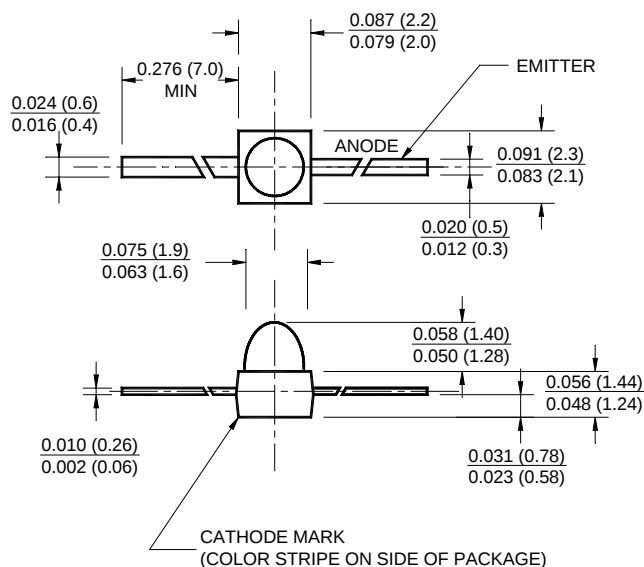


SOLID STATE LED LAMPS

SUBMINIATURE T-1 3/4 (1.9mm)

PACKAGE DIMENSIONS

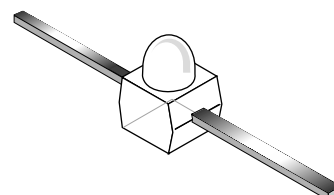


NOTE:
Dimensions are in inches (mm).

AlGaAs RED	HLMP-Q106A	Clear
AlInGaP ORANGE	HLMA-QH00A	Clear
AlInGaP YELLOW	HLMA-QL00A	Clear

FEATURES

- Subminiature package
- Low profile package
- Three lead bend options for surface mounting
- Available in tape and reel



DESCRIPTION

These subminiature LED lamps are intended for high volume, low cost status indication on PCBs, as well as for backlighting keyboards and switches. Choices of "Yoke", "Z-Bend" or "Gull-Wing" lead bends are available.

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

Parameter	AlGaAs Red HLMP-Q106A	AlInGaP Orange HLMA-QH00A	AlInGaP Yellow HLMA-QL00A	Units
Continuous Forward Current - I_F	50	50	50	mA
Peak Forward Current - I_F ($f = 1.0$ KHz, Duty Factor = 1/10)	200	100	100	mA
Reverse Voltage - V_R ($I_R = 10$ μA)	5	5	5	V
Power Dissipation - P_D	100	120	120	mW
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}				$^\circ\text{C}$
Wave	260 for 5 sec			
Reflow	260 for 10 sec			

ELECTRICAL / OPTICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Part Number	AlGaAs Red HLMP-Q106A	AlInGaP Orange HLMA-QH00A	AlInGaP Yellow HLMA-QL00A	Condition
Luminous Intensity (mcd)				$I_F = 20\text{mA}$
Minimum	50	150	150	
Typical	500	500	500	
Forward Voltage (V)				$I_F = 20\text{mA}$
Maximum	2.4	2.4	2.4	
Typical	1.9	1.9	1.9	
Peak Wavelength (nm)	660	620	590	$I_F = 20\text{mA}$
Spectral Line Half Width (nm)	20	18	15	$I_F = 20\text{mA}$
Viewing Angle ($^\circ$)	25	25	25	$I_F = 20\text{mA}$

AlGaAs RED	HLMP-Q106A	Clear
AlInGaP ORANGE	HLMA-QH00A	Clear
AlInGaP YELLOW	HLMA-QL00A	Clear

TYPICAL PERFORMANCE CURVES

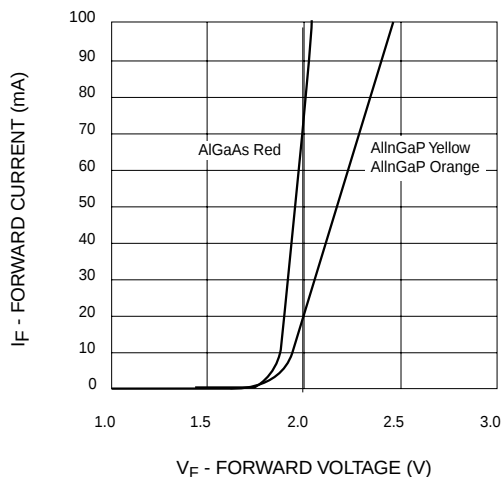


Fig. 1 Forward Current vs. Forward Voltage

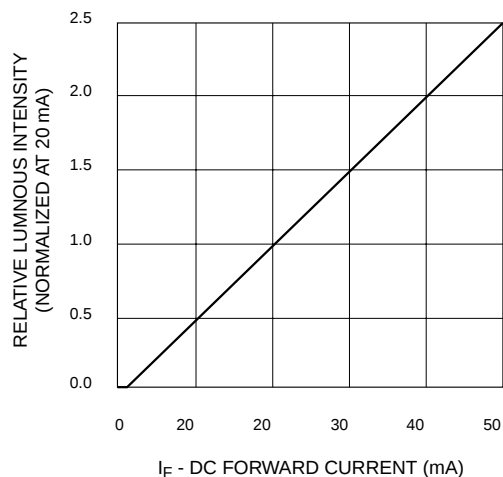


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

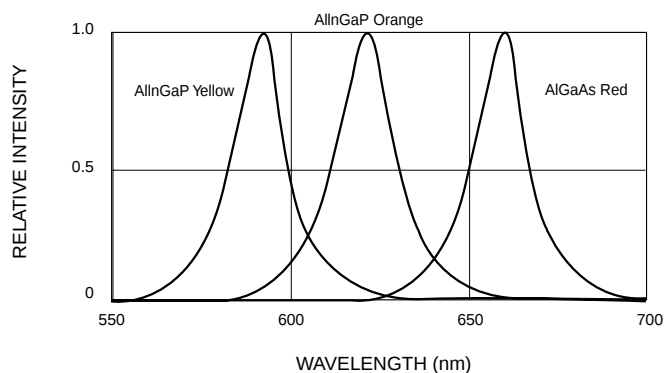


Fig. 3 Relative Intensity vs. Peak Wavelength

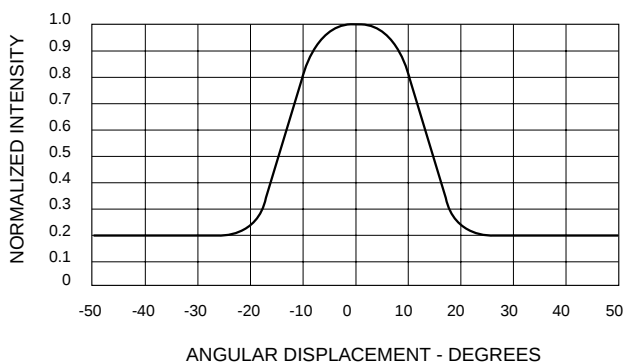
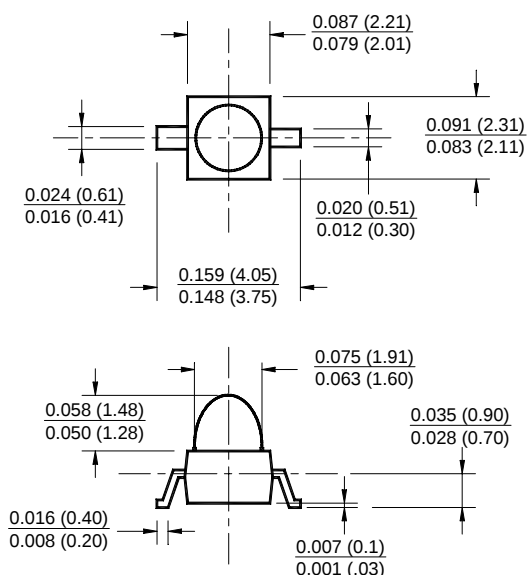


Fig. 4 Relative Luminous Intensity vs. Angular Displacement

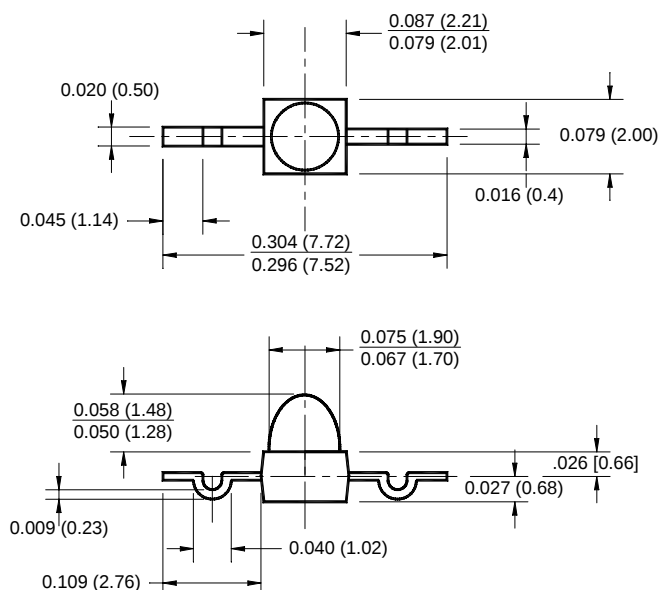
SOLID STATE LED LAMPS SUBMINIATURE T-1 3/4 (1.9mm)

AlGaAs RED	HLMP-Q106A	Clear
AlInGaP ORANGE	HLMA-QH00A	Clear
AlInGaP YELLOW	HLMA-QL00A	Clear

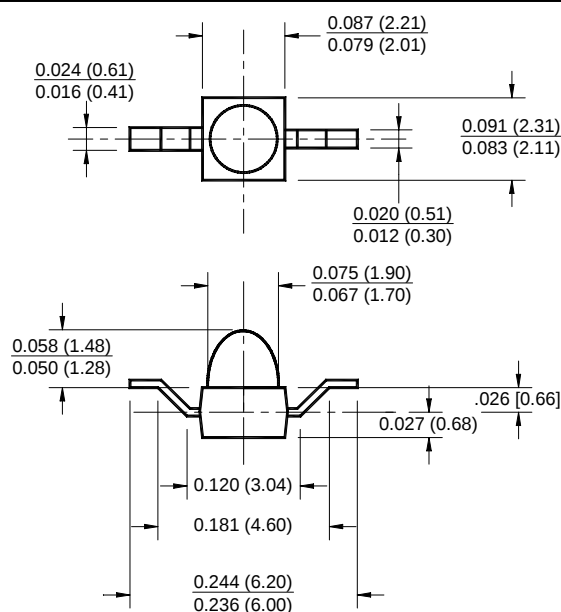
Gull-Wing Lead Option



Yoke Lead Option



Z-Bend Lead Option



NOTE

All dimensions are in inches (millimeters)

www.qtopto.com

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