

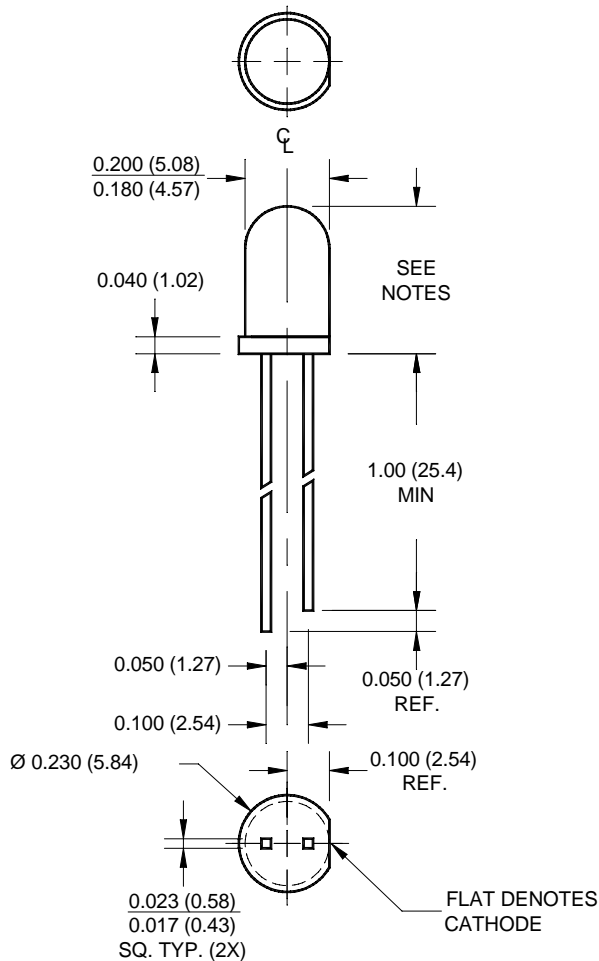
HIGH EFF. RED  
HIGH EFF. RED

HLMP-3300  
HLMP-3301

HIGH EFF. RED  
HIGH EFF. RED  
STANDARD RED

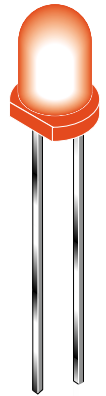
HLMP-3315  
HLMP-3316  
FLV110

## 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  $\pm 0.10$ " 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)

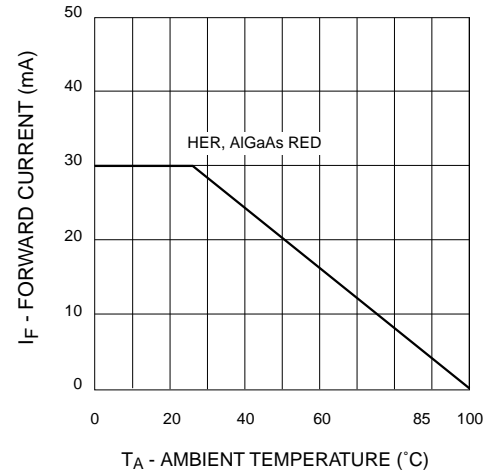
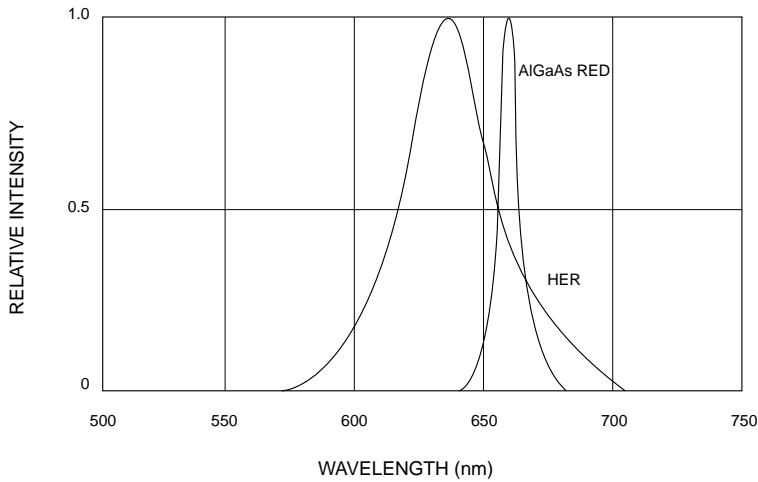
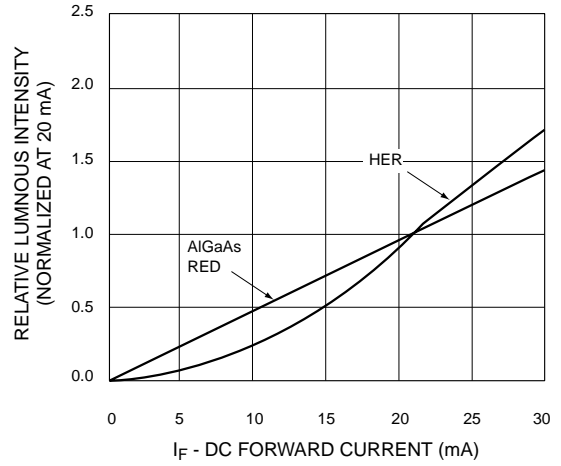
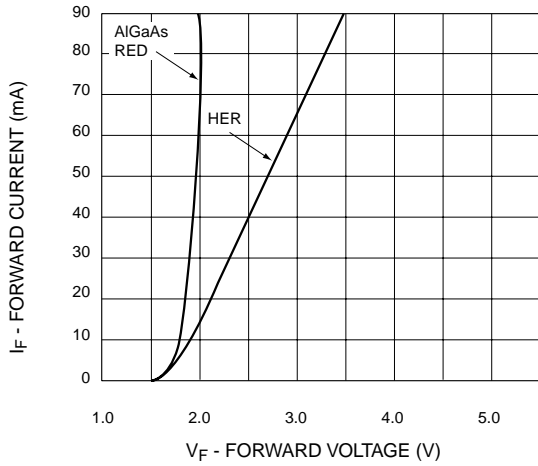
## ABSOLUTE MAXIMUM RATING (T<sub>A</sub> = 25°C)

Parameter	HLMP33XX	FLV110	UNITS
Power Dissipation	135	135	mW
Average Forward Current	30	30	mA
Peak Forward Current (1 $\mu$ S 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

<b>ELECTRICAL / OPTICAL CHARACTERISTICS</b> (T <sub>A</sub> =25°C)						
<b>Part Number</b>	<b>HLMP-3300</b>	<b>HLMP-3301</b>	<b>HLMP-3315</b>	<b>HLMP-3316</b>	<b>FLV110</b>	<b>Condition</b>
Luminous Intensity (mcd)						I <sub>F</sub> = 10mA
Minimum	2.0	4.0	12	20	0.8*	
Typical	3.5	7.0	18	35	3.0*	
Forward Voltage (V)						I <sub>F</sub> = 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 <sub>F</sub> = 10mA
Reverse Voltage (V)	5	5	5	5	5	I <sub>R</sub> = 100μA
Viewing Angle (°)	65	65	35	35	70	I <sub>F</sub> = 10mA

\* For FLV110 Test I<sub>F</sub> = 20mA

**TYPICAL PERFORMANCE CURVES ( $T_A = 25^\circ\text{C}$ )**



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