

# SOLID STATE LED LAMP

## RECTANGULAR 2 X 5 mm LED LAMPS

**MV52123** AlGaAs Red

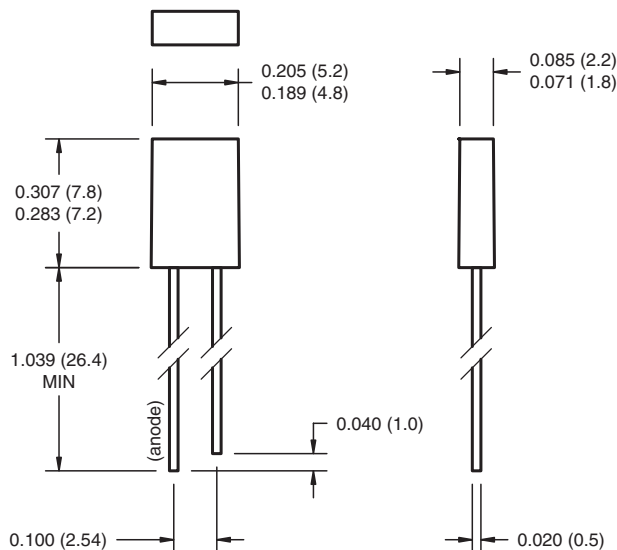
**MV53123** Yellow

**MV54123** Green

**MV57123** HER

**MV5B123** Blue

### PACKAGE DIMENSIONS



#### NOTES:

1. Dimensions for all drawings are in inches (mm).
2. Lead spacing is measured where the leads emerge from the package.
3. Protruded resin under the flange is 1.5 mm (0.059") max.
4. Tolerance is  $\pm 0.12"$  (0.3 mm) unless otherwise noted.

### DESCRIPTION

This rectangular LED lamp provides a lighted surface area of 2 X 5 mm. The high efficiency red and yellow solid state lamps contain a GaAsP on GaP light emitting diode. The green lamps utilize a GaP light emitting diode. The blue lamps have a GaN/SiC chip.

### FEATURES

- General purpose indicator
- Selected minimum intensities
- Color diffused lens
- Standard 100 mil. lead spacing
- Long life solid-state reliability

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### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	BLUE MV5B123	HER MV57123	GREEN MV54123	YELLOW MV53123	AlGaAs RED MV52123	Units
Continuous Forward Current - $I_F$	30	30	30	25	30	mA
Peak Forward Current - $I_F$ ( $f = 1.0 \text{ KHz}$ , Duty Factor = 1/10)	100	150	150	150	150	mA
Reverse Voltage - $V_R$ ( $I_R = 10 \mu\text{A}$ )	10	5	5	5	5	V
Power Dissipation - $P_D$	115	100	100	100	100	mW
Operating Temperature - $T_{OPR}$	-40 to +100					$^\circ\text{C}$
Storage Temperature - $T_{STG}$	-40 to +100					$^\circ\text{C}$
Lead Soldering Time - $T_{SOL}$	260 for 5 sec					$^\circ\text{C}$

### ELECTRICAL / OPTICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

Part Number	MV5B123 BLUE	MV57123 HER	MV54123 GREEN	MV53123 YELLOW	MV52123 AlGaAs RED	Condition
Luminous Intensity (mcd)						$I_F = 20\text{mA}$
Minimum	2.0	1.0	1.0	1.0	1.5	
Typical	6.0	4.0	4.0	4.0	5.0	
Forward Voltage (V)						$I_F = 20\text{mA}$
Maximum	4.5	3.0	3.0	3.0	2.4	
Typical	3.8	2.0	2.2	2.1	1.7	
Peak Wavelength (nm)	430	635	565	585	660	$I_F = 20\text{mA}$
Spectral Line Half Width (nm)	65	35	30	45	40	$I_F = 20\text{mA}$
Viewing Angle ( $^\circ$ )	100	100	100	100	100	$I_F = 20\text{mA}$

**MV52123** AlGaAs Red

**MV53123** Yellow

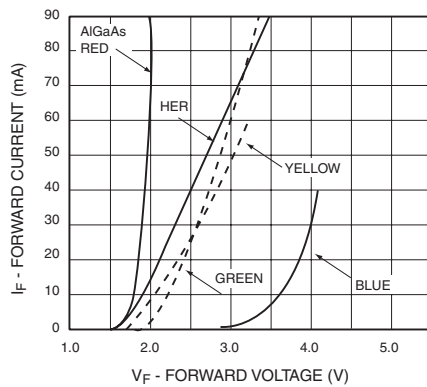
**MV54123** Green

**MV57123** HER

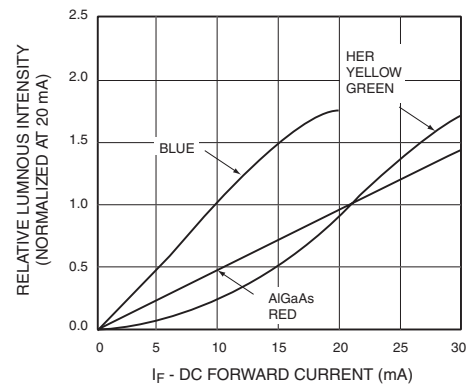
**MV5B123** Blue

### TYPICAL PERFORMANCE CURVES

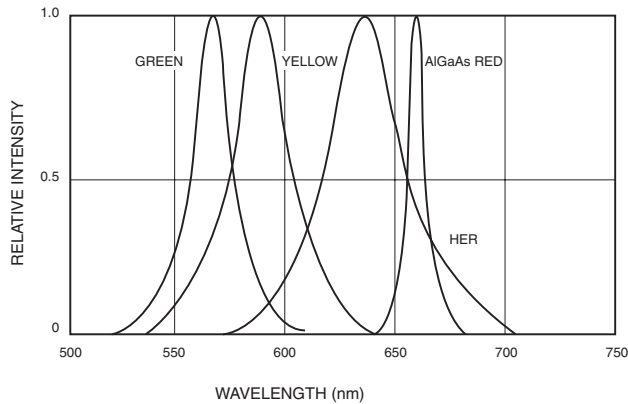
**Fig. 1 Forward Current vs. Forward Voltage**



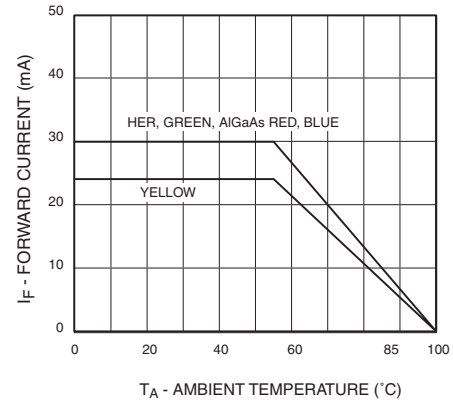
**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**



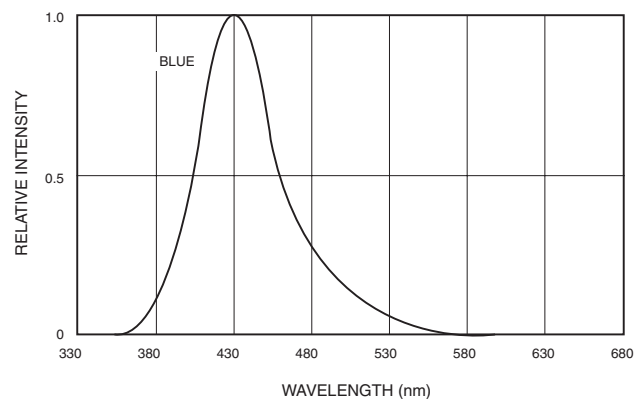
**Fig. 3a Relative Intensity vs. Peak Wavelength**



**Fig. 4 Current Derating Curve**



**Fig. 3b Relative Intensity vs. Peak Wavelength**



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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.