

SOLID STATE LED LAMP

RECTANGULAR 2 X 5 mm LED LAMPS

MV52123 AlGaAs Red

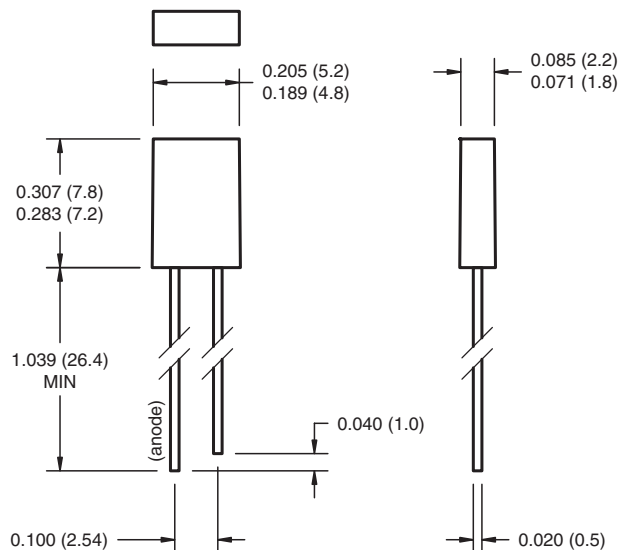
MV53123 Yellow

MV54123 Green

MV57123 HER

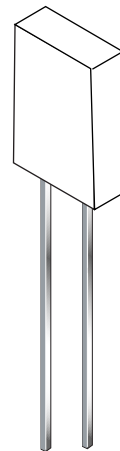
MV5B123 Blue

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

SOLID STATE LED LAMP

RECTANGULAR 2 X 5 mm LED LAMPS

MV52123 AlGaAs Red

MV53123 Yellow

MV54123 Green

MV57123 HER

MV5B123 Blue

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

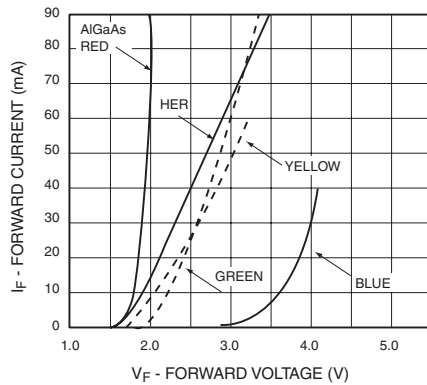


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

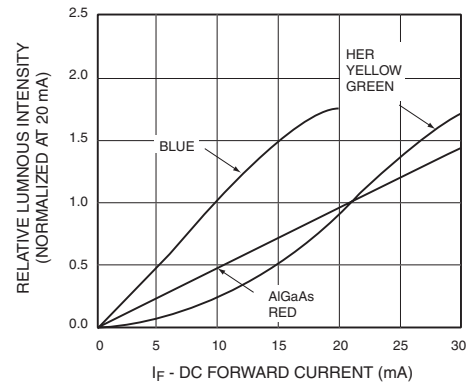


Fig. 3a Relative Intensity vs. Peak Wavelength

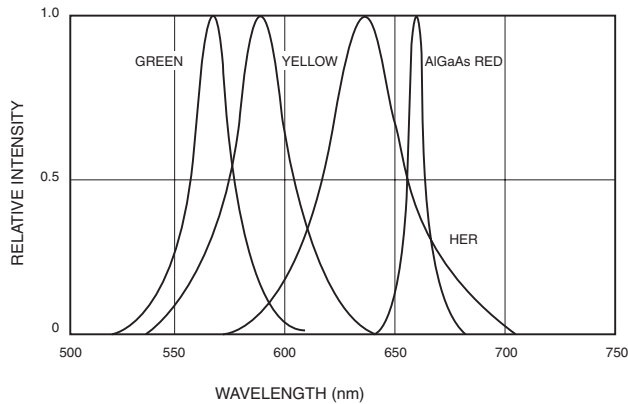


Fig. 4 Current Derating Curve

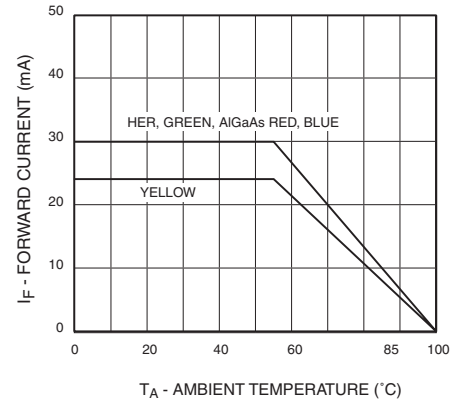
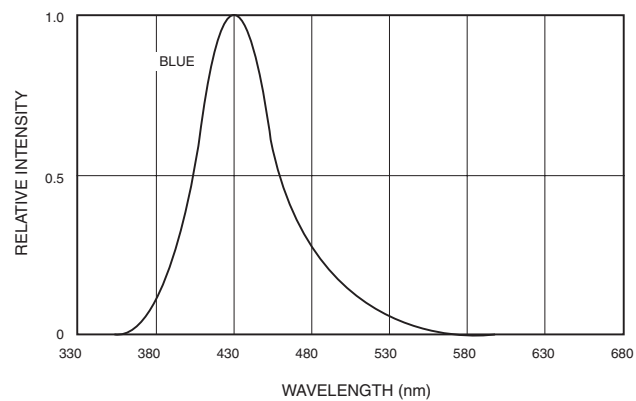


Fig. 3b Relative Intensity vs. Peak Wavelength



SOLID STATE LED LAMP

RECTANGULAR 2 X 5 mm LED LAMPS

MV52123 AlGaAs Red

MV53123 Yellow

MV54123 Green

MV57123 HER

MV5B123 Blue

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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.