



## Electrical/Optical characteristics at T<sub>A</sub> = 25°C

Parameter	Symbol	Min.	Type	Max.	Unit	Test
Luminous Intensity	IV	900	1,450	2,050	mcd	IF = 20mA
Viewing Angle	2θ½		20		Deg.	IF = 20mA
Peak Emission Wavelength	λp		660		nm	
Dominant Wavelength	λD		643		nm	IF = 20mA
Spectral Line Half-Width	Δλ		20		nm	
Forward Voltage	VF	1.7	1.85	2.5	V	IF = 20mA
Power Dissipation	Pd			85	mW	
Peak Forward Current ( Duty1/10 @ 1kHz )	IF (Peak)			100	mA	
Recommended Operating Current	IF (Rec)		20		mA	

## Absolute Maximum Ratings : (T<sub>A</sub> = 25°C)

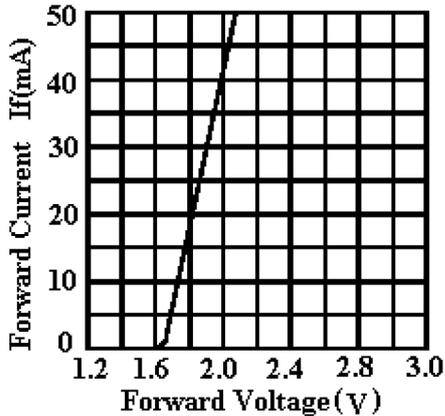
Reverse Voltage	: 5 Volt
Reverse Current	: 10μA ( V <sub>R</sub> = 5V )
Operating Temperature Range	: -40°C to +85°C
Storage Temperature Range	: -40°C to +100°C
Lead Soldering Temperature Range {1.6mm (1/16 inch) from body}	: 260°C For 5 Seconds

## Reliability test For LED Lamps

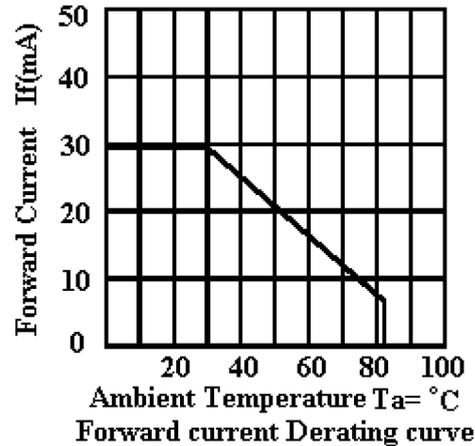
Item	Test Conditions	Test Time/Cycle	Sample Size	Ac/Re
DC Operating Life	Temperature : 25°C IF : 20mA	1,000 Hrs.	76 Pcs.	0/1
High Temperature High Humidity	Temperature : 85°C 85%RH			
High Temperature Storage	Temperature : 100°C			
Low Temperature Storage	Temperature : -40°C			
Temperature Cycling	85°C~ 25°C~ -35°C 15min~ 5min~ 15min	15 Cycles		
Thermal Shock	85°C~ 25°C~ -10°C 5min~ 10sec ~ 5min			
Solder Heat	Temperature : 260°C ±5°C	10 Sec.		

## Typical Electro-Optical Characteristics Curves

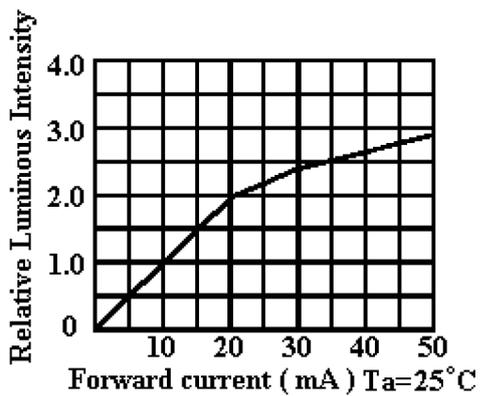
### Ultra Red (GaAlAs) $\lambda_P=660\text{nm}$



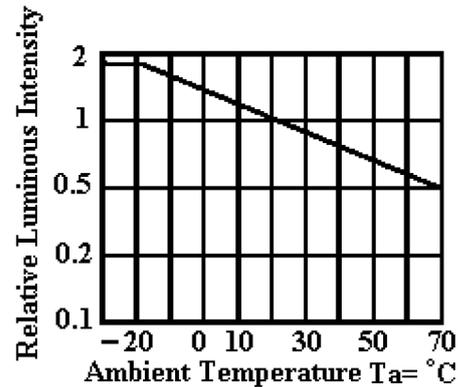
Forward current vs. Forward Voltage



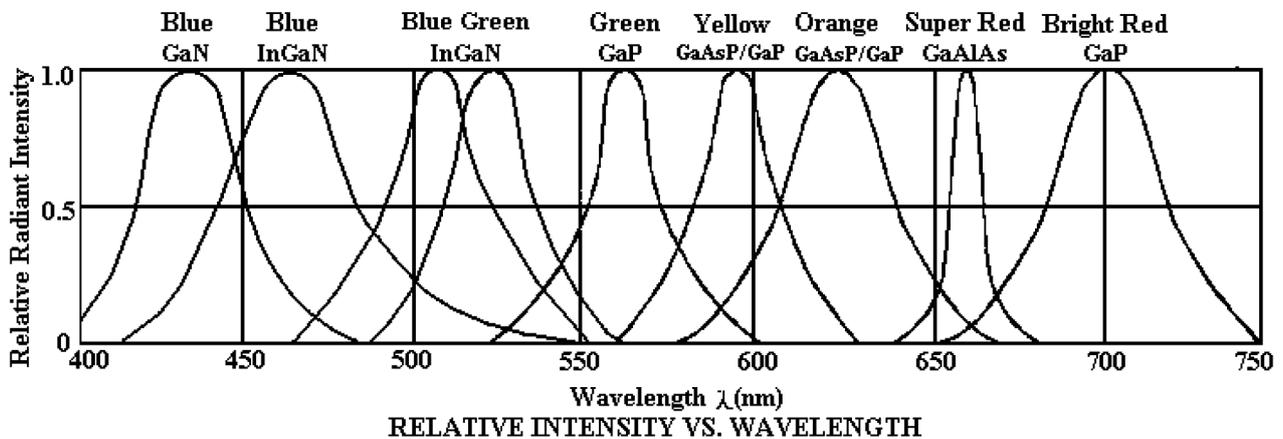
Forward current Derating curve



Luminous Intensity vs. Forward current



Luminous Intensity vs. Ambient Temperature

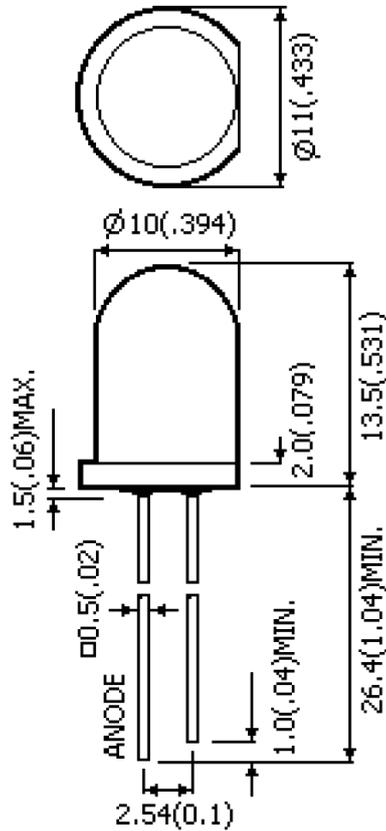


RELATIVE INTENSITY VS. WAVELENGTH

# LED, 10mm



## Dimensions:



Dimensions : Inches (Millimetres)  
 All tolerance shall be  $\pm 0.01$  inch (0.25mm)

## Part Number Table

Description	Part Number
LED, 10mm, Red, 1,450mcd, 660nm	MCL103URC

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