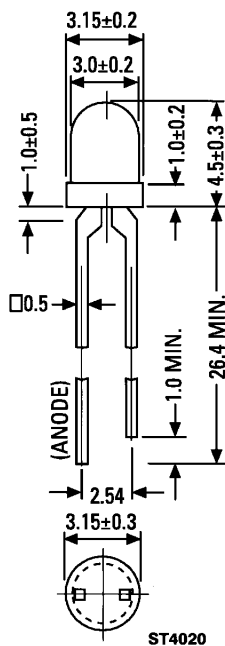


**YELLOW MV5362X TINTED, HLMP-1440, MV5360 PALE TINT  
HIGH EFFICIENCY GREEN MV5462X TINTED, HLMP-1540, MV5460 PALE TINT  
HIGH EFFICIENCY RED MV5762X TINTED, HLMP-1340, MV5760 PALE TINT**

**PACKAGE DIMENSIONS**



NOTES:  
1. ALL DIMENSIONS ARE IN MM.  
2. LEAD SPACING IS MEASURED WHERE THE LEADS EMERGE FROM THE PACKAGE.  
3. PROTRUDED RESIN UNDER THE FLANGE IS 1.5 mm (0.059") MAX.

**DESCRIPTION**

These solid state indicators offer a variety of color selection. The High Efficiency Red and Yellow devices are made with gallium arsenide phosphide on gallium phosphide. All are encapsulated in epoxy packages and have clear lenses. Their small size, wide viewing angle, and small square leads contribute to their versatility as all-purpose indicators. All types are tinted to aid identification.

**FEATURES**

- Standard and Ultrabright devices
- Clear tinted lenses
- 100 mil lead spacing
- High efficiency GaP
- Versatile mounting on PC board or panel
- Long life—solid state reliability
- Low power requirements
- Compact, rugged, lightweight
- T-1 diameter
- Replacement for the HLMP-1X20/1 Series
- Excellent for switch backlighting

**PHYSICAL CHARACTERISTICS**

| TYPE                  | SOURCE COLOR          | LENS EFFECT      | LUMINOUS INTENSITY at 25°C (mcd) |      | TEST CONDITION                                   |
|-----------------------|-----------------------|------------------|----------------------------------|------|--|
|                       |                       |                  | MIN.                             | TYP. |  |
| Ultrabright HLMP-1440 | Yellow                | Pale Tint        | 24.0                             | 60.0 | } I <sub>F</sub> =20 mA<br>I <sub>F</sub> =10 mA |
| MV5360 (HLMP-1420)    | Yellow                | Pale Tint        | 6.0                              | 12.0 |  |
| MV53621               | Yellow                | Tinted           | 3.0                              | 4.0  |  |
| MV53622               | Yellow                | Tinted           | 6.0                              | 8.0  |  |
| Ultrabright HLMP-1540 | High Efficiency Green | Pale Tint        | 24.0                             | 60.0 | } I <sub>F</sub> =20 mA                          |
| MV5460 (HLMP-1520)    | High Efficiency Green | Pale Tint        | 6.0                              | 12.0 |  |
| MV54624 (HLMP-1521)   | High Efficiency Green | Tinted           | 6.0                              | 12.0 |  |
| Ultrabright HLMP-1340 | High Efficiency Red   | Pale Orange Tint | 24.0                             | 60.0 | } I <sub>F</sub> =20 mA<br>I <sub>F</sub> =10 mA |
| MV5760 (HLMP-1320)    | High Efficiency Red   | Pale Orange Tint | 6.0                              | 12.0 |  |
| MV57620               | High Efficiency Red   | Tinted           | 1.5                              | 2.0  |  |
| MV57621               | High Efficiency Red   | Tinted           | 3.0                              | 4.0  |  |
| MV57622 (HLMP-1321)   | High Efficiency Red   | Tinted           | 6.0                              | 12.0 |  |

| <b>ELECTRO-OPTICAL CHARACTERISTICS</b><br>(25°C Free Air Temperature Unless Otherwise Specified) |                      |         |                   |                   |                   |           |           |           |
|--|----------------------|---------|-------------------|-------------------|-------------------|-----------|-----------|-----------|
| PARAMETER  | TEST CONDITIONS      | UNITS   | MV5362X<br>MV5360 | MV5462X<br>MV5460 | MV5762X<br>MV5760 | HLMP-1340 | HLMP-1440 | HLMP-1540 |
| Forward voltage ( $V_f$ )  | $I_f = 10$ mA        | V       | 2.1               | 2.1*              | 2.0               | 2.2*      | 2.2*      | 2.2*      |
|  |                      |         | 3.0               | 3.0*              | 3.0               | 3.0*      | 3.0*      | 3.0*      |
| Peak wavelength  |                      | nm      | 585               | 565               | 635               | 635       | 585       | 565       |
| Spectral line<br>half width  |                      | nm      | 35                | 40                | 45                | 45        | 35        | 40        |
| Capacitance<br>typ.  | $f = 1$ MHz, $V = 0$ | pF      | 45                | 20                | 45                | 45        | 45        | 20        |
| Reverse voltage ( $V_r$ )<br>min.  | $I_r = 100$ $\mu$ A  | V       | 5.0               | 5.0               | 5.0               | 5.0       | 5.0       | 5.0       |
| Viewing angle (total)<br>typ.  | See Fig. 3           | degrees | 45                | 45                | 45                | 45        | 45        | 45        |

\* $I_f = 20$  mA

| <b>ABSOLUTE MAXIMUM RATING</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)      |                 |
|--|-----------------|
| Power dissipation  | 120 mW          |
| Derate linearly from 50°   | 0.4 mA/°C       |
| Storage and operating temperature  | -55°C to +100°C |
| Lead soldering time at 260°C (1/16 inch from body)   | 5 sec.          |
| Continuous forward current (MV5360/MV5362X/HLMP-1440=20 mA)                                | 30 mA           |
| Peak forward current (1 $\mu$ sec pulse, 0.3% duty cycle) (MV5360/MV5362X/HLMP-1440=60 mA) | 90 mA           |
| Reverse voltage  | 5.0 V           |

**TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES**

(25°C Free Air Temperature Unless Otherwise Specified)

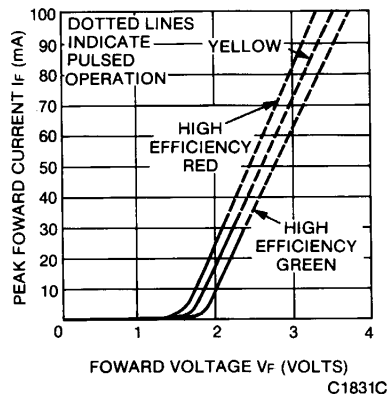
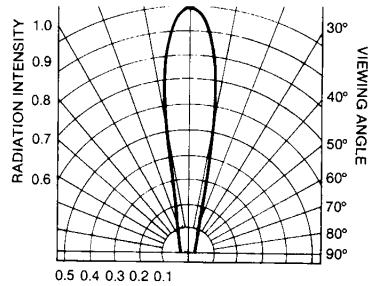


Fig. 1. Forward Current vs. Forward Voltage



6C1793

C1793

Fig. 2. Relative Luminous Intensity vs. Forward Current

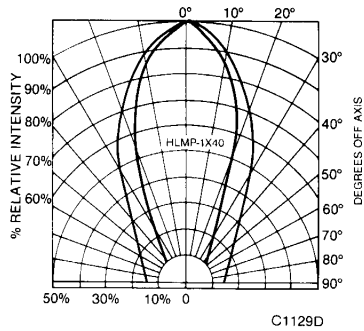


Fig. 3. Spatial Distribution

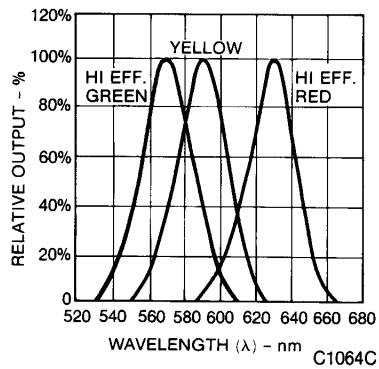


Fig. 4. Spectral Distribution



## CLEAR LENS T-100 SOLID STATE LAMPS

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