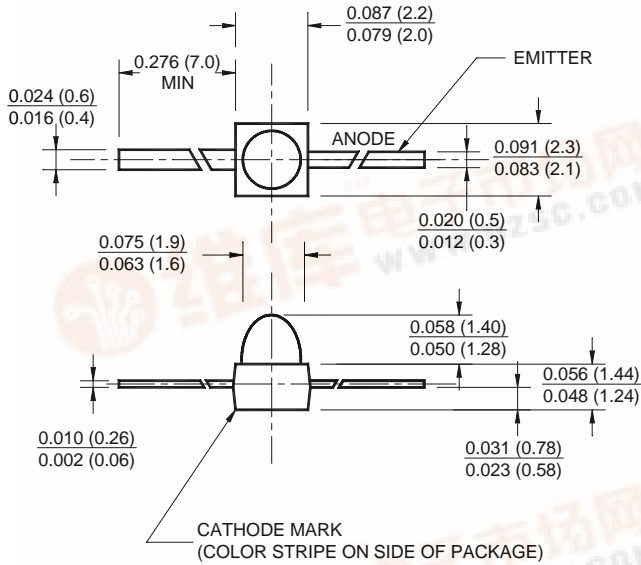


# SOLID STATE LED LAMPS

## SUBMINIATURE T-1 3/4 (1.9mm)

### PACKAGE DIMENSIONS

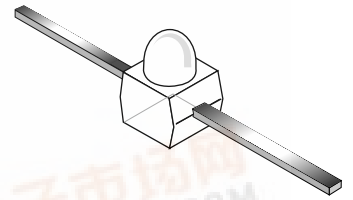


NOTE:  
Dimensions are in inches (mm).

<b>AlGaAs RED</b>	<b>HLMP-Q106A</b>	<b>Clear</b>
<b>AllnGaP ORANGE</b>	<b>HLMA-QH00A</b>	<b>Clear</b>
<b>AllnGaP YELLOW</b>	<b>HLMA-QL00A</b>	<b>Clear</b>

### 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<sub>A</sub> = 25°C unless otherwise specified)

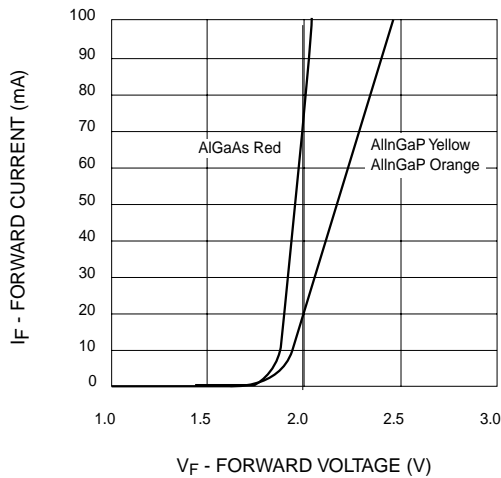
Parameter	AlGaAs Red HLMP-Q106A	AllnGaP Orange HLMA-QH00A	AllnGaP Yellow HLMA-QL00A	Units
Continuous Forward Current - I <sub>F</sub>	50	50	50	mA
Peak Forward Current - I <sub>F</sub> (f = 1.0 KHZ, Duty Factor = 1/10)	200	100	100	mA
Reverse Voltage - V <sub>R</sub> (I <sub>R</sub> = 10 μA)	5	5	5	V
Power Dissipation - P <sub>D</sub>	100	120	120	mW
Operating Temperature - T <sub>OPR</sub>	-40 to +100			°C
Storage Temperature - T <sub>STG</sub>	-40 to +100			°C
Lead Soldering Time - T <sub>SOL</sub>				
Wave	260 for 5 sec			°C
Reflow	260 for 10 sec			

### ELECTRICAL / OPTICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

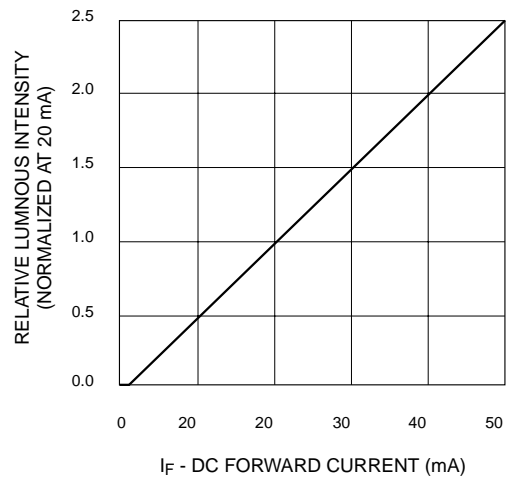
Part Number	AlGaAs Red HLMP-Q106A	AllnGaP Orange HLMA-QH00A	AllnGaP Yellow HLMA-QL00A	Condition
Luminous Intensity (mcd)				I <sub>F</sub> = 20mA
Minimum	50	150	150	
Typical	500	500	500	
Forward Voltage (V)				I <sub>F</sub> = 20mA
Maximum	2.4	2.4	2.4	
Typical	1.9	1.9	1.9	
Peak Wavelength (nm)	660	620	590	I <sub>F</sub> = 20mA
Spectral Line Half Width (nm)	20	18	15	I <sub>F</sub> = 20mA
Viewing Angle (°)	25	25	25	I <sub>F</sub> = 20mA

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

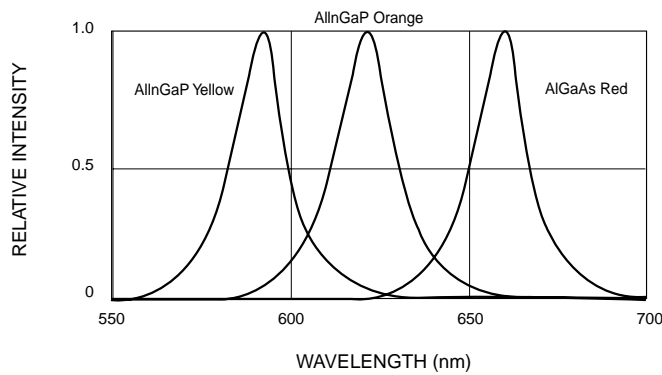
**TYPICAL PERFORMANCE CURVES**



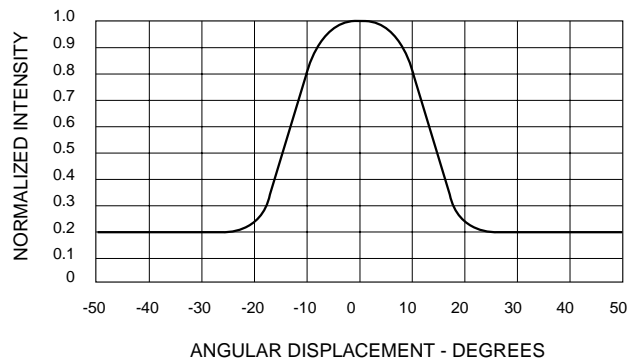
**Fig. 1 Forward Current vs. Forward Voltage**



**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**



**Fig. 3 Relative Intensity vs. Peak Wavelength**

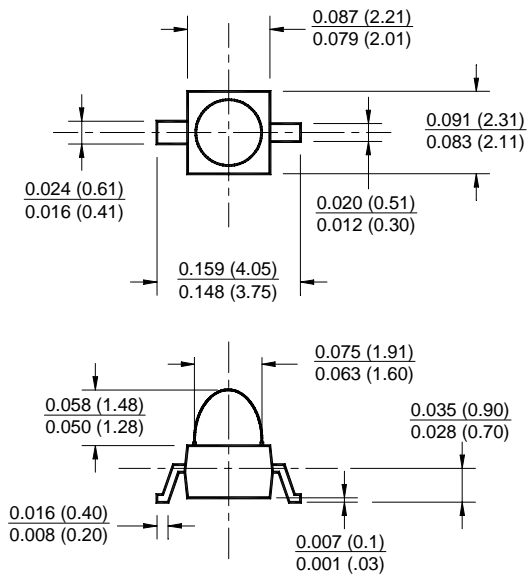


**Fig. 4 Relative Luminous Intensity vs. Angular Displacement**

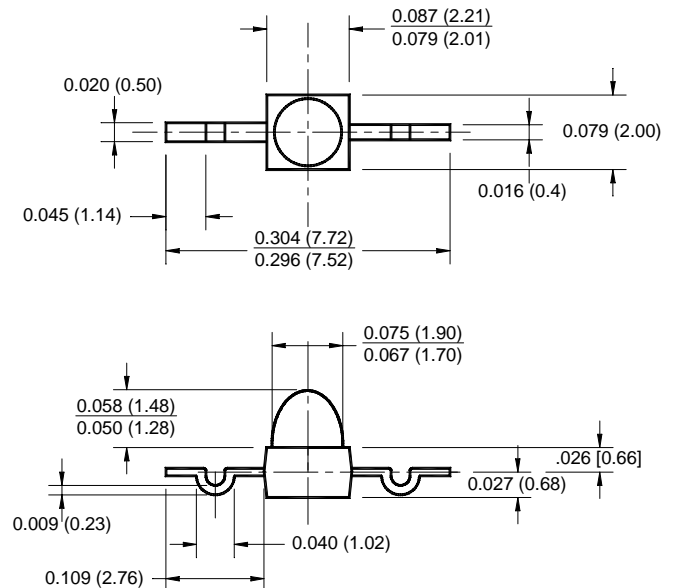
# SOLID STATE LED LAMPS SUBMINIATURE T-1 3/4 (1.9mm)

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

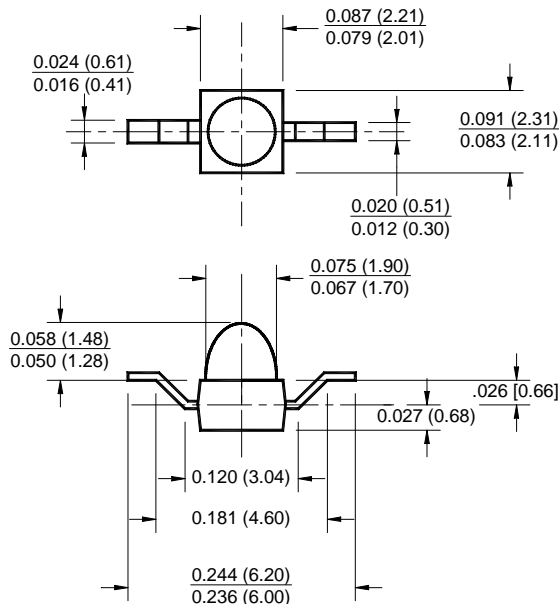
## Gull-Wing Lead Option



## Yoke Lead Option



## Z-Bend Lead Option



**NOTE**

All dimensions are in inches (millimeters)

[www.qtopto.com](http://www.qtopto.com)

Call QT Optoelectronics for more information or the phone number of your nearest distributor.

### **DISCLAIMER**

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

### **LIFE SUPPORT POLICY**

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. 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.