANODE

DIMENSIONS ARE IN INCHES
AND [MILLIMETERS].



**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 Right-Angle SMD

OVSRRGBBC9



Absolute Maximum Ratings

T_A = 25° C (on metal core PCB¹) unless otherwise noted

Storage Temperature Range	-40 ~ +90° C
Operating Temperature Range	-40 ~ +85° C
Reverse Voltage	5 V
Continuous Forward Current	25 mA
Peak Forward Current (10% Duty Cycle, 1 KHz)	Red = 60 mA Green = 100 mA Blue = 100 mA
Power Dissipation	Red = 60 mW Green = 110 mW Blue = 110 mW
Soldering Temperature (for 5 seconds)	+260° C

Electrical Characteristics

RED						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I _V	Luminous Intensity (axial direction)	45	72	----	mcd	I _F = 20 mA
2 Θ _{1/2}	Viewing Angle	----	120	----	deg	I _F = 20 mA
λ _P	Peak Wavelength	----	632	----	nm	I _F = 20 mA
λ _D	Dominant Wavelength	615	----	630	nm	I _F = 20 mA
Δλ	Spectrum Radiation Bandwidth	----	20	----	nm	I _F = 20 mA
V _F	Forward Voltage	----	2.0	2.4	V	I _F = 20 mA
I _R	Reverse Current	----	----	10	μA	V _R = 5 V

Electrical Characteristics

GREEN						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I _V	Luminous Intensity (axial direction)	112	180	----	mcd	I _F = 20 mA
2 Θ _{1/2}	Viewing Angle	----	120	----	deg	I _F = 20 mA
λ _P	Peak Wavelength	----	518	----	nm	I _F = 20 mA
λ _D	Dominant Wavelength	510	----	540	nm	I _F = 20 mA
Δλ	Spectrum Radiation Bandwidth	----	35	----	nm	I _F = 20 mA
V _F	Forward Voltage	----	3.3	3.9	V	I _F = 20 mA
I _R	Reverse Current	----	----	50	μA	V _R = 5 V

Notes:

1. Luminous intensity tolerance is ± 10%.
2. Dominant wavelength tolerance is ± 1 nm.
3. Forward voltage tolerance is ± 0.1 V.

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Full-Color Right-Angle SMD

OVSRRGBBC9

Electrical Characteristics

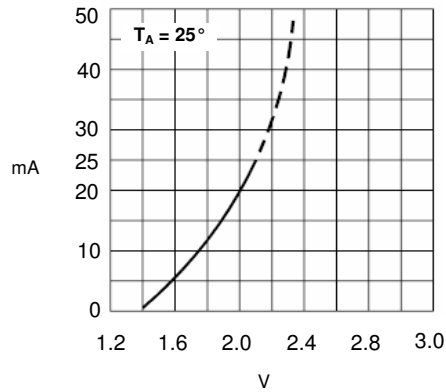
BLUE						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I_V	Luminous Intensity (axial direction)	28.5	45	----	mcd	$I_F = 20 \text{ mA}$
$2\Theta_{1/2}$	Viewing Angle	----	120	----	deg	$I_F = 20 \text{ mA}$
λ_P	Peak Wavelength	----	468	----	nm	$I_F = 20 \text{ mA}$
λ_D	Dominant Wavelength	460	----	480	nm	$I_F = 20 \text{ mA}$
$\Delta\lambda$	Spectrum Radiation Bandwidth	----	35	----	nm	$I_F = 20 \text{ mA}$
V_F	Forward Voltage	----	3.3	3.9	V	$I_F = 20 \text{ mA}$
I_R	Reverse Current	----	----	50	μA	$V_R = 5 \text{ V}$

Notes:

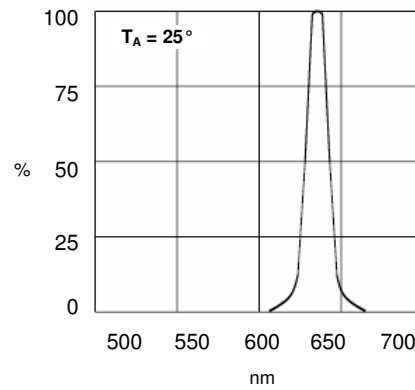
1. Luminous intensity tolerance is $\pm 10\%$.
2. Dominant wavelength tolerance is $\pm 1 \text{ nm}$.
3. Forward voltage tolerance is $\pm 0.1 \text{ V}$.

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

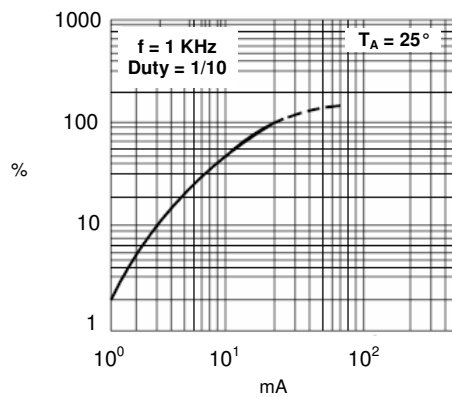
Typical Electro-Optical Characteristics Curves – Red



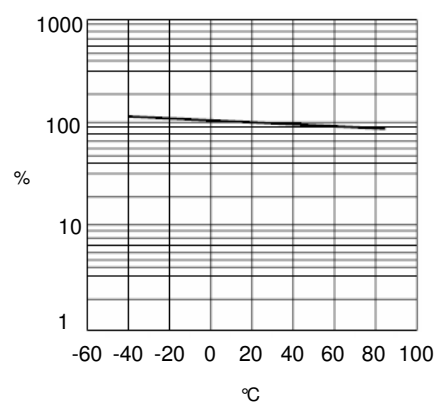
Forward Current vs Forward Voltage



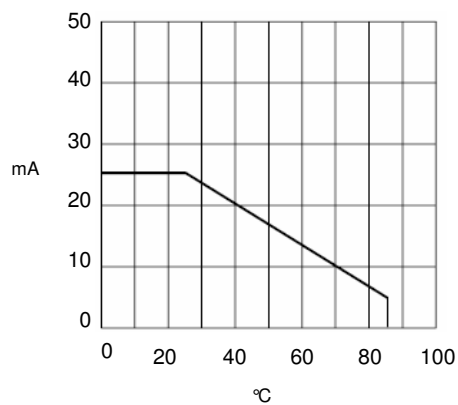
Relative Luminous Intensity vs Wavelength



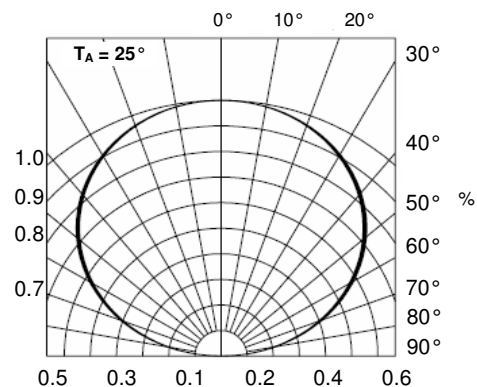
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature



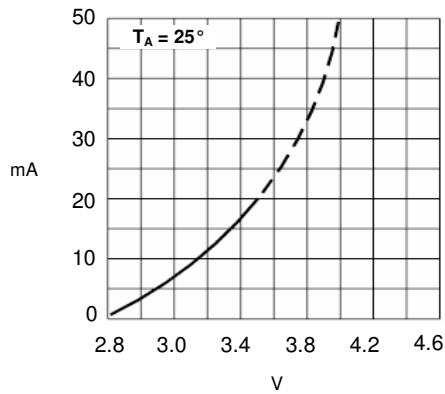
Forward Current vs Ambient Temperature



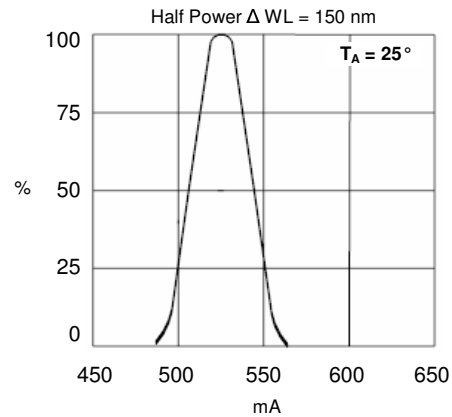
Radiation Diagram

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

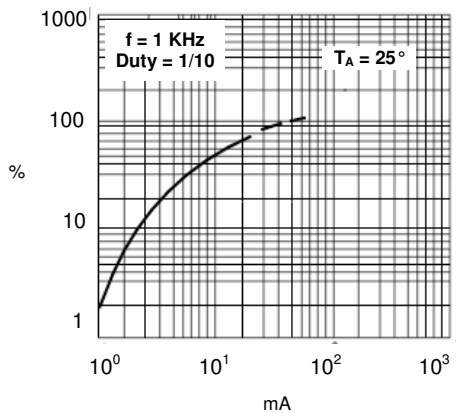
Typical Electro-Optical Characteristics Curves – Green



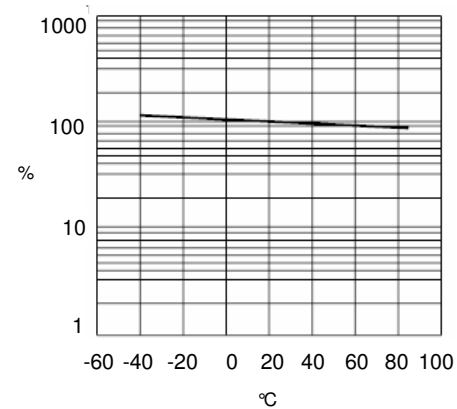
Forward Current vs Forward Voltage



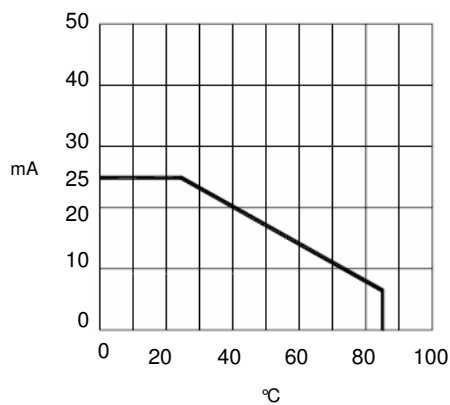
Relative Luminous Intensity vs Wavelength



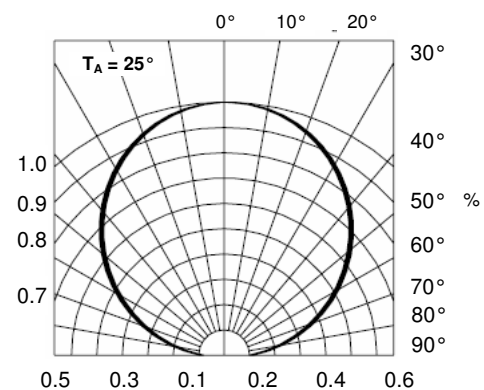
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature



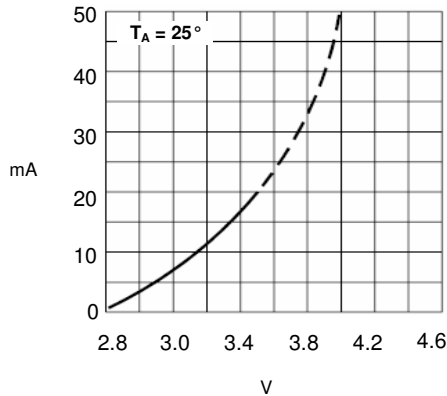
Forward Current vs Ambient Temperature



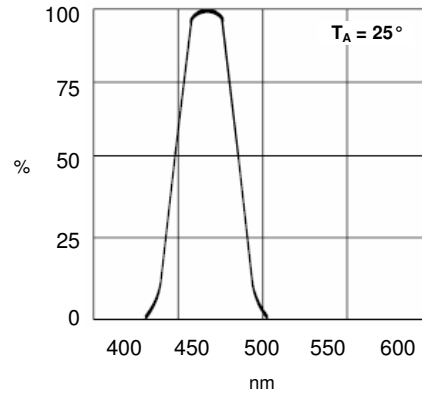
Radiation Diagram

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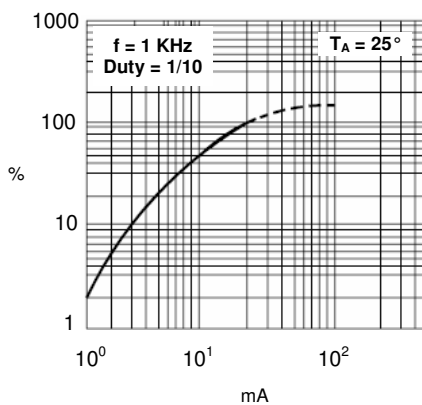
Typical Electro-Optical Characteristics Curves – Blue



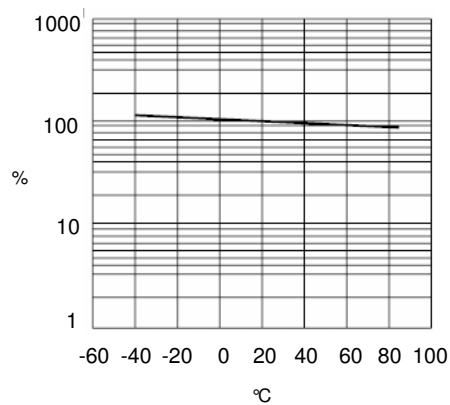
Forward Current vs Forward Voltage



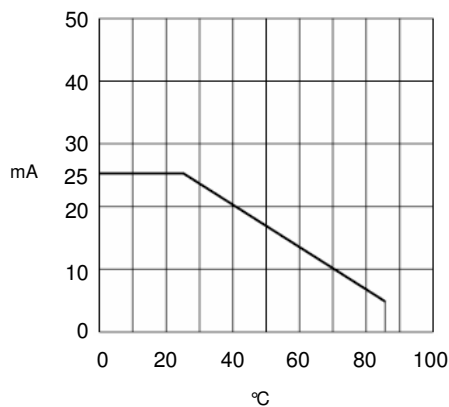
Relative Luminous Intensity vs Wavelength



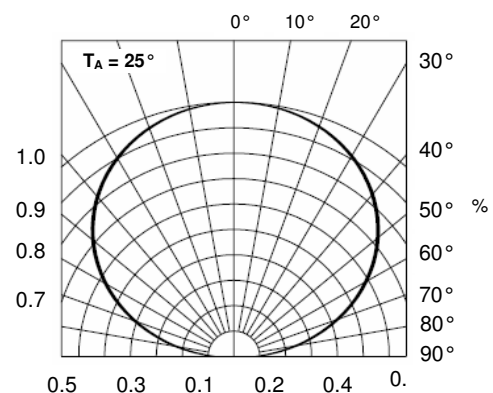
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature



Forward Current vs Ambient Temperature



Radiation Diagram

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

Technical drawing of a reel showing top and side views with dimensions.

Top View Dimensions:

- [13] $\varnothing.512$
- [2.2] .067
- [178] $\varnothing 7.008$

Side View Dimensions:

- [60] 2.360
- [9] .354
- [12] .473

LOADED QUANTITY PER REEL - 2000 PCS PER REEL

PROGRESSIVE DIRECTION →

SECTION A-A

POLARITY

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

TOLERANCE = ± 0.1 mm

Diagram illustrating the components of a moisture-proof container for a sample:

- Label:** A circular label with a central symbol and four triangular markings.
- Aluminum Moisture-proof Bag:** A rectangular bag with a small square **Desiccant** inside.
- Bar Code Label:** A rectangular label with a bar code, attached to the side of the bag.

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