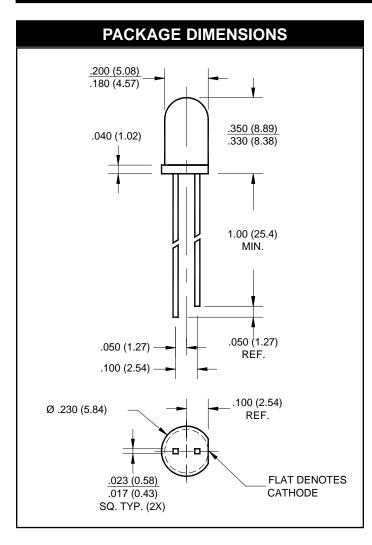
PURE GREEN	HLMP-D600	TINTED		
<b>PURE GREEN</b>	HLMP-D640	CLEAR		
SOFT ORANGE	HLMP-D400	TINTED		
SOFT ORANGE	HLMP-D401	TINTED		



### **FEATURES**

- Popular T-1 3/4 package
- · Low drive current
- Solid state reliability
- Wide viewing angle
- Choice of pure green or soft orange colors



### **DESCRIPTION**

These T-1 3/4 LEDs are widely used as general purpose indicators. The pure green lamps is made with a GaP LED on a GaP substrate. The soft orange is made with a GaAsP LED on a GaP substrate. They are encapsulated in epoxy packages and are designed to provide superior light output and a wide viewing angle.

#### NOTES:

- 1. ALL DIMENSIONS ARE IN INCHES (mm).
- 2. TOLERANCES ARE ±.010" INCH UNLESS SPECIFIED.
- AN EPOXY MENISCUS MAY EXTEND ABOUT .040" (1 mm) DOWN THE LEADS.

ABSOLUTE MAXIMUM RATING (TA =25°	C)		
Parameter	GREEN	ORANGE	UNITS
Power Dissipation	110	110	mW
Forward Current	40	40	mA
Peak Forward Current (f=1kHz, DF=10%)	200	200	mA
Lead Soldering Time at 260° C	5	5	sec
Operating Temperature	-40 to +100	-40 to +100	°C
Storage Temperature	-40 to +100	-40 to +100	°C



ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)						
Part Number	HLMP-D600	HLMP-D640*	HLMP-D400	HLMP-D401	Condition	
Luminous Intensity (mcd)					$I_F = 10mA$	
Minimum	1.0	6.7	2.1	4.0		
Typical	3.0	6.0	3.5	7.0		
Forward Voltage (V)					$I_F = 10mA$	
Maximum	2.7	3.0	2.4	2.4		
Typical	2.1	2.2	1.9	1.9		
Peak Wavelength (nm)	555	555	612	612	$I_F = 10mA$	
Spectral Line Half Width (nm)	24	24	40	40	$I_F = 10mA$	
Reverse Voltage (V)	5	5	5	5	$I_{R} = 100 \mu A$	
Viewing Angle (°)	60	24	60	60	I <sub>F</sub> = 10mA	

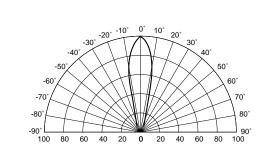
<sup>\*</sup> HLMP-D640 test condition is  $I_F = 20$ mA



#### TYPICAL PERFORMANCE CURVES (TA =25°C) 2.5 80 RELATIVE LUMNOUS INTENSITY (NORMALIZED AT 20 mA) IF - FORWARD CURRENT (mA) 70 60 1.5 50 40 1.0 30 20 0.5 10 0 0.0 4.0 1.0 2.0 3.0 5.0 0 30 V<sub>F</sub> - FORWARD VOLTAGE (V) IF - DC FORWARD CURRENT (mA) Fig. 1 Forward Current vs. Forward Voltage Fig. 2 Relative Luminous Intensity vs. **DC Forward Current** 1.0 50 IF - FORWARD CURRENT (mA) GREEN ORANGE RELATIVE INTENSITY 30 0.5 10 500 550 600 650 700 750 20 40 60 80 100

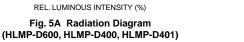
WAVELENGTH (nm) Fig. 3 Relative Intensity vs. Peak Wavelength

0



T<sub>A</sub> - AMBIENT TEMPERATURE (°C)

Fig. 4 Current Derating Curve



REL. LUMINOUS INTENSITY (%)

Fig. 5B Radiation Diagram
(HLMP-D640)

80

-60

80

-90°



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- 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.