Red GaAsP LED Lamps

Optoelectronic Products

MV5050, MV5051 MV5052, MV5053

General Description

The MV5050, MV5051, MV5052 and MV5053 are red light-emitting diodes encapsulated in 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.

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
MV5050 In Clear Non-Diffused Epoxy
MV5051 In Clear Diffused Epoxy
MV5052 In Red Non-Diffused Epoxy
MV5053 In Red Diffused Epoxy

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%

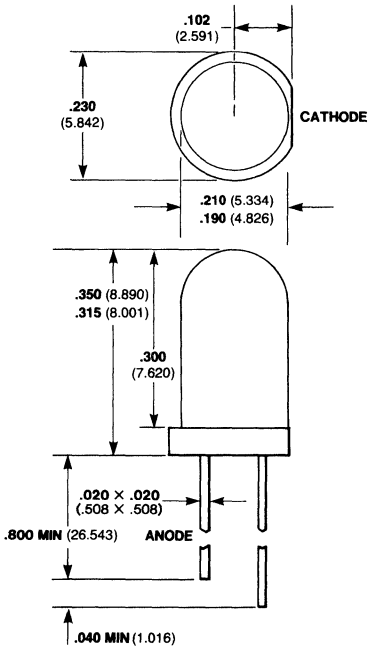
Maximum Power Dissipation

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)

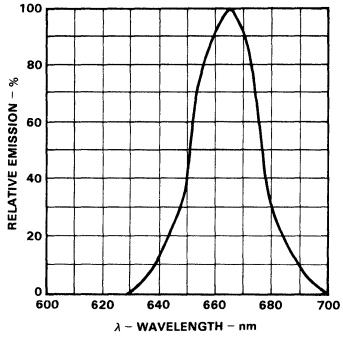
Typical Electrical Characteristics

MV5050, MV5051 MV5052, MV5053

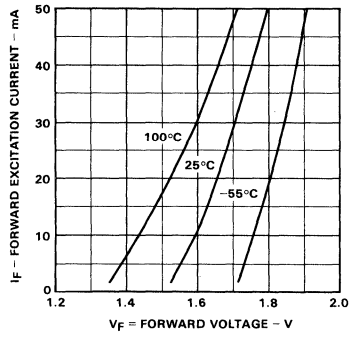
Electrical and Radiant Characteristics $T_A = 25°C$

Symbol	Characteristic	Min	Typ	Max	Units	Test Conditions
V_F	Forward Voltage		1.7	2.2	V	I_F = 20 mA
BV_R	Reverse Breakdown Voltage	5.0	25		V	I_R = 100 μA
I_O	Axial Luminous Intensity				mcd	I_F = 20 mA
	MV5050/MV5052	0.5/0.7	2.0			
	MV5051/MV5053	0.4/0.5	1.6			
θ	Viewing Angle Total				degrees	I_F = 20 mA
	MV5050		50			
	MV5051/MV5052		70			
	MV5053		80			
λ_{pk}	Peak Wavelength		670		nm	I_F = 20 mA

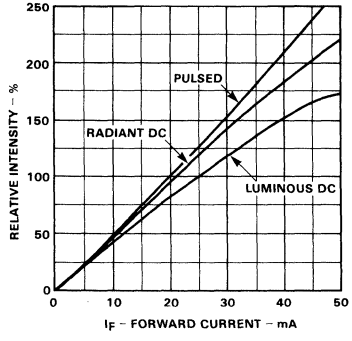
Emission Spectrum



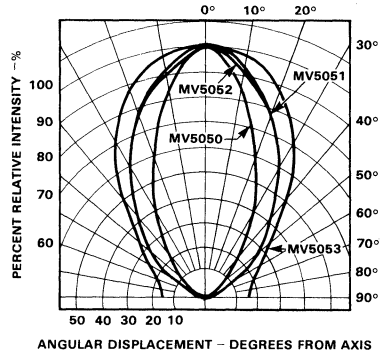
Forward Current vs Forward Voltage



Intensity vs Forward Current



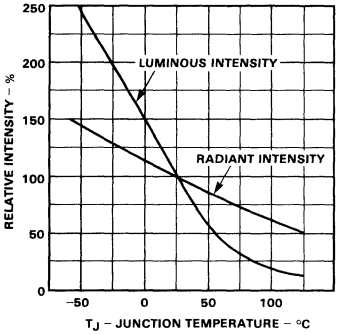
Intensity vs Viewing Angle



Typical Electrical Characteristic Curves

MV5050, MV5051 MV5052, MV5053

Intensity vs Temperature



Peak Wavelength vs Temperature