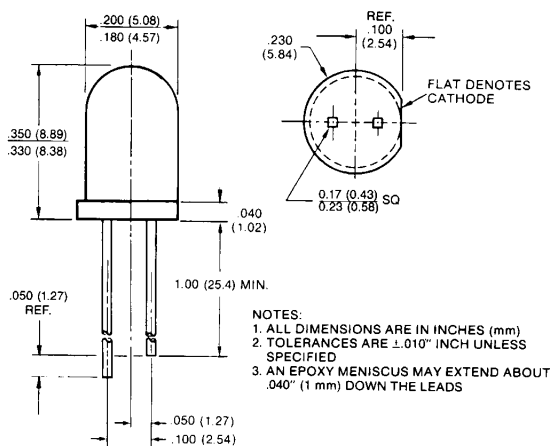


**ORANGE MV5152 MV6152**  
**YELLOW MV5352 MV6352**  
**HIGH EFFICIENCY GREEN MV5452 MV64520 MV64521**  
**HIGH EFFICIENCY RED MV5752 MV6752**

**PACKAGE DIMENSIONS**

**MV5X52—LEAD CUT CATHODE LONG**  
**MV6X52X—LEAD CUT ANODE LONG**



C1062L

**DESCRIPTION**

These Clear Tinted solid state indicators offer high brightness and color availability. The High Efficiency Red and Yellow devices are made with gallium arsenide phosphide on gallium phosphide. The High Efficiency Green units are made with gallium phosphide on gallium phosphide. All devices are available with cathode long as MV5X5X, or with anode long as MV6X5X.

**FEATURES**

- High on-axis light output
- High efficiency GaP light sources
- Versatile mounting on PC board or panel
- Snap in grommet MP52 available as separate order item
- Long life—solid state reliability
- Low power requirements
- Compact, rugged, lightweight

**PHYSICAL CHARACTERISTICS**

| CATHODE LONG | ANODE LONG | SOURCE COLOR          | LENS TYPE    | LENS EFFECT  | APPLICATION  |
|--------------|------------|-----------------------|--------------|--------------|--------------|
| MV5152       | MV6152     | High Efficiency Red   | Amber Clear  | Point Source | Backlighting |
| MV5352       | MV6352     | Yellow                | Yellow Clear | Point Source | Backlighting |
| MV5452       | MV64520    | High Efficiency Green | Green Clear  | Point Source | Backlighting |
| —            | MV64521    | High Efficiency Green | Green Clear  | Point Source | Backlighting |
| MV5752       | MV6752     | High Efficiency Red   | Red Clear    | Point Source | Backlighting |

| <b>ELECTRO-OPTICAL CHARACTERISTICS</b> (25°C Free Air Temperature) |                   |             |                  |                  |                   |         |                  |       |
|--|-------------------|-------------|------------------|------------------|-------------------|---------|------------------|-------|
| PARAMETER  | TEST COND.        | UNITS       | MV6152<br>MV5152 | MV6352<br>MV5352 | MV64520<br>MV5452 | MV64521 | MV6752<br>MV5752 |       |
| Forward voltage ( $V_f$ )  | typ.              | $I_f=20$ mA | V                | 2.0              | 2.1               | 2.2     | 2.2              | 2.0   |
|  | max.              | $I_f=20$ mA | V                | 3.0              | 3.0               | 3.0     | 3.0              | 3.0   |
| Luminous Intensity   | min.              | $I_f=20$ mA | mcd              | 17.0             | 10.0              | 12.0    | 30.0             | 17.0  |
|  | typ.              | $I_f=20$ mA | mcd              | 100.0            | 90.0              | 25.0    | 100.0            | 100.0 |
| Peak wavelength  | $I_f=20$ mA       | nm          | 635              | 585              | 562               | 562     | 635              |       |
| Spectral line half width   | $I_f=20$ mA       | nm          | 45               | 35               | 30                | 30      | 45               |       |
| Capacitance typ.   | $V=0, f=1$ MHz    | pF          | 45               | 45               | 20                | 20      | 45               |       |
| Reverse voltage ( $V_R$ ) min.                                     | $I_R=100$ $\mu$ A | V           | 5                | 5                | 5                 | 5       | 5                |       |
| Reverse current ( $I_R$ ) max.                                     | $V_R=5.0$ V       | $\mu$ A     | 100              | 100              | 100               | 100     | 100              |       |
| Viewing angle (total)  | See Fig. 4        | degrees     | 28               | 28               | 35                | 35      | 28               |       |

| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^\circ\text{C}$ Unless Otherwise Specified) |                 |                      |                 |
|--|-----------------|----------------------|-----------------|
|  | YELLOW          | RED<br>AND H. E. RED | GREEN           |
| Power dissipation  | 85 mW           | 120 mW               | 120 mW          |
| Derate linearly from 25°C (MVX452/4A from 50°C)                                      | 1.6 mW/°C       | 1.6 mW/°C            | 1.6 mW/°C       |
| Storage and operating temperatures   | -55°C to +100°C | -55°C to +100°C      | -55°C to +100°C |
| Lead soldering time at 260° C (See Note 2)   | 5 sec.          | 5 sec.               | 5 sec.          |
| Continuous forward current   | 20 mA           | 35 mA                | 30 mA           |
| Peak forward current (1 $\mu$ sec pulse, 0.3% duty cycle)                            | 60 mA           | 1.0 A                | 90 mA           |
| Reverse voltage  | 5.0 V           | 5.0 V                | 5.0 V           |

| <b>NOTES</b>  |
|---|
| 1. The axis of spatial distribution are typically within a 10° cone within reference to the central axis of the device.   |
| 2. The leads of the device were immersed in molten solder, at 260°C, to a point 1/16 inch (1.6 mm) from the body of the device per MIL-S-750, with a dwell time of 5 seconds. |

**TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES**  
(25°C Free Air Temperature Unless Otherwise Specified)

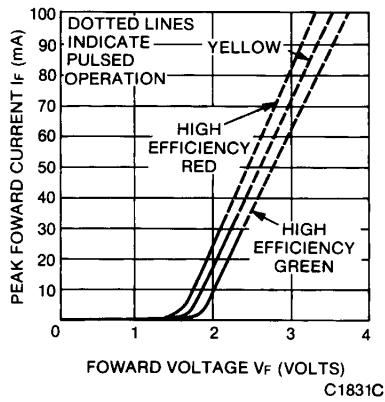


Fig. 1. Forward Current vs. Forward Voltage

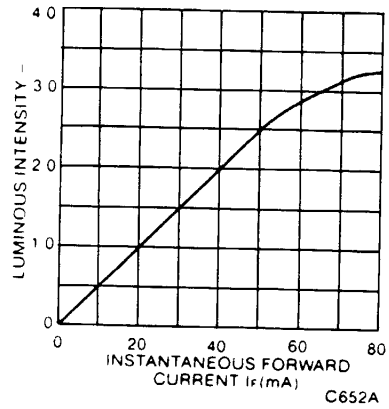


Fig. 2. Luminous Intensity vs. Forward Current

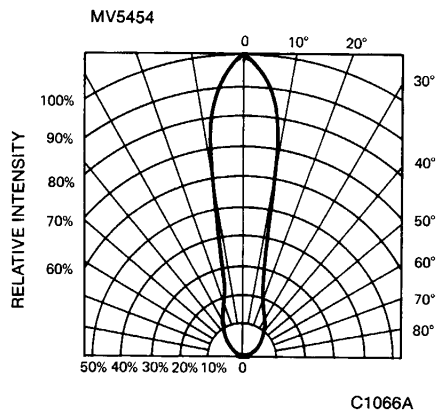


Fig. 3. Spatial Distribution (Note 1)

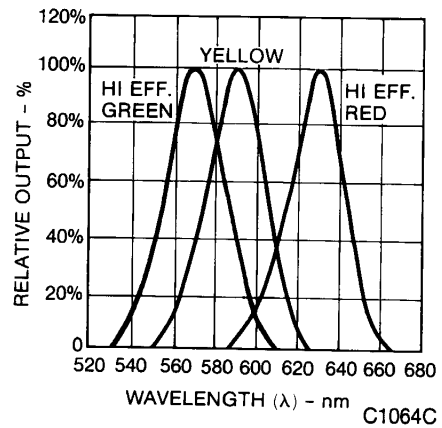


Fig. 4. Spectral Distribution



## CLEAR LENS T-1 $\frac{3}{4}$ SOLID STATE LAMPS

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