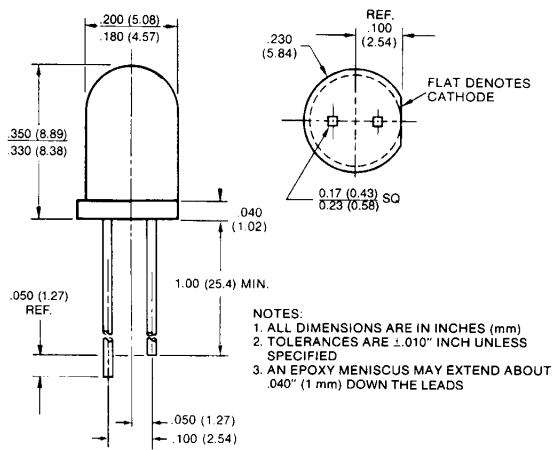


**ORANGE MV5153/4A MV6153/4A**  
**YELLOW MV5353/4A MV6353/4A**  
**HIGH EFFICIENCY GREEN MV5453/4A MV64530/1 MV6454A**  
**HIGH EFFICIENCY RED MV5753/4A MV6753/4A**

**PACKAGE DIMENSIONS**



C1062L

**DESCRIPTION**

These solid state indicators offer a variety of diffused lens effects and color availability. The High Efficiency Red and Yellow devices are made with gallium arsenide phosphide on gallium phosphide. The 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 efficiency GaP light source with various lens effects
- 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             |
|--------------|------------|-----------------------|-----------------|-------------|-------------------------|
| MV5153       | MV6153     | High Efficiency Red   | Amber Diffused  | Wide Beam   | Direct View             |
| MV5154A      | MV6154A    | High Efficiency Red   | Amber Diffused  | Narrow Beam | High Bright Direct View |
| MV5353       | MV6353     | Yellow                | Yellow Diffused | Wide Beam   | Direct View             |
| MV5354A      | MV6354A    | Yellow                | Yellow Diffused | Narrow Beam | High Bright Direct View |
| MV5453       | MV64530/1  | High Efficiency Green | Green Diffused  | Wide Beam   | Direct View             |
| MV5454A      | MV6454A    | High Efficiency Green | Green Diffused  | Narrow Beam | High Bright Direct View |
| MV5753       | MV6753     | High Efficiency Red   | Red Diffused    | Wide Beam   | Direct View             |
| MV5754A      | MV6754A    | High Efficiency Red   | Red Diffused    | Narrow Beam | High Bright Direct View |

| <b>ELECTRO-OPTICAL CHARACTERISTICS</b> (25°C Free Air Temperature) |                        |                       |      |       |      |       |       |       |       |      |       |
|--|------------------------|-----------------------|------|-------|------|-------|-------|-------|-------|------|-------|
| PARAMETER  | TEST COND.             | UNITS                 | 6153 | 6154A | 6353 | 6354A | 64530 | 64531 | 6454A | 6753 | 6754A |
|  |                        |                       | 5153 | 5154A | 5353 | 5354A | 5453  | 54531 | 5454A | 5753 | 5754A |
| Forward voltage (V <sub>f</sub> )                                  | typ.                   | I <sub>f</sub> =20 mA | 2.0  | 2.0   | 2.1  | 2.1   | 2.2   | 2.2   | 2.2   | 2.0  | 2.0   |
|  | max.                   | I <sub>f</sub> =20 mA | 3.0  | 3.0   | 3.0  | 3.0   | 3.0   | 3.0   | 3.0   | 3.0  | 3.0   |
| Luminous Intensity   | min.                   | I <sub>f</sub> =20 mA | 3.0  | 10.0  | 2.5  | 10.0  | 3.0   | 7.0   | 10.0  | 3.0  | 10.0  |
|  | typ.                   | I <sub>f</sub> =20 mA | 15   | 25    | 15   | 25    | 20    | 20    | 30    | 15   | 25    |
| Peak wavelength  | I <sub>f</sub> =20 mA  | nm                    | 635  | 635   | 585  | 585   | 562   | 562   | 562   | 635  | 635   |
| Spectral line half width   | I <sub>f</sub> =20 mA  | nm                    | 45   | 45    | 35   | 35    | 30    | 30    | 30    | 45   | 45    |
| Capacitance typ.   | V=0, f=1 MHz           | pF                    | 45   | 45    | 45   | 45    | 20    | 20    | 20    | 45   | 45    |
| Reverse voltage (V <sub>r</sub> ) min.                             | I <sub>r</sub> =100 μA | V                     | 5    | 5     | 5    | 5     | 5     | 5     | 5     | 5    | 5     |
| Reverse current (I <sub>r</sub> ) max.                             | V <sub>r</sub> =5.0 V  | μA                    | 100  | 100   | 100  | 100   | 100   | 100   | 100   | 100  | 100   |
| Viewing angle (total)  | See Fig. 3             | degrees               | 65   | 24    | 65   | 24    | 75    | 75    | 24    | 65   | 24    |

| <b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>A</sub> =25°C Unless Otherwise Specified) |                 |                     |                 |
|---|-----------------|---------------------|-----------------|
|   | YELLOW          | H.E. RED,<br>ORANGE | GREEN           |
| Power dissipation at 25°C ambient   | 85 mW           | 120 mW              | 120 mW          |
| Derate linearly from 25°C (MVX453/4A 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 at 25°C  | 20 mA           | 35 mA               | 30 mA           |
| Peak forward current (1 μsec 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 with 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)

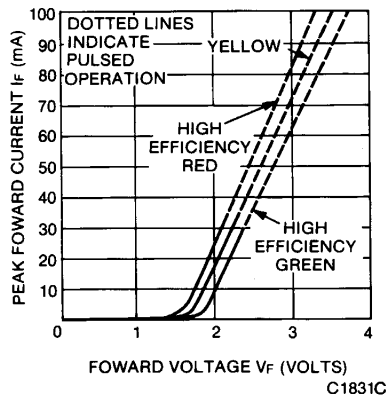


Fig. 1. Forward Current vs. Forward Voltage

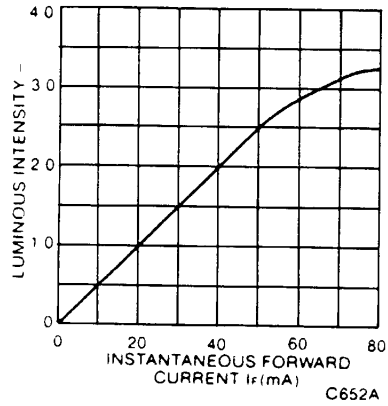


Fig. 2. Luminous Intensity vs. Forward Current

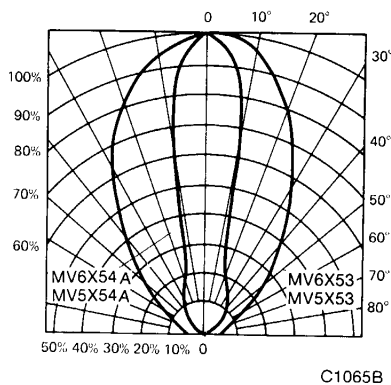


Fig. 3. Spatial Distribution  
(See Note 1)

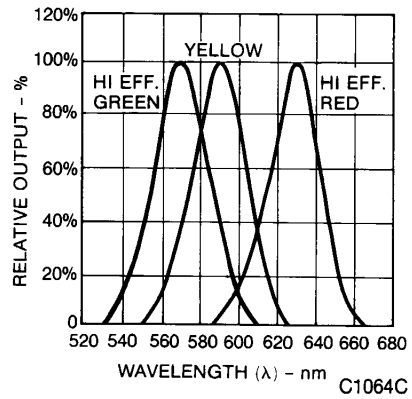


Fig. 4. Spectral Distribution



## DIFFUSED T-1 3/4 SOLID STATE LAMPS

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