

# Round LED

## 5mm, Blue

multicomp<sup>PRO</sup>

RoHS  
Compliant



### Features

- Low power consumption
- Excellent product quality and reliability
- Lead-free device

### Applications

- Electronic signs and signals
- Bright ambient lighting conditions
- Backlight
- General purpose indicators

Device Selection Guide			
Part No.	Chip		Lens color
MP008539	Material	Emitted color	Blue Diffuse
	InGaN	Blue	

Absolute Maximum Ratings: (T <sub>A</sub> = 25°C)			
Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>D</sub>	120	mW
Forward Current	I <sub>F</sub>	30	mA
Peak Forward Current <sup>*1</sup>	I <sub>FP</sub>	100	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>OPR</sub>	-40 to +85	°C
Storage Temperature	T <sub>STG</sub>	-40 to +85	°C
Soldering Temperature <sup>*2</sup>	T <sub>SOI</sub>	260°C For 5 Seconds	

Notes:

\*1: Pulse width ≤ 0.1ms, Duty cycle ≤ 1/10

\*2: 1.66mm below package base.

Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
Element14.com/multicomp-pro

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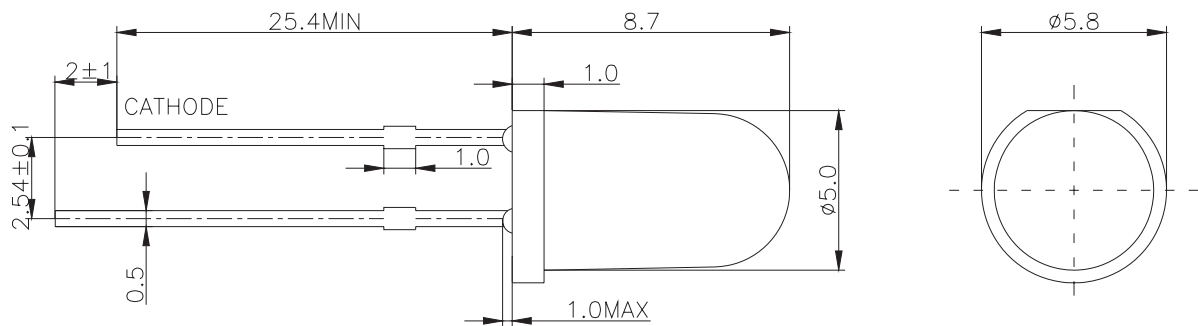
Electrical / Optical Characteristics at T <sub>A</sub> = 25°C						
Parameter	Symbol	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage	V <sub>F</sub>	2.7	3.2	3.5	V	IF=20mA
Reverse Current	I <sub>R</sub>	—	—	10	μA	VR=5V
Dominant Wavelength	λ <sub>d</sub>	464	470	474	nm	IF=20mA
Peak Wavelength	λ <sub>P</sub>	—	465	—	nm	
Spectral line Half-width	Δλ	—	25	—	nm	
Luminous Intensity	I <sub>v</sub>	600	1000	1700	mcd	
Power Angle	2θ <sub>1/2</sub>	—	30	—	Deg.	

**Remarks:**

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or dominant wavelength), the typical accuracy of the sorting process is as follows:

1. Dominant Wavelength: +/-1nm
2. Chromatic Coordinates: +/-0.01
3. Luminous Intensity: +/-15%
4. Forward Voltage: +/-0.1V
5. The design and working current for LED is not less than 2mA.

### Dimensions



Dimensions : Millimetres

**Notes:**

1. Tolerance is ±0.25 unless otherwise noted.
2. Lead spacing is measured where the leads emerge from the package.
3. Specifications are subject to change without notice.

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### VF Rank

Rank	VF(V)		Condition
	Min	Max	
F1F2	2.7	2.9	IF=20mA
G1G2	2.9	3.1	
H1H2	3.1	3.3	
I1I2	3.3	3.5	

Tolerance :  $\pm 0.1V$

### $\lambda D$ Rank

Rank	$\lambda D$ (nm)		Condition
	Min	Max	
B8	464	466	IF=20mA
B9	466	468	
BA	468	470	
BB	470	472	
BC	472	474	

Tolerance :  $\pm 0.1nm$

### IV Rank

Rank	IV(mcd)		Condition
	Min	Max	
M	600	1000	IF=20mA
N	1000	1700	

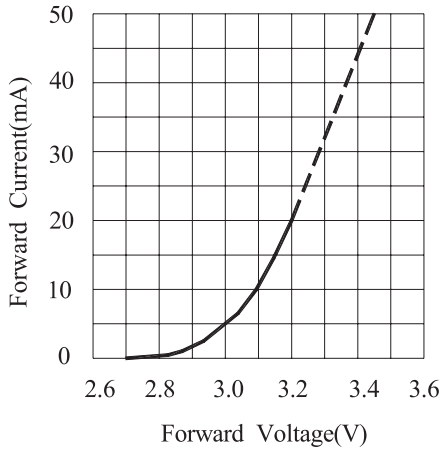
Tolerance :  $\pm 15\%$

# Round LED

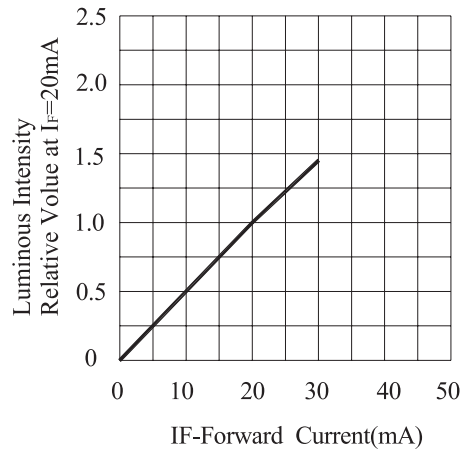
## 5mm, Blue

### Typical Electrical/Optical Characteristics Curves

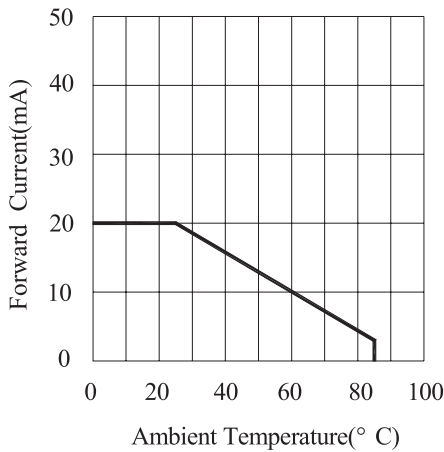
( Ta=25°C Unless Otherwise Noted )



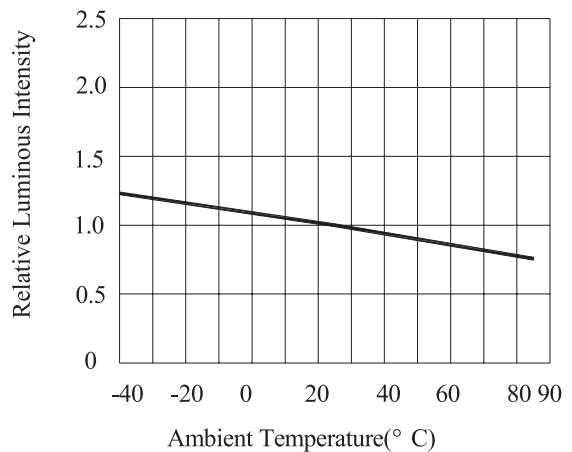
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



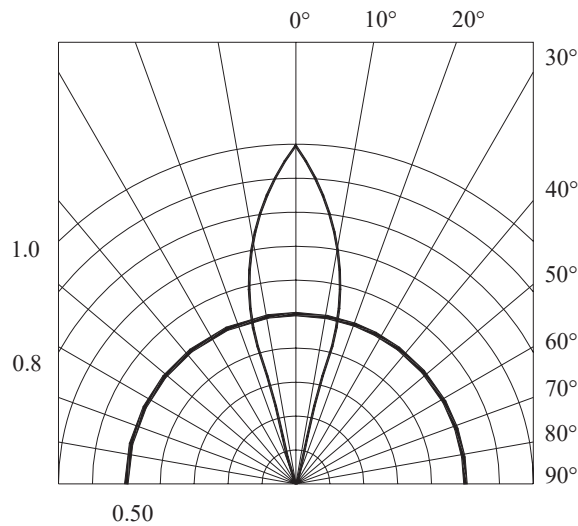
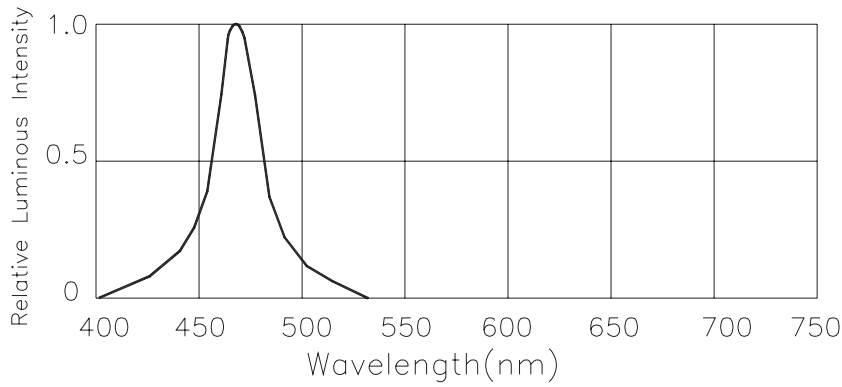
FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

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SPATIAL DISTRIBUTION

### Part Number Table

Description	Part Number
Round LED, Blue, 465nm, 30°, 1000mcd, Through hole	MP008539

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