Red GaAsP LED Lamps

Optoelectronic Products

MV5054-1
MV5054-2
MV5054-3

General Description

The MV5054 series lamps are red light-emitting diodes encapsulated in red diffused plastic. These devices provide an intense large-area light source with wide-angle viewing. Visual light emission is in the 600 nm to 700 nm range. Three brightness levels are available.

Solid State Thus No Replacement Required
No Socket Required
High On/Off Contrast
Flexible Pins On All Lamps
For Good Heat Sinking
For Right-Angle Bending
Fits Standard Sockets or Drilled Holes
Single Molded Body Eliminates Thermal Cycling Problems
High-Temperature Epoxy Encapsulation Withstands Severe Environmental Temperatures
Low Power Consumption Means IC Compatibility
MV5054-1 Has 2.0 mcd TYP Luminous Intensity
MV5054-2 Has 3.0 mcd TYP Luminous Intensity
MV5054-3 Has 4.0 mcd TYP Luminous Intensity

Absolute Maximum Ratings

Maximum Temperature and Humidity

Storage Temperature	−55°C to +100°C
Operating Temperature	−55°C to +100°C
Pin Temperature (Soldering, 5 s)	260°C
Relative Humidity at 85°C	85%

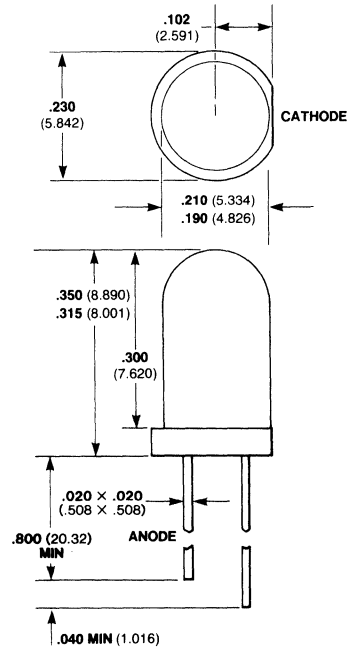
Maximum Power Dissipation

Total Dissipation at T_A = 25°C	180 mW
Derate Linearly from 25°C	2.0 mW/°C

Maximum Voltage and Currents

V_R	Reverse Voltage	5.0 V
I_F	Forward dc Current at T_A = 25°C	100 mA
	Forward dc Current at T_A = 100°C	15 mA
I_{pk}	Peak Forward Current, 1.0 μs pulse width, 0.1% duty cycle	1.0 A

Package Outline



Notes
All dimensions in inches **bold** and millimeters (parentheses)
Tolerance unless specified = ±**.015** (0.381)
Not direct replacement for Monsanto package. Monsanto has offset on lead.

Typical Electrical Characteristics

MV5054-1
MV5054-2
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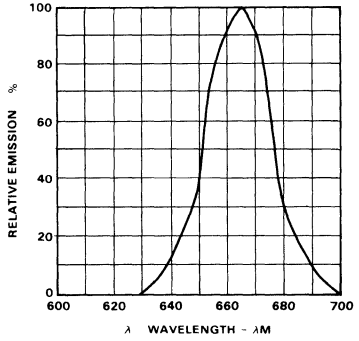
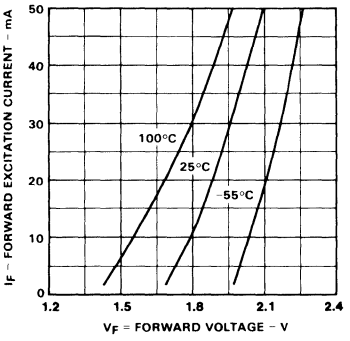
Electrical and Radiant Characteristics $T_A = 25°C$

Symbol	Characteristic	Min	Typ	Max	Units	Test Conditions
V_F	Forward Voltage		1.8	2.2	V	I_F = 10 mA
BV_R	Reverse Breakdown Voltage	5.0	8.0		V	I_R = 100 μA
I_O	Axial Luminous Intensity				mcd	I_F = 10 mA
	MV5054-1	1.0	2.0			
	MV5054-2	2.0	3.0			
	MV5054-3	3.0	4.0			
θ	Viewing Angle Total		40		degrees	I_F = 20 mA
λ_{pk}	Peak Wavelength		660		nm	I_F = 20 mA

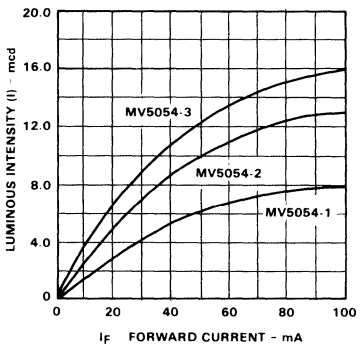
Emission Spectrum



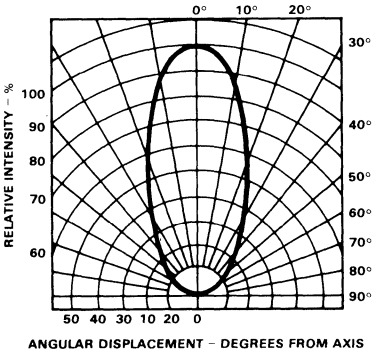
Forward Current vs Forward Voltage



Intensity vs Forward Current



Intensity vs Viewing Angle



Typical Electrical Characteristic Curves

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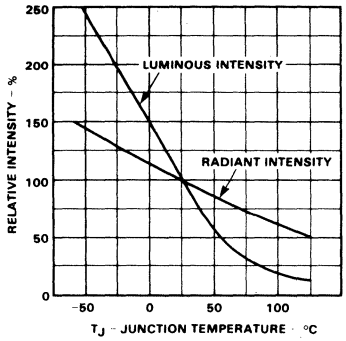
Intensity vs Temperature



Peak Wavelength vs Temperature