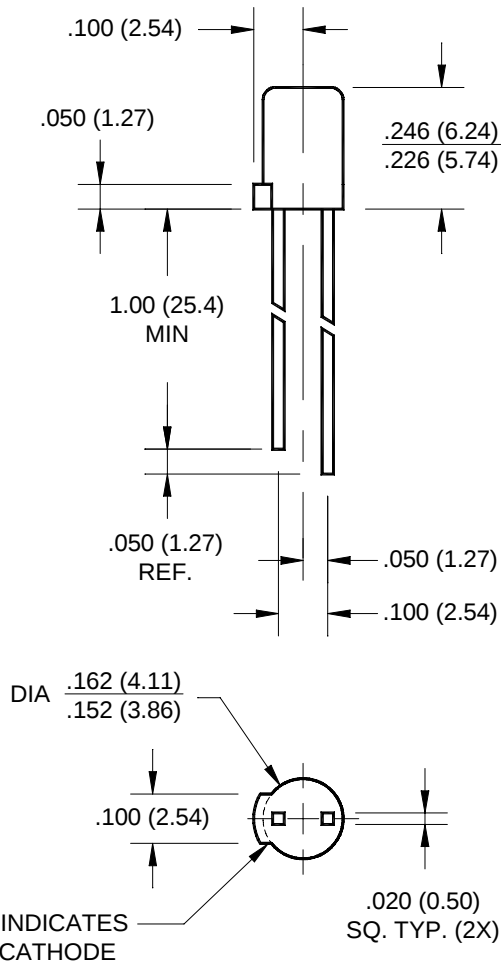


HER  
YELLOW  
GREEN

HLMP-M200/M201  
HLMP-M300/M301  
HLMP-M500/M501

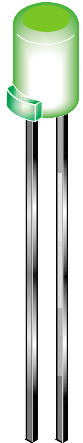
HLMP-M250/M251  
HLMP-M350/M351  
HLMP-M550/M551

## PACKAGE DIMENSIONS



## FEATURES

- Wide viewing angle
- Excellent for backlighting small areas
- Solid state reliability
- Choice of tinted clear or tinted diffused package



## DESCRIPTION

Bright illumination and wide viewing angle are two outstanding features of the 4 mm flat top lamps. The cylindrical shape and flat emitting surface make these lamps particularly well suited for applications requiring high light output in minimal space.

NOTES: ALL DIMENSIONS ARE IN INCHES (mm).

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

| Parameters                                                  | HER         | YELLOW      | GREEN       | UNITS |
|-------------------------------------------------------------|-------------|-------------|-------------|-------|
| Power Dissipation                                           | 135         | 120         | 135         | mW    |
| Peak Forward Current<br>(1 μS pulse width, 0.3% duty cycle) | 90          | 60          | 90          | mA    |
| Reverse Voltage                                             | 5           | 5           | 5           | V     |
| Lead Soldering Time at 260° C                               | 5           | 5           | 5           | sec   |
| Continuous Forward Current                                  | 30          | 20          | 30          | mA    |
| Operating Temperature                                       | -55 to +100 | -55 to +100 | -55 to +100 | °C    |
| Storage Temperature                                         | -55 to +100 | -55 to +100 | -55 to +100 | °C    |

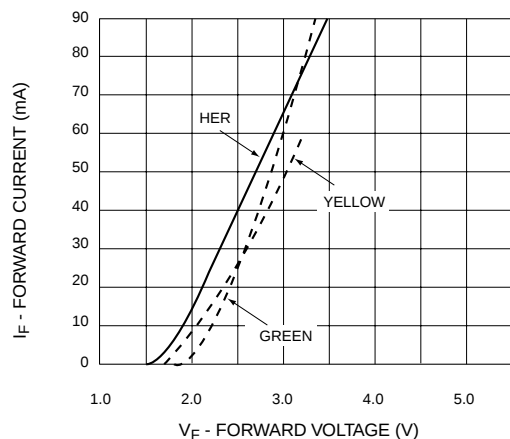
## ELECTRICAL / OPTICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

| Parameter                | HER<br>HLMP-M200/M201 | YELLOW<br>HLMP-M300/M301 | GREEN<br>HLMP-M500/M501 | Condition              |
|--------------------------|-----------------------|--------------------------|-------------------------|------------------------|
| Luminous Intensity (mcd) |                       |                          |                         | I <sub>F</sub> = 20mA  |
| Minimum                  | 3.4 / 5.4             | 3.6 / 5.7                | 4.2 / 6.7               |                        |
| Typical                  | 5.0 / 7.0             | 5.0 / 7.0                | 7.0 / 10.0              |                        |
| Forward Voltage (V)      |                       |                          |                         | I <sub>F</sub> = 20mA  |
| Maximum                  | 3.0                   | 3.0                      | 3.0                     |                        |
| Typical                  | 2.2                   | 2.2                      | 2.3                     |                        |
| Peak Wavelength (nm)     | 635                   | 585                      | 565                     | I <sub>F</sub> = 20mA  |
| Reverse Voltage (V)      | 5                     | 5                        | 5                       | I <sub>R</sub> = 100μA |
| Viewing Angle (°)        | 135                   | 135                      | 135                     | I <sub>F</sub> = 20mA  |

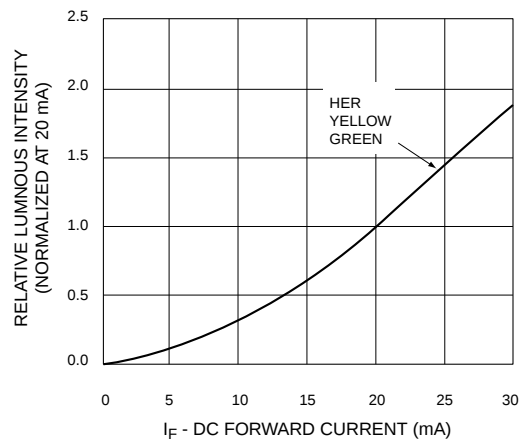
## ELECTRICAL / OPTICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

| Parameter                | HER<br>HLMP-M250/M251 | YELLOW<br>HLMP-M350/M351 | GREEN<br>HLMP-M550/M551 | Condition              |
|--------------------------|-----------------------|--------------------------|-------------------------|------------------------|
| Luminous Intensity (mcd) |                       |                          |                         | I <sub>F</sub> = 10mA  |
| Minimum                  | 3.4 / 5.4             | 3.6 / 5.7                | 4.2 / 6.7               |                        |
| Typical                  | 5.0 / 7.0             | 5.0 / 7.0                | 10.0 / 16.0             |                        |
| Forward Voltage (V)      |                       |                          |                         | I <sub>F</sub> = 20mA  |
| Maximum                  | 3.0                   | 3.0                      | 3.0                     |                        |
| Typical                  | 2.2                   | 2.2                      | 2.3                     |                        |
| Peak Wavelength (nm)     | 635                   | 585                      | 565                     | I <sub>F</sub> = 10mA  |
| Reverse Voltage (V)      | 5                     | 5                        | 5                       | I <sub>R</sub> = 100μA |
| Viewing Angle (°)        | 80                    | 80                       | 80                      | I <sub>F</sub> = 10mA  |

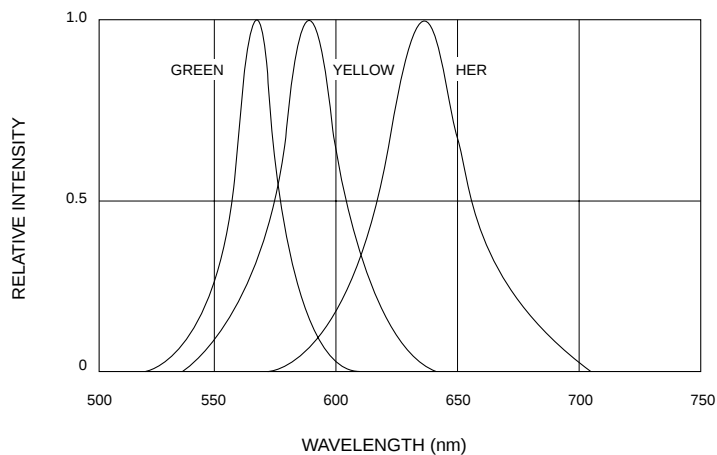
## TYPICAL PERFORMANCE CURVES ( $T_A = 25^\circ\text{C}$ )



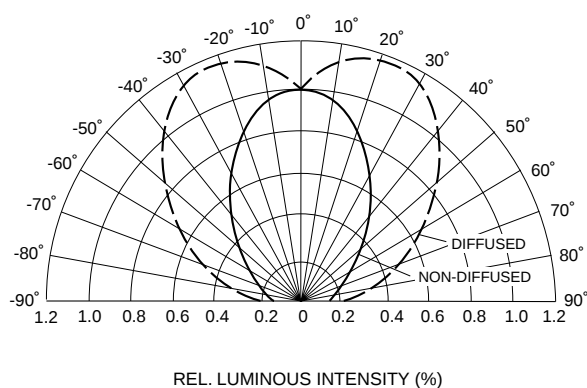
**Fig. 1 Forward Current vs. Forward Voltage**



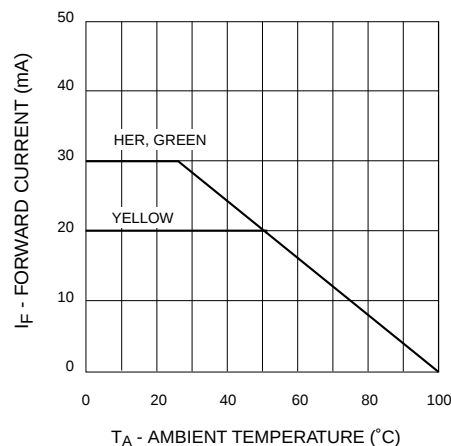
**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**



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



**Fig. 4 Radiation Diagram**



**Fig. 5 Current Derating Curve**

## DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE 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 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.