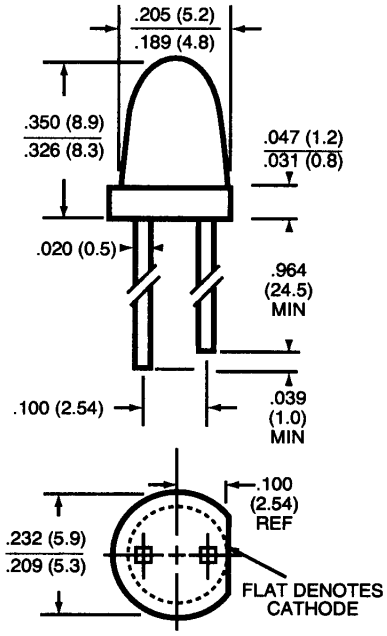
FAIRCHILD
SEMICONDUCTOR™

SUPER BRIGHT T-1 ¾ (5mm) LED LAMP – Water Clear

SUPER BLUE **MV8B11** **MV8B12**

PACKAGE DIMENSIONS



Note: 1) All dimensions are in inches (mm).
2) Lead spacing is measured where the leads emerge from the package.
3) Protruded resin under the flange is 1.5mm (0.059") max.

DESCRIPTION

These T-1 ¾ super-bright blue LEDs have a narrow viewing angle of 10° for concentrated light output. The blue diode chip is constructed with GaN/SiC technology and emits a peak wavelength of 430 nm.

FEATURES

- **Popular T-1 ¾ package**
- **Low drive current**
- **Solid state reliability**
- **Super high brightness**
- **Water clear optics**
- **Standard 100 mil. lead spacing**

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

DC Forward Current (I_F)	30 mA
Peak Forward Current (I_F) @ f = 1.0 KHz, Duty factor = 1/10	100 mA
Power Dissipation (P_d)	115 mW
Reversed Voltage (V_R) I_R = 10 µA	5
Operating Temperature Range	-40°C to +100°C
Storage Temperature Range	-40°C to +100°C
Lead Soldering Time	5 secs @ 260°C for wave solder; 10 secs @ 260°C for IR reflow

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ELECTRO-OPTICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Part Number:		MV8B11	MV8B12	Test Condition
Luminous Intensity (mcd)				I_F = 20 mA
	Minimum	400	630	
	Typical	600	940	
Forward Voltage (V_F)				I_F = 20 mA
	Typical	3.8	3.8	
	Maximum	4.5	4.5	
Peak Wavelength (nm)		430	430	I_F = 20 mA
Spectral Line Half Width (nm)		65	65	I_F = 20 mA
Viewing Angle (degrees)		10	10	I_F = 20 mA

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES (T_A = 25°C)

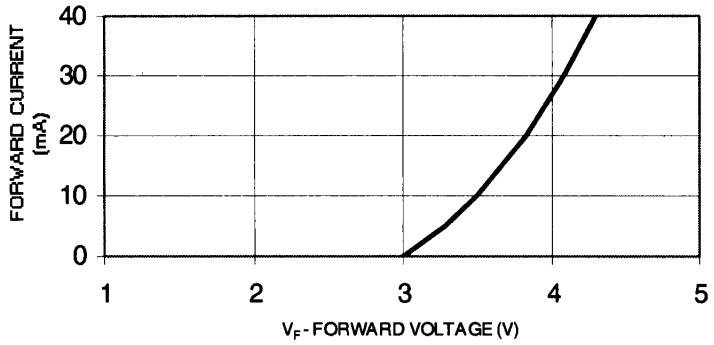

Fig 1. Foward Current vs. Forward Voltage

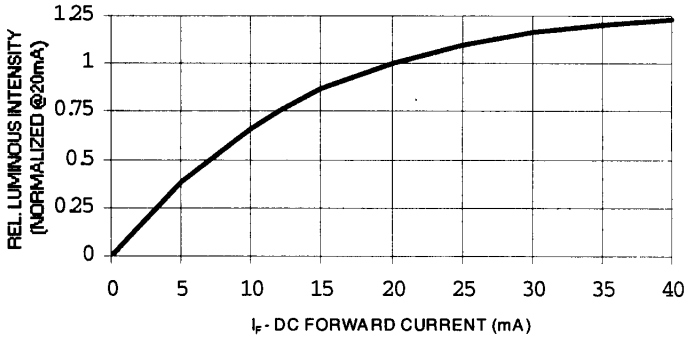

Fig 2. Rel. Luminous Intensity vs. DC Forward Current

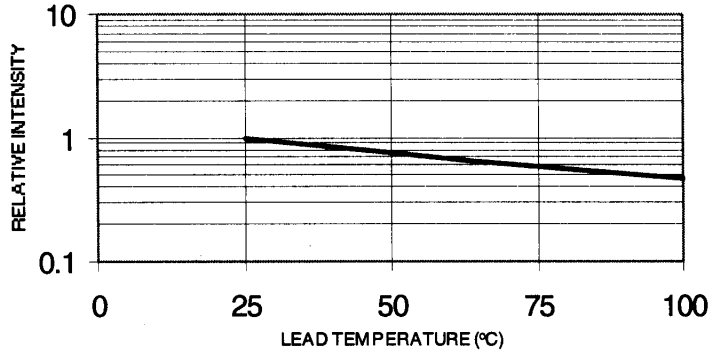

Fig 3. Rel. Intensity vs. Lead Temperature
(Pulsed 20 mA; 300 us pulse, 10 ms period)

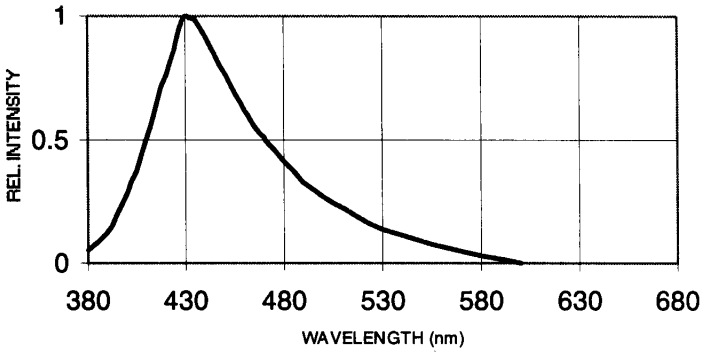

Fig. 4 Rel. Intensity vs. Wavelength

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TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES (T_A = 25°C)

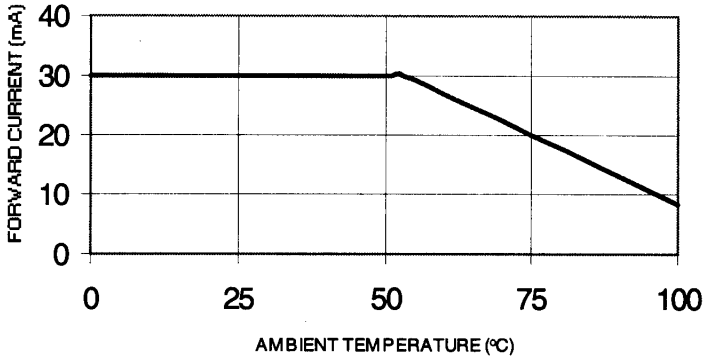

Fig 5. Forward Current vs. Ambient Temperature

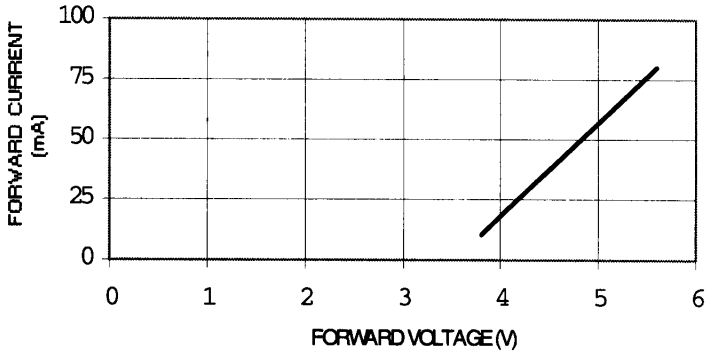

Fig. 6 Peak Forward Voltage vs. Forward Current (100 us test pulse, 1% duty cycle)

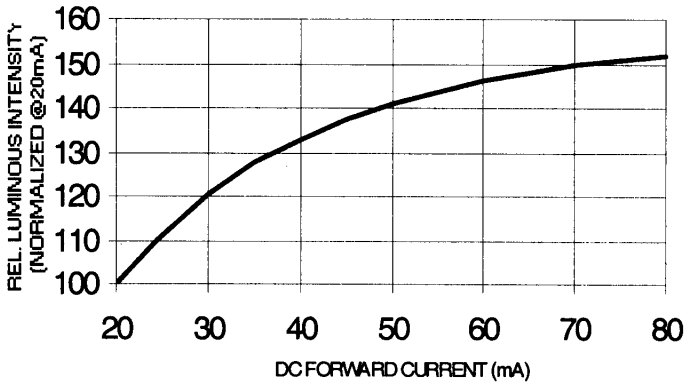

Fig. 7 Rel. Luminous Intensity vs. Peak Forward Current (300 us pulse width; 10 ms period)

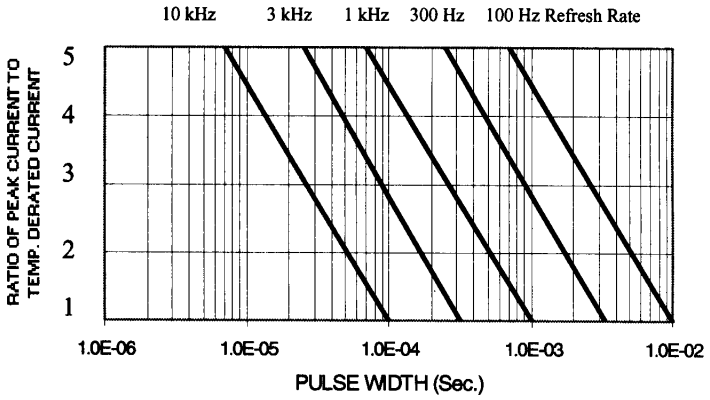

Fig. 8 Pulse Derating Curve

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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.