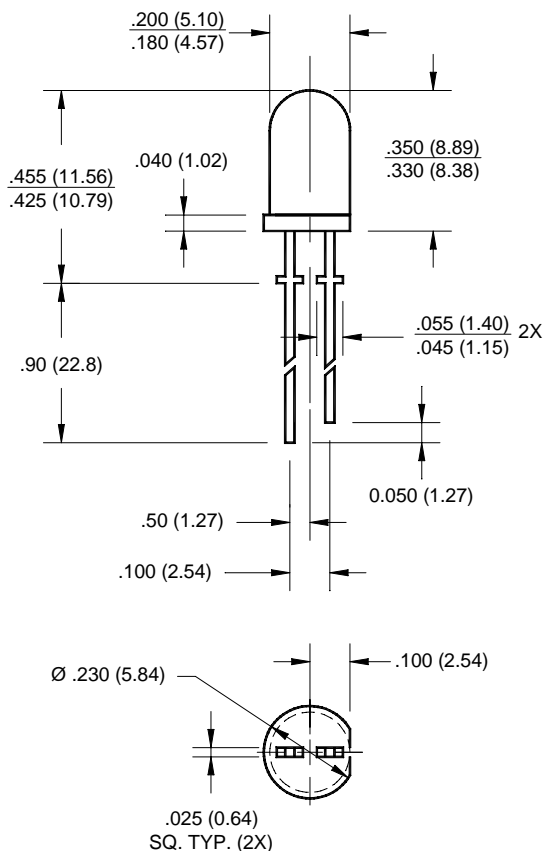


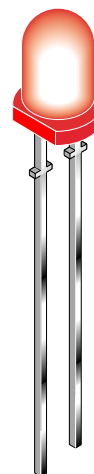
**RED MR3050/MR3051 TINTED**  
**HIGH EFFICIENCY RED MR3750/MR3751 TINTED**  
**YELLOW MR3350/MR3351 TINTED**  
**GREEN MR3450/MR3451 TINTED**

### PACKAGE DIMENSIONS



### FEATURES

- Integral current limiting resistor (No external resistor required)
- Operates with 5 volt & 12 volt supplies
- Wide viewing angle
- Solid state reliability



### DESCRIPTION

These T-1 3/4 LED lamps contain an integral resistor. Operation at 5 volts (MR3X50) or 12 volts (MR3X51) is possible without the use of an external current limiting resistor. The epoxy lens is tinted and diffused to provide color identification and a wide viewing angle.

### NOTES:

ALL DIMENSIONS ARE IN INCHES (mm).

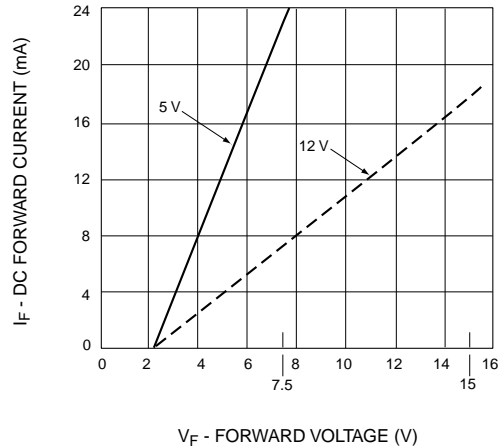
**ABSOLUTE MAXIMUM RATING** (T<sub>A</sub> =25°C)

Parameter	RED/HER/YELLOW	RED/HER/YELLOW	GREEN	GREEN	UNITS
	5 VOLT LAMPS	12 VOLT LAMPS	5 VOLT LAMPS	12 VOLT LAMPS	
DC Forward Current	7.5	15	7.5	15	mA
Lead Soldering Time at 260° C	5	5	5	5	sec
Reverse Breakdown Voltage	5.0	5.0	5.0	5.0	I <sub>R</sub> = 100μA
Operating Temperature	-40 to +100	-40 to +100	-20 to +100	-20 to +100	°C
Storage Temperature	-55 to +100	-55 to +100	-50 to +100	-50 to +100	°C

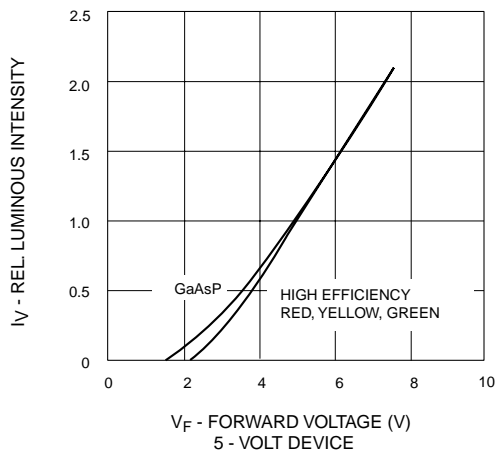
**ELECTRICAL / OPTICAL CHARACTERISTICS** (T<sub>A</sub> =25°C)

Parameter	RED	HER	YELLOW	GREEN	Condition
	MR3050/1	MR3750/1	MR3350/1	MR3450/1	
Luminous Intensity (mcd)					V <sub>F</sub> = 5V / V <sub>F</sub> = 12V
Minimum	1.0	1.5	1.5	1.5	
Typical	2.0	4.0	4.0	4.0	
Forward Current (mA)					V <sub>F</sub> = 5V / V <sub>F</sub> = 12V
Typical	13/13	10/13	10/13	12/13	
Maximum	20/20	15/20	15/20	15/20	
Peak Wavelength (nm)	660	635	585	565	V <sub>F</sub> = 5V / V <sub>F</sub> = 12V
Spectral Line Half Width (nm)	24	40	36	28	V <sub>F</sub> = 5V / V <sub>F</sub> = 12V
Viewing Angle (°)	60	60	60	60	V <sub>F</sub> = 5V / V <sub>F</sub> = 12V

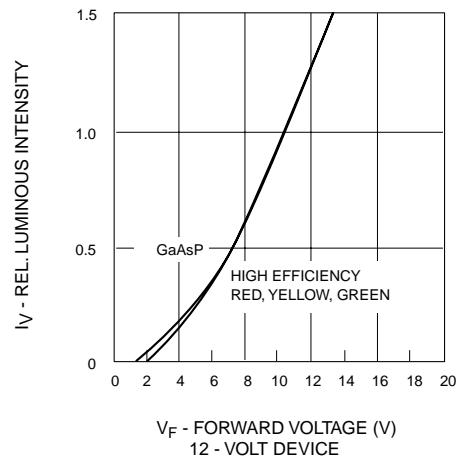
**TYPICAL PERFORMANCE CURVES ( $T_A = 25^\circ\text{C}$ )**



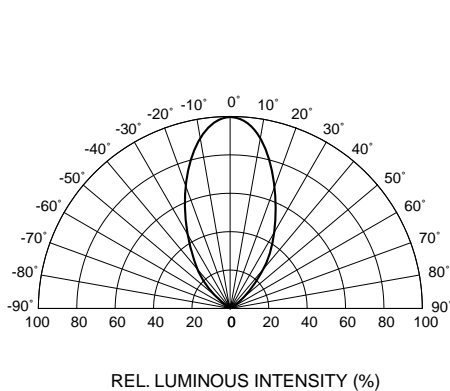
**Fig. 1 I - V Curve**



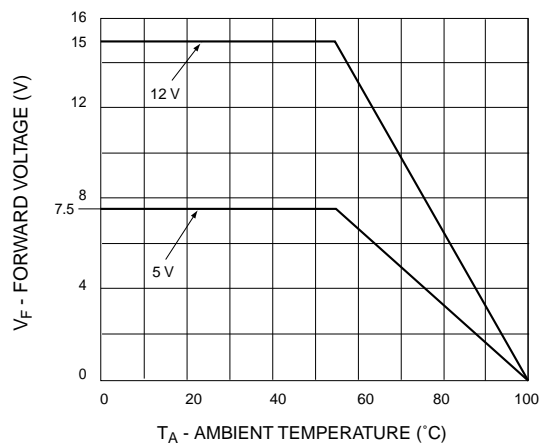
**Fig. 2A Luminous Intensity vs Forward Voltage**



**Fig. 2B Luminous Intensity vs Forward Voltage**



**Fig. 3 Radiation Diagram**



**Fig. 4 Maximum Allowed Forward Voltage vs Ambient Temperature**

## **DISCLAIMER**

FAIRCHILD SEMICONDUCTOR RESERVES THE 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 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.