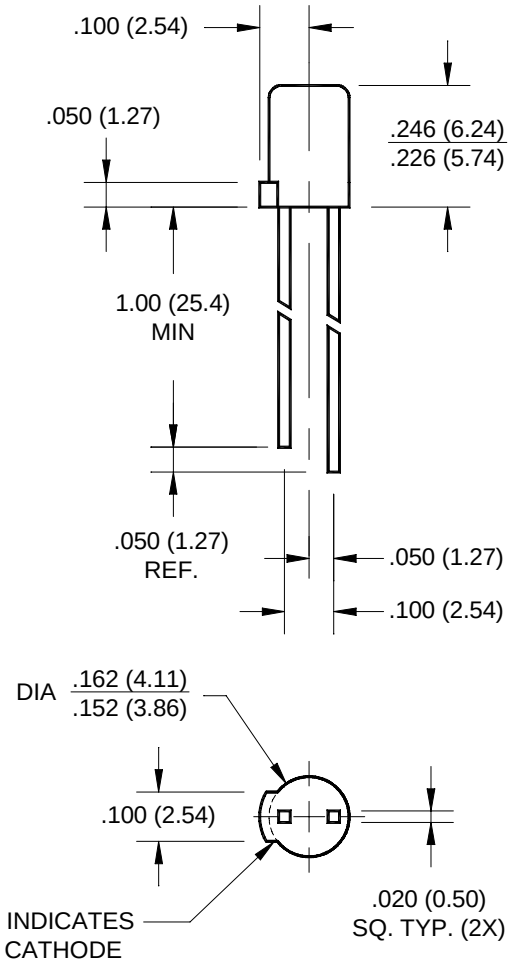
FAIRCHILD
SEMICONDUCTOR™

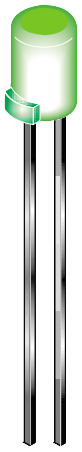
# 4 mm FLAT TOP LAMPS

| | | |
|---|---|---|
| **HER** | **HLMP-M200/M201** | **HLMP-M250/M251** |
| **YELLOW** | **HLMP-M300/M301** | **HLMP-M350/M351** |
| **GREEN** | **HLMP-M500/M501** | **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 ($T_A$ =25°C)

| Parameters | HER | YELLOW | GREEN | UNITS |
|---|---|---|---|---|
| Power Dissipation | 135 | 120 | 135 | mW |
| Peak Forward Current (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 ($T_A$ =25°C)

| Pararmeter | HER HLMP-M200/M201 | YELLOW HLMP-M300/M301 | GREEN HLMP-M500/M501 | Condition |
|---|---|---|---|---|
| Luminous Intensity (mcd) | | | | $I_F$ = 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) | | | | $I_F$ = 20mA |
| Maximum | 3.0 | 3.0 | 3.0 | |
| Typical | 2.2 | 2.2 | 2.3 | |
| Peak Wavelength (nm) | 635 | 585 | 565 | $I_F$ = 20mA |
| Reverse Voltage (V) | 5 | 5 | 5 | $I_R$ = 100µA |
| Viewing Angle (°) | 135 | 135 | 135 | $I_F$ = 20mA |

## ELECTRICAL / OPTICAL CHARACTERISTICS ($T_A$ =25°C)

| Pararmeter | HER HLMP-M250/M251 | YELLOW HLMP-M350/M351 | GREEN HLMP-M550/M551 | Condition |
|---|---|---|---|---|
| Luminous Intensity (mcd) | | | | $I_F$ = 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) | | | | $I_F$ = 20mA |
| Maximum | 3.0 | 3.0 | 3.0 | |
| Typical | 2.2 | 2.2 | 2.3 | |
| Peak Wavelength (nm) | 635 | 585 | 565 | $I_F$ = 10mA |
| Reverse Voltage (V) | 5 | 5 | 5 | $I_R$ = 100µA |
| Viewing Angle (°) | 80 | 80 | 80 | $I_F$ = 10mA |

## TYPICAL PERFORMANCE CURVES ($T_A$ =25°C)

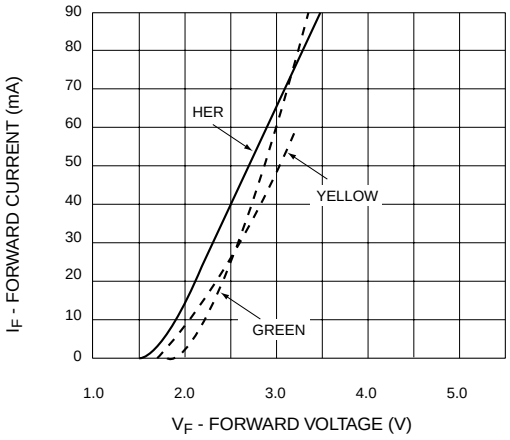



**Fig. 1 Forward Current vs. Forward Voltage**

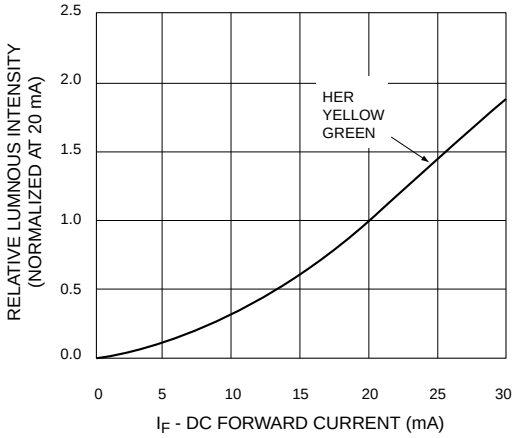



**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**

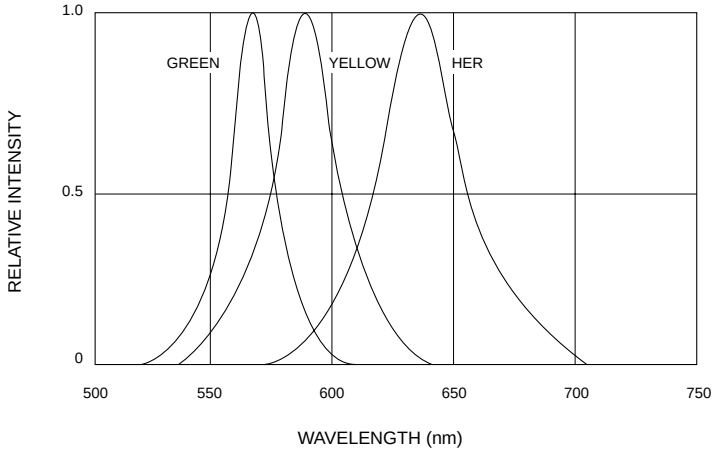



**Fig. 3 Relative Intensity vs. Peak Wavelength**

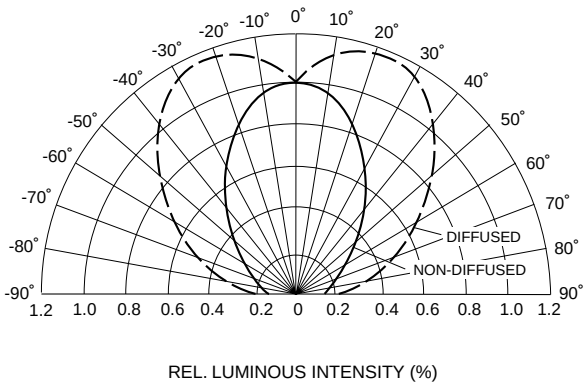



**Fig.4 Radiation Diagram**

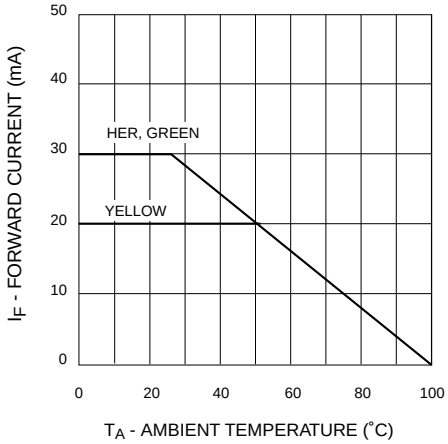



**Fig. 5 Current Derating Curve**

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