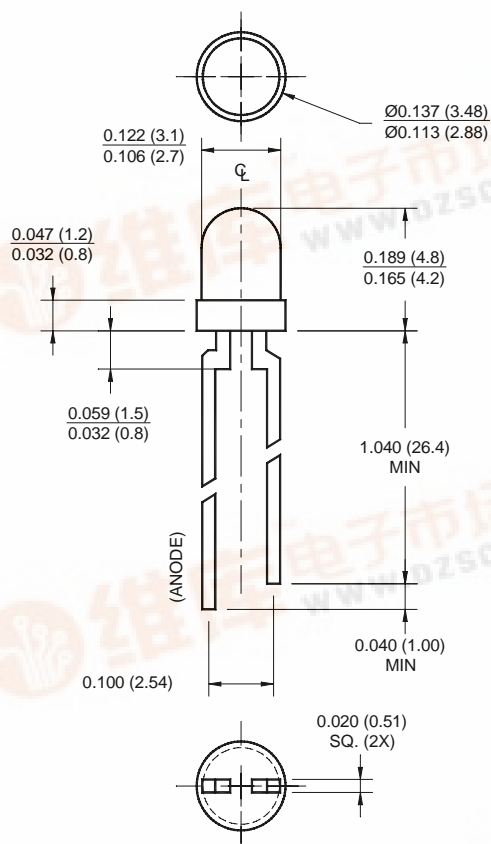


**FAIRCHILD**  
SEMICONDUCTOR™

# SUPER BRIGHT T-100 (3 mm)

## LED LAMP

### 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.

**SUPER BLUE (WATER CLEAR)**  
**SUPER BLUE (BLUE DIFFUSED)**

**MV5B60**  
**MV5B640**

### FEATURES

- Low drive current
- Solid state reliability
- Water clear or blue diffused optics
- Standard 100 mil. lead spacing



### DESCRIPTION

These T-100 super bright blue LEDs have a moderate viewing angle of 35° or 45° for concentrated light output. The blue diode chip is constructed with GaN/SiC technology and emits a peak wavelength of 430 nm.

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
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	$^\circ\text{C}$
Continuous Forward Current	$I_F$	30	mA
Peak Forward Current ( $f = 1.0 \text{ KHz}$ , Duty Factor = 1/10)	$I_F$	100	mA
Reverse Voltage ( $I_R = 10 \mu\text{A}$ )	$V_R$	5	V
Power Dissipation	$P_D$	120	mW

# SUPER BRIGHT T-100 (3 mm) LED LAMP

SUPER BLUE (WATER CLEAR)	MV5B60
SUPER BLUE (BLUE DIFFUSED)	MV5B640

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

Part Number	MV5B60	MV5B640	Condition
Luminous Intensity (mcd)			I <sub>F</sub> = 20 mA
Minimum	100	60	
Typical	150	100	
Forward Voltage (V)			I <sub>F</sub> = 20 mA
Maximum	4.5	4.5	
Typical	3.8	3.8	
Peak Wavelength (nm)	430	430	I <sub>F</sub> = 20 mA
Spectral Line Half Width (nm)	65	65	I <sub>F</sub> = 20 mA
Viewing Angle (°)	35	45	I <sub>F</sub> = 20 mA

## TYPICAL PERFORMANCE CURVES

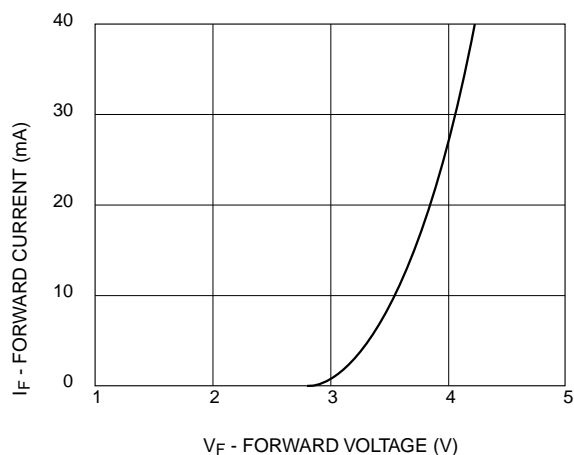


Fig.1 Forward Current vs. Forward Voltage

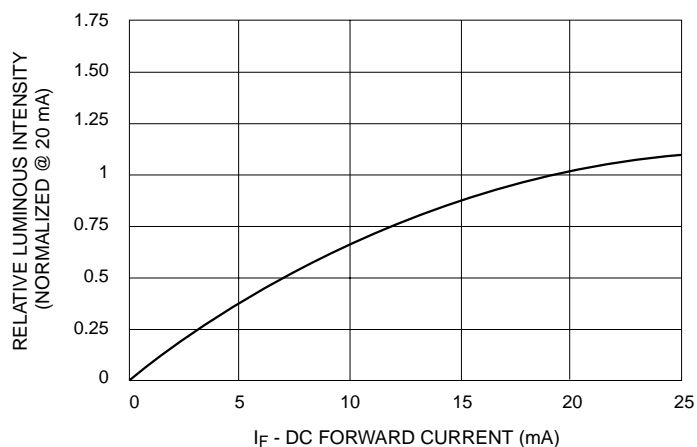


Fig.2 Relative Luminous Intensity vs. DC Forward Current

# SUPER BRIGHT T-100 (3 mm) LED LAMP

SUPER BLUE (WATER CLEAR)	MV5B60
SUPER BLUE (BLUE DIFFUSED)	MV5B640

## TYPICAL PERFORMANCE CURVES

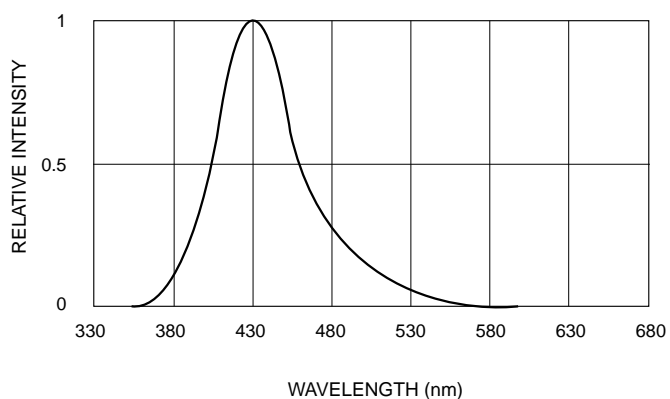


Fig.3 Relative Intensity vs. Peak Wavelength

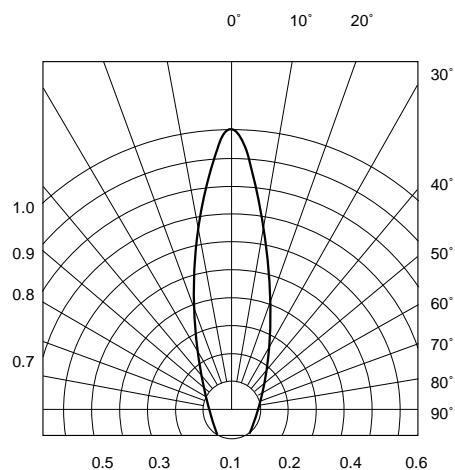


Fig. 4a Radiation Diagram for MV5B60

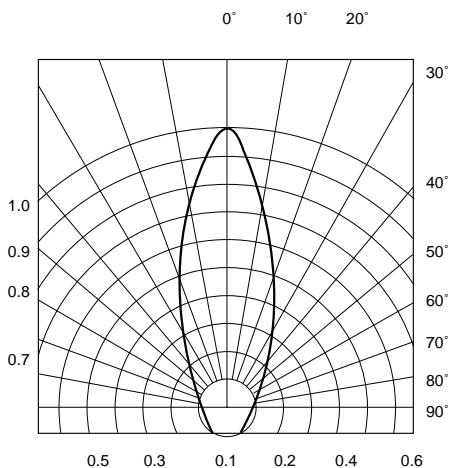


Fig. 4b Radiation Diagram for MV5B640

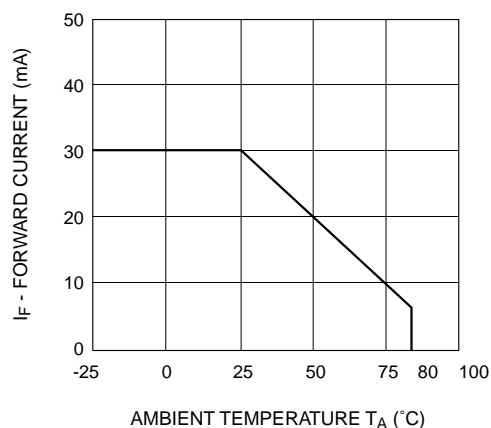


Fig.5 Current Derating Curve



# SUPER BRIGHT T-100 (3 mm) LED LAMP

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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.