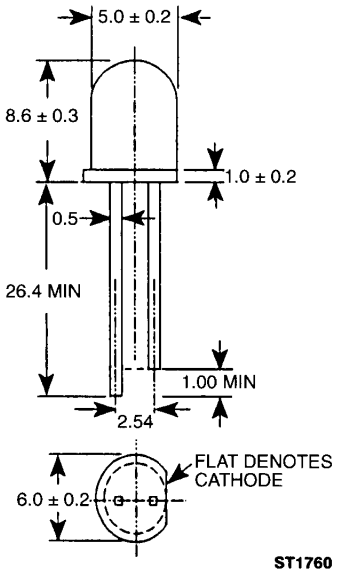
FAIRCHILD
SEMICONDUCTOR™

SUPER BRIGHT T-1¾ (5 mm) LED LAMPS

SUPER RED MV8102 CLEAR
SUPER RED MV8103 CLEAR
SUPER RED MV8104 CLEAR

PACKAGE DIMENSIONS



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NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS
2. LEAD SPACING IS MEASURED WHERE THE LEADS EMERGE FROM THE PACKAGE
3. PROTRUDED RESIN UNDER FLANGE IS 1.5 mm (0.059") MAX.

DESCRIPTION

These T-1¾ super bright LEDs have a narrow 20° viewing angle for concentrated light output. The MV8101/2/3/4 are made with GaAlAs LEDs on a GaAlAs substrate. They are all encapsulated in an epoxy package and have water clear lenses.

FEATURES

- Outstanding material efficiency
- Popular T-1¾ package
- Low drive current
- Solid state reliability
- Super high brightness suitable for outdoors applications
- Standard 1 mil. lead spacing

ABSOLUTE MAXIMUM RATING (T_A = 25°C Unless Otherwise Specified)

DC forward current (I_f)	40 mA
Operating temperature range	−40°C to +85°
Storage temperature range	−40°C to +100°C
Lead soldering time (at 1/16 inch from bottom of lamp)	5 seconds @ 260°C
Peak forward current (at f=1.0 KHz, Duty factor=1/10)	200 mA
Power dissipation (P_d)	110 mW
Recommended operating current (I_f Rec)	20 mA

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ELECTRO-OPTICAL CHARACTERISTICS (T_A = 25°C Unless Otherwise Specified)

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Luminous intensity					
MV8102	250	370		mcd	I_F=20 mA
MV8103	630	940		mcd	I_F=20 mA
MV8104	1000	1500		mcd	I_F=20 mA
Forward voltage	1.5	1.7	2.4	V	I_F=20 mA
Peak wavelength		660		nm	I_F=20 mA
Spectral line half width		40		nm	I_F=20 mA
Reverse breakdown voltage		5		V	I_R=10 μA
Viewing angle		20		degree	I_F=20 mA

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

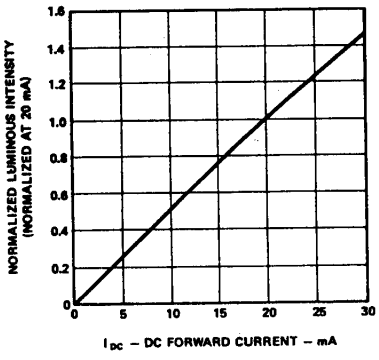

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Fig. 1. Relative Luminous Intensity vs. DC Forward Current

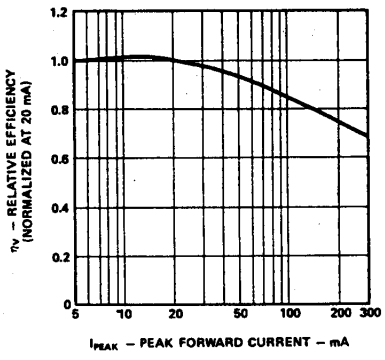

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Fig. 2. Relative Efficiency vs. Peak Foreward Current

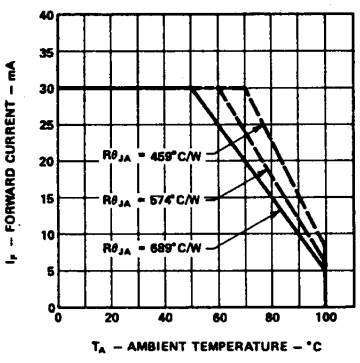

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Fig. 3. Maximum Forward DC Current vs. Ambient Temperature Derating Based On TjMAX = 110°

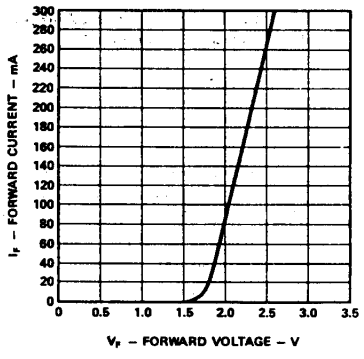

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Fig. 4. Forward Current vs. Forward Voltage

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

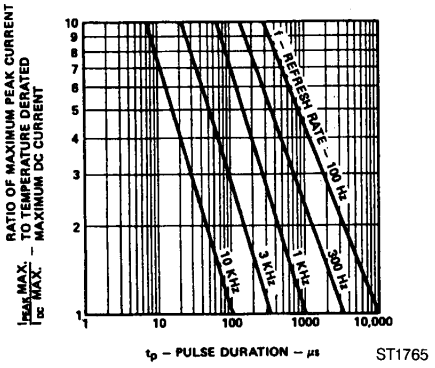

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Fig. 5. Maximum Peak Current vs. Pulse Duration

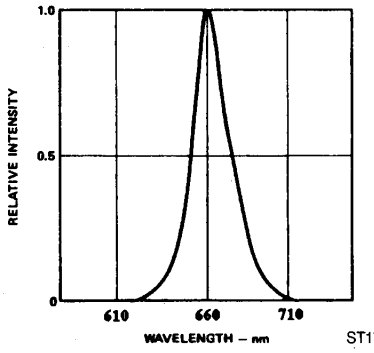

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Fig. 6. Relative Intensity vs. Wavelength

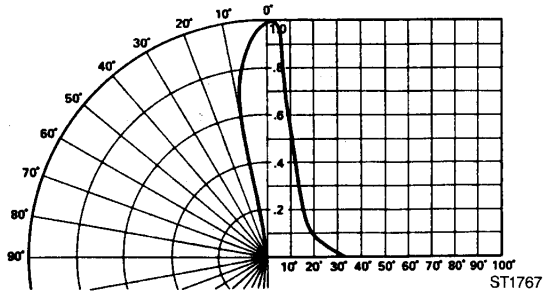

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Fig. 7. Relative Luminous Intensity vs. Angular Displacement

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