Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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High Visibility, Double Reflection LEDs
DR-Series

Get Twice the Brightness or Use Half the Energy of Typical LEDs

- Double reflection structure improves beam directivity for increased brightness comparable to incandescent and similar forms of lighting.
- Compact, 8.5 mm diameter LEDs with large luminous area.
- Designed for high-current applications.
- Greater purity of hue compared to other light sources.
- Available in red, orange, yellow, blue, green and blue-green.
- LEDs require little or no preventive maintenance, increase reliability and reduce cost of ownership compared to incandescent lighting.
- Through-hole mounting models; surface-mount versions available soon.
- 100% quality: each LED is tested before shipping.

Ordering Information

■ Through-hole Mounting Models

Color	Dominant wavelength	Terminal type	Model number
Red	630 nm, typical	Through-hole	**2MDR01-85R1A**
Orange	608 nm, typical		**2MDR01-85O1A**
Yellow	590 nm, typical		**2MDR01-85Y1A**
Green	530 nm, typical		**2MDR01-85G1A**
Blue-green	503 nm, typical		**2MDR01-85BG1A**
Blue	470 nm, typical		**2MDR01-85B1A**

Note: Higher intensity bins available upon request.

■ Typical Applications

- Vehicle lighting
- Consumer interior lighting
- Traffic signals
- Display/signage for indoor or outdoor use
- Light source for optical sensor

Specifications

■ Absolute Maximum Rating (at Ta=25°C)

Parameter		Rated value	Condition
Forward current	If	50 mA	---
Pulse forward current	IfP	70 mA	---
Reverse voltage	Vr	5 V	Ir = 100 μA (red, orange, yellow) Ir = 100 μA (green, blue-green, blue)
Operating temperature	Topr	-30° to 85°C (-22° to 185°F)	---
Storage temperature	Tstg	-30° to 100°C (-22° to 212°F)	---
Operating humidity		30 to 90% RH	---
Solder temperature	Tsol	260°C (500°F) for 6 seconds max.	

■ Optical and Electrical Characteristics (at Ta=25°C)

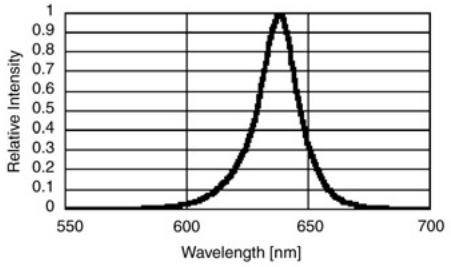
The color of light emitted by an LED is normally identified as a peak wavelength (lpk) measured in nanometers (nm) and also by spectral half bandwidth (secondary).

Parameter		Specification				Condition
		Color	Minimum	Typical	Maximum	
Forward voltage	V_F	Red, orange, yellow	1.7 V	2.0 V	2.6 V	I_F = 20 mA
		Green, blue-green, blue	3.0 V	3.4 V	3.8 V	
Reverse current	I_r	Red, orange, yellow	--	--	100 μA	V_r = 5 V
		Green, blue-green, blue	--	--	100 μA	
Peak wavelength	λ_{peak}	Red	--	639 nm	--	I_F = 20 mA
		Orange	--	612 nm	--	
		Yellow	--	592 nm	--	
		Green	--	520 nm	--	
		Blue-green	--	525 nm	--	
		Blue	--	460 nm	--	
Spectral half-width	$\triangle\lambda$ 1/2	Red	--	17	--	I_F = 20 mA
		Orange	--	17	--	
		Yellow	--	17	--	
		Green	--	45	--	
		Blue-green	--	35	--	
		Blue	--	25	--	
Dominant wavelength	λ_d	Red	622 nm	630 nm	637 nm	I_F = 20 mA
		Orange	600 nm	608 nm	615 nm	
		Yellow	583 nm	590 nm	600 nm	
		Green	520 nm	530 nm	540 nm	
		Blue-green	498 nm	503 nm	508 nm	
		Blue	465 nm	470 nm	475 nm	
Luminous intensity	Iv	Red	850 mcd	6000 mcd	--	I_F = 20 mA
		Orange	850 mcd	4000 mcd	--	
		Yellow	850 mcd	6000 mcd	--	
		Green	850 mcd	8000 mcd	--	
		Blue-green	850 mcd	5000 mcd	--	
		Blue	850 mcd	2500 mcd	--	

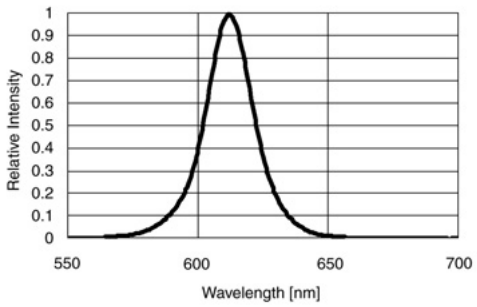
Engineering Data

■ Relative Intensity vs. Wavelength

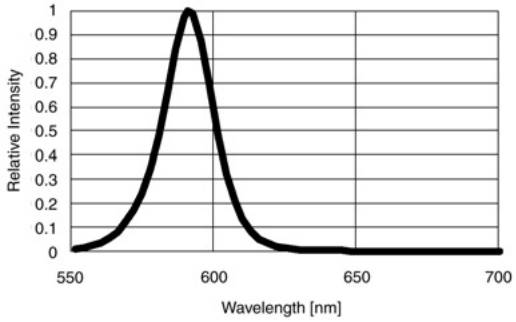
Red



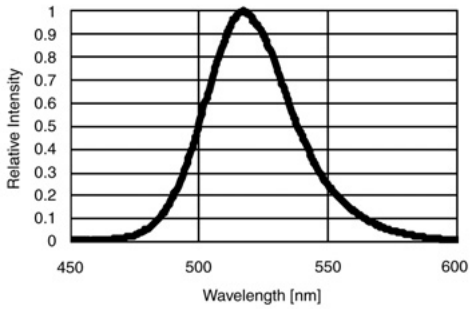
Orange



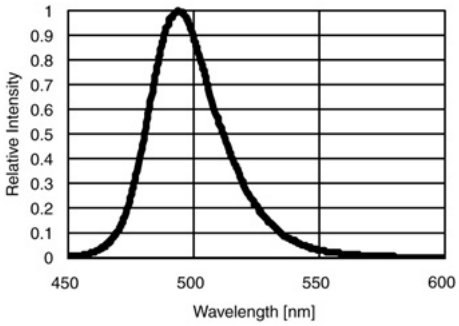
Yellow



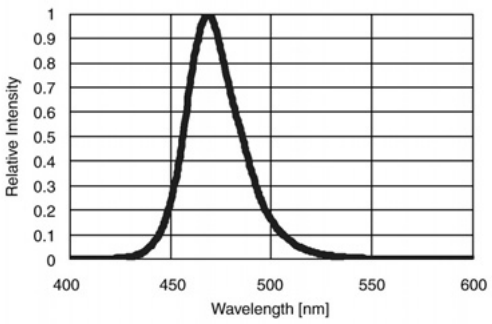
Green



Blue-green

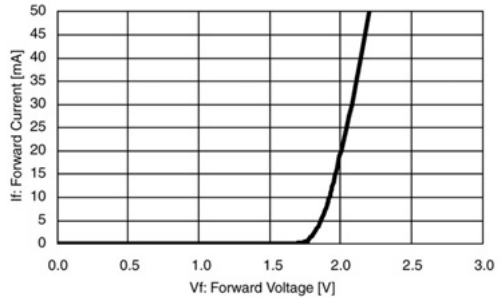


Blue

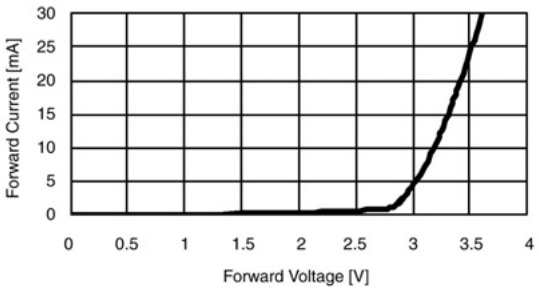


■ Forward Current vs. Forward Voltage

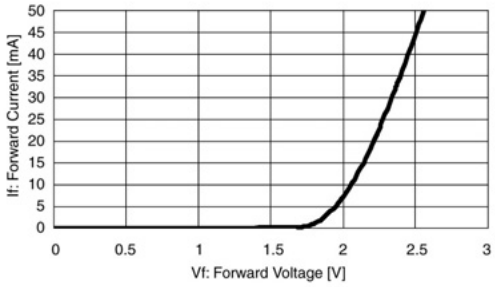
Orange, Yellow



Green, Blue-green, Blue

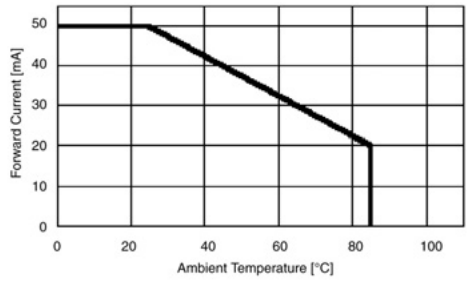


Red

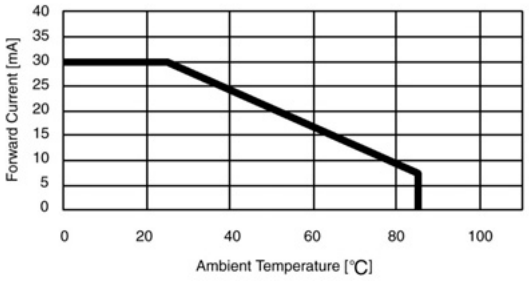


■ Forward Current vs. Ambient Temperature

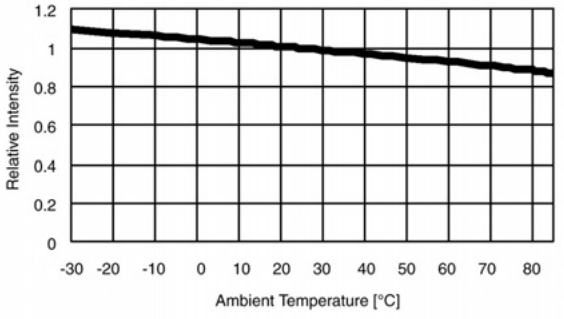
Red, Orange, Yellow



Green, Blue-green, Blue

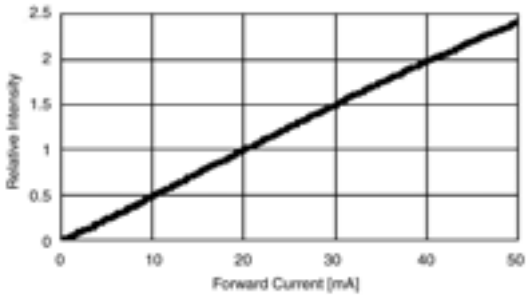


■ Relative Intensity vs. Ambient Temperature

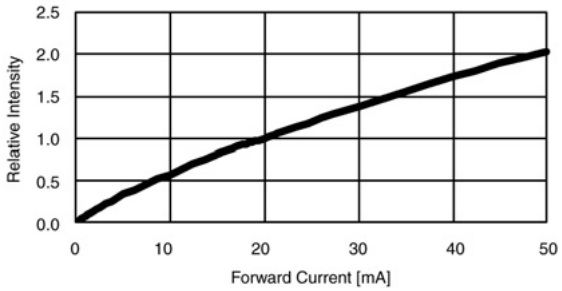


■ Relative Intensity vs. Forward Current

Red, Orange, Yellow

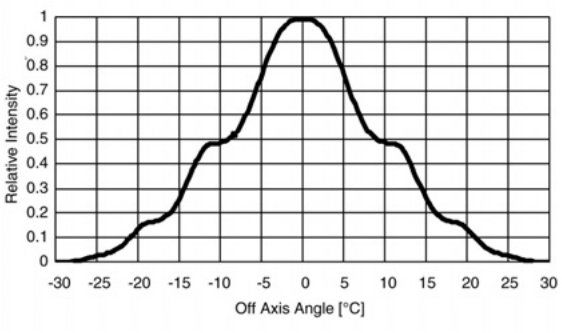


Green, Blue-green, Blue

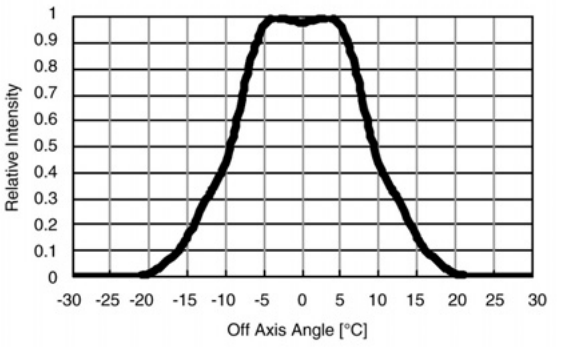


■ Relative Intensity vs. Off Axis Angle

Red, Orange, Yellow



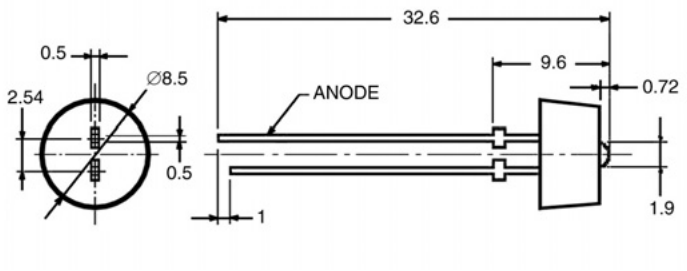
Green, Blue-green, Blue



Dimensions

Unit: mm

■ All Colors



Precautions

■ General

1. Do not stick any flux or chemical on the surface of the envelope.
2. Do not apply heavy pressure to the DR LEDs as it will damage them.

■ Soldering

1. The DR LEDs should not be soldered above the tie bar because of the thin flashing.
2. Solder the leads at 260°C (500°F) for 6 seconds max., 1.6 mm away from the epoxy envelope.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters into inches, divide by 25.4

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