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Fairchild Semiconductor
MV8803

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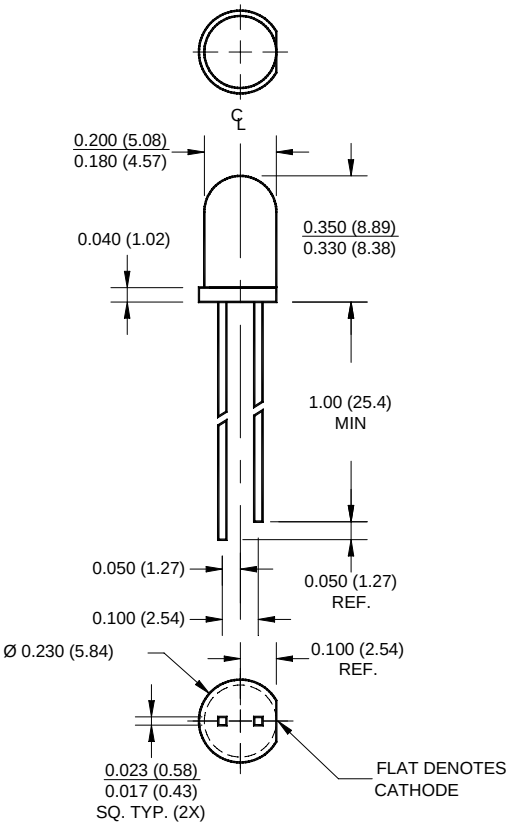
FAIRCHILD SEMICONDUCTOR™

# SUPER BRIGHT T-1 3/4 (5 mm)
## LED LAMP - Water Clear

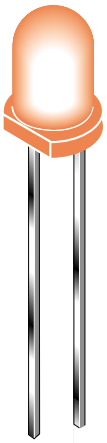
**SUPER ORANGE-RED MV880X**
**MV8803 MV8804**
**MV8805 MV8806**

## 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.



## FEATURES

- Popular T-1 3/4 package
- Super high brightness suitable for outdoor applications
- Solid state reliability
- Water clear optics
- Standard 100 mil. lead spacing

## DESCRIPTION

This T-1 3/4 super bright LED has a moderate viewing angle of 20° for concentrated light output. It is made with an AlInGaP LED that emits red light at 630 nm. It is encapsulated in a water clear epoxy lens package.

## ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25°C unless otherwise specified)

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| 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 |
| Continuous Forward Current | $I_F$ | 30 | mA |
| Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10) | $I_F$ | 200 | mA |
| Reverse Voltage | $V_R$ | 5 | V |
| Power Dissipation | $P_D$ | 100 | mW |

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## ELECTRICAL / OPTICAL CHARACTERISTICS ($T_A$ =25°C)

| Part Number | MV8803 | MV8804 | MV8805 | MV8806 | Condition |
|---|---|---|---|---|---|
| Luminous Intensity (mcd) | | | | | $I_F$ = 20 mA |
| Minimum | 630 | 1000 | 1600 | 2500 | |
| Typical | 940 | 1500 | 2400 | 3500 | |
| Forward Voltage (V) | | | | | $I_F$ = 20 mA |
| Maximum | 2.8 | 2.8 | 2.8 | 2.8 | |
| Typical | 2.1 | 2.1 | 2.1 | 2.1 | |
| Wavelength (nm) | | | | | $I_F$ = 20 mA |
| Peak | | 630 | | | |
| Dominant | | 623 | | | |
| Spectral Line Half Width (nm) | | 20 | | | $I_F$ = 20 mA |
| Viewing Angle (°) | | 20 | | | $I_F$ = 20 mA |

## TYPICAL PERFORMANCE CURVES

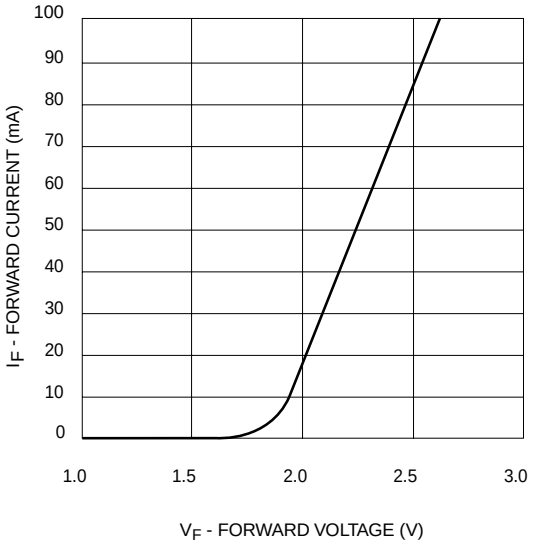


**Fig. 1 Forward Current vs. Forward Voltage**

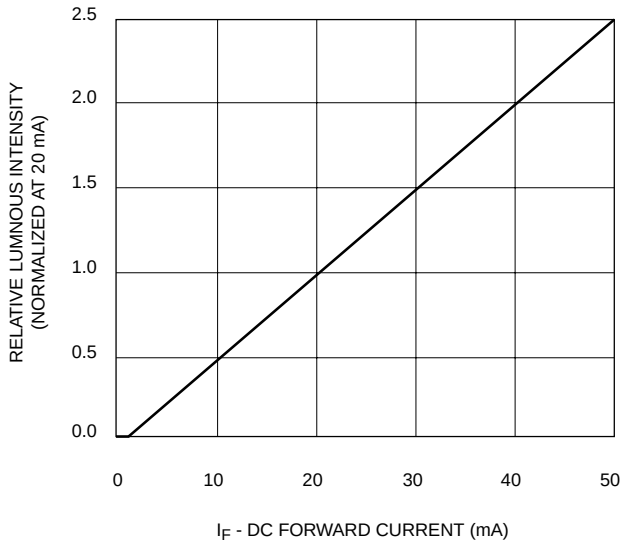


**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**

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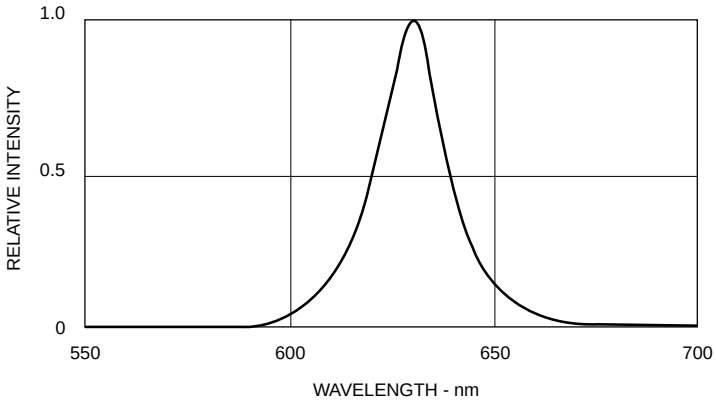


**Fig. 3 Relative Intensity vs Peak Wavelength**

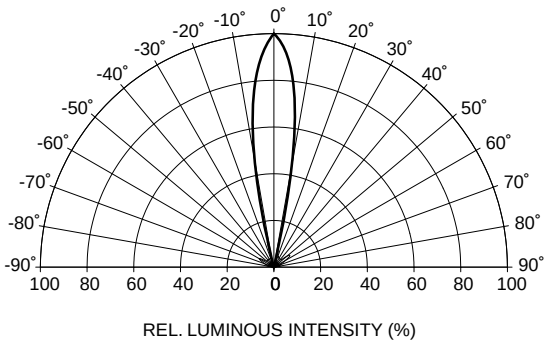


**Fig. 4 Radiation Diagram**

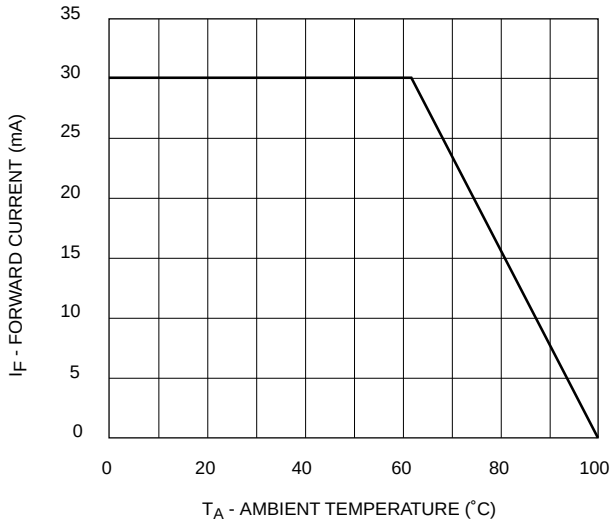


**Fig. 5 Current Derating Curve**

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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.