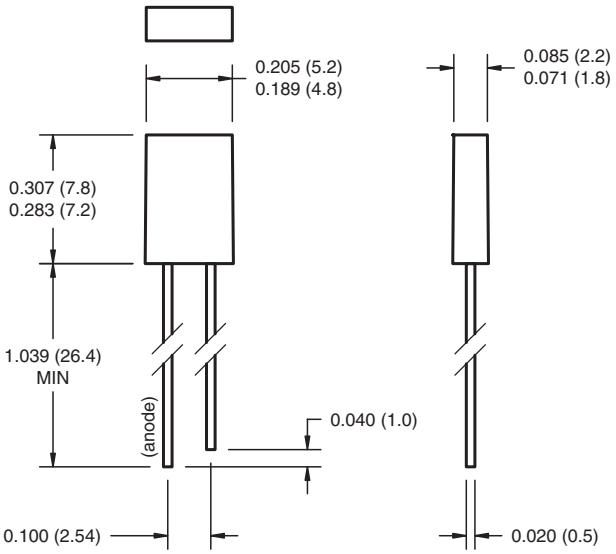
FAIRCHILD
SEMICONDUCTOR®

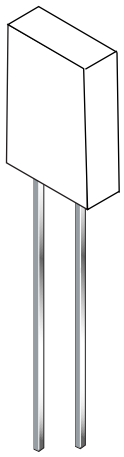
SOLID STATE LED LAMP

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 ±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°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 KHz, Duty Factor = 1/10)	100	150	150	150	150	mA
Reverse Voltage - V_R (I_R = 10 µA)	10	5	5	5	5	V
Power Dissipation - P_D	115	100	100	100	100	mW
Operating Temperature - T_{OPR}	-40 to +100					°C
Storage Temperature - T_{STG}	-40 to +100					°C
Lead Soldering Time - T_{SOL}	260 for 5 sec					°C

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)						
Part Number	**MV5B123 BLUE**	**MV57123 HER**	**MV54123 GREEN**	**MV5B123 YELLOW**	**MV5B123 AlGaAs RED**	**Condition**
Luminous Intensity (mcd)						
Minimum	2.0	1.0	1.0	1.0	1.5	I_F = 20mA
Typical	6.0	4.0	4.0	4.0	5.0	
Forward Voltage (V)						
Maximum	4.5	3.0	3.0	3.0	2.4	I_F = 20mA
Typical	3.8	2.0	2.2	2.1	1.7	
Peak Wavelength (nm)	430	635	565	585	660	I_F = 20mA
Spectral Line Half Width (nm)	65	35	30	45	40	I_F = 20mA
Viewing Angle (°)	100	100	100	100	100	I_F = 20mA

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

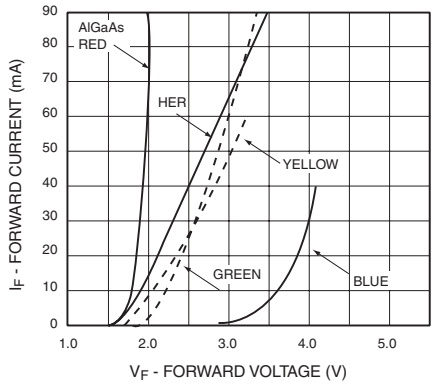


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

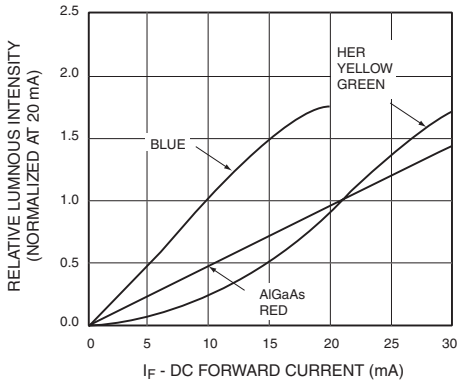


Fig. 3a Relative Intensity vs. Peak Wavelength

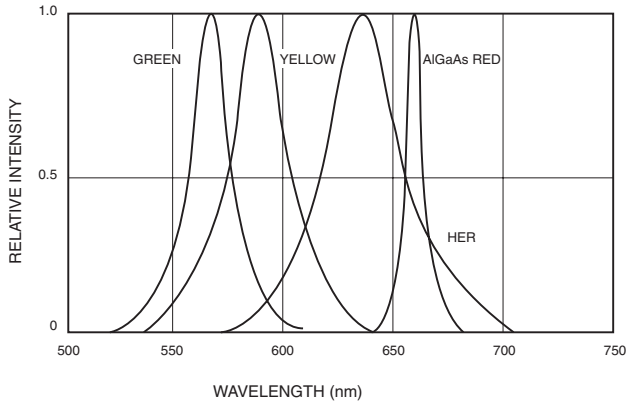


Fig. 4 Current Derating Curve

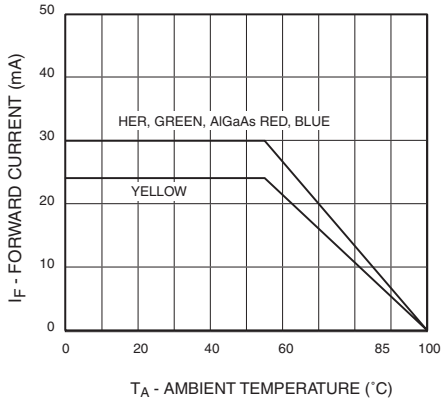
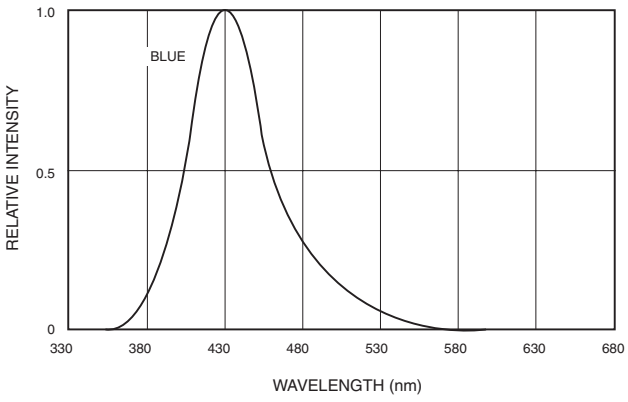


Fig. 3b Relative Intensity vs. Peak Wavelength



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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.