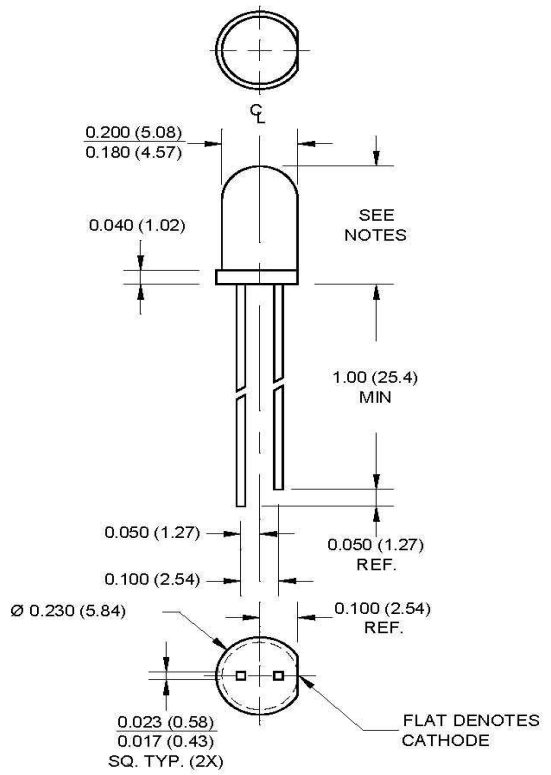
T-1 3/4 (5 mm)
SOLID STATE LAMPS

HIGH EFF. RED	HLMP-3300	HIGH EFF. RED	HLMP-3315
HIGH EFF. RED	HLMP-3301	HIGH EFF. RED	HLMP-3316
		STANDARD RED	FLV110

PACKAGE DIMENSIONS



FEATURES

- Popular, general purpose lamps
- Wide and narrow viewing angle devices for direct view or backlighting
- Solid state reliability
- Sturdy leads for easy assembly

DESCRIPTION

The HLMP-33XX series consists of high efficiency red T-1 3/4 lamps with a viewing angle of 35° or 65°. FLV110 is a low profile standard red T-1 3/4 lamp with a diffused lens, providing a viewing angle of 70°.

NOTES:

1. ALL DIMENSIONS ARE IN INCHES (mm).
2. TOLERANCES ARE ±.010" INCH UNLESS SPECIFIED.
3. AN EPOXY MENISCUS MAY EXTEND ABOUT .040" (1 mm) DOWN THE LEADS.
4. DIMENSIONS X.
   PACKAGE HEIGHT HLMP = .330 (8.38)/.350 (8.89)
   FLV = .275 (6.98)/.295 (7.49)
5. FLV FLANGE HEIGHT = 0.040 (1.02) / 0.060 (1.53)

ABSOLUTE MAXIMUM RATING (T_A =25°C)

Parameter	HLMP33XX	FLV110	UNITS
Power Dissipation	135	135	mW
Average Forward Current	30	30	mA
Peak Forward Current (1 µS pulsewidth, 0.3% duty cycle)(FLV110 1 amp)	90	90	mA
Reverse Voltage	5	5	V
Lead Soldering Time at 260° C	5	5	sec
Operating Temperature	-55 to +100	-55 to +100	°C
Storage Temperature	-55 to +100	-55 to +100	°C

T-1 3/4 (5 mm)
SOLID STATE LAMPS

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

Part Number	HLMP-3300	HLMP-3301	HLMP-3315	HLMP-3316	FLV110	Condition
Luminous Intensity (mcd)						I_F = 10mA
Minimum	2.0	4.0	12	20	0.8*	
Typical	3.5	7.0	18	35	3.0*	
Forward Voltage (V)						I_F = 10mA
Maximum	3.0	3.0	3.0	3.0	2.0	
Typical	2.2	2.2	2.2	2.2	1.6	
Peak Wavelength (nm)	635	635	635	635	660	I_F = 10mA
Reverse Voltage (V)	5	5	5	5	5	I_R = 100µA
Viewing Angle (°)	65	65	35	35	70	I_F = 10mA

* For FLV110 Test I_F = 20mA

TYPICAL PERFORMANCE CURVES (T_A =25°C)

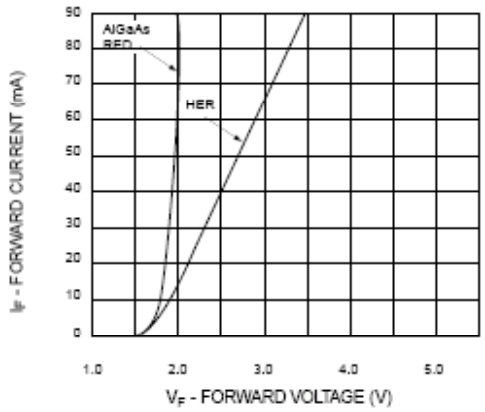


Fig. 1 Forward Current vs. Forward Voltage

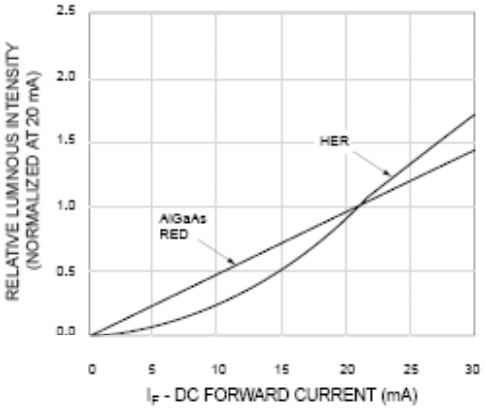


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

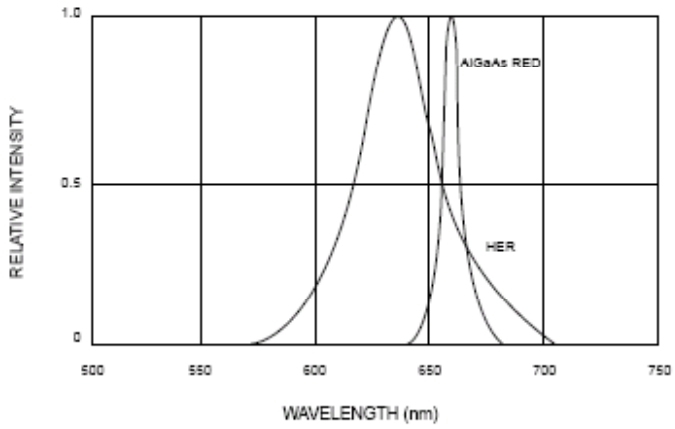


Fig. 3 Relative Intensity vs. Peak Wavelength

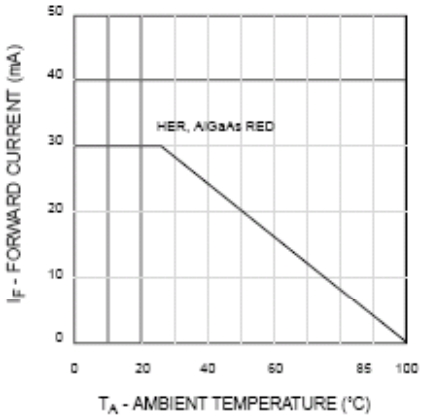


Fig. 4 Current Derating Curve

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