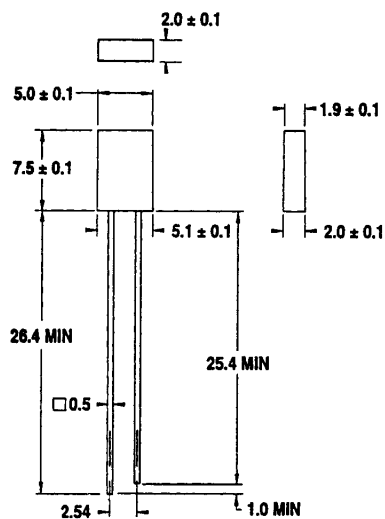




## RECTANGULAR SOLID STATE LAMPS

**YELLOW MV53123**  
**HIGH EFFICIENCY GREEN MV54123**  
**HIGH EFFICIENCY RED MV57123**

### PACKAGE DIMENSIONS



C1667A

#### NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MM)
2. TOLERANCES ARE  $\pm 0.10^\circ$  INCHES UNLESS SPECIFIED.
3. AN EPOXY MENISCUS MAY EXTEND ABOUT .40" (1MM) DOWN THE LEADS. THE BASE OF THE PACKAGE IS NOT FLAT.

### DESCRIPTION

These rectangular LED lamps provide a lighted surface area  $2 \times 5$  mm. The High Efficiency Red and Yellow solid state lamps contain a gallium arsenide phosphide on gallium phosphide light emitting diode. The High Efficiency Green Lamps utilize an improved gallium phosphide light emitting diode.

### FEATURES

- $2 \times 5$  mm lighted area
- High brightness—typically 4 mcd at 20 mA
- Solid state reliability
- Compact, rugged, lightweight

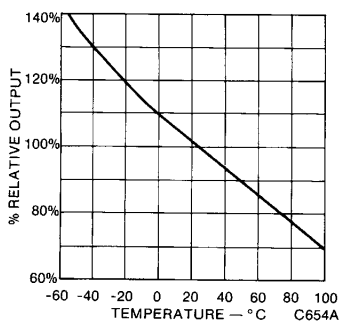
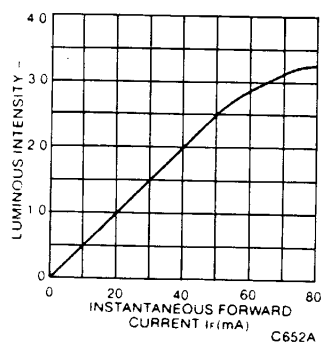
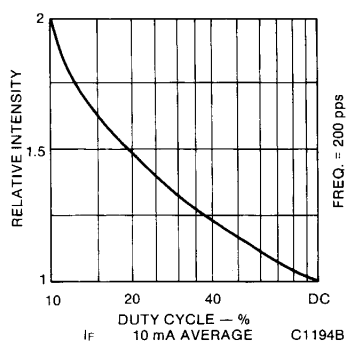
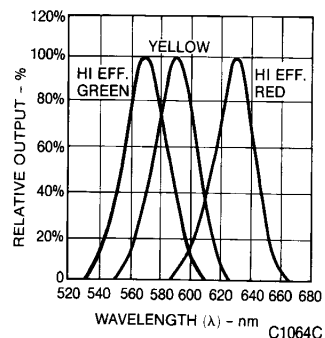
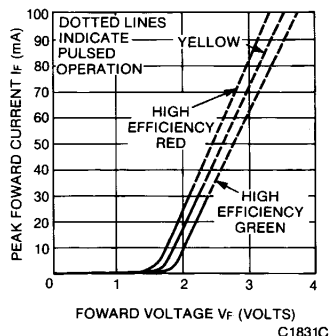
### APPLICATIONS

- Legend backlighting
- Illuminated pushbutton
- Panel indicator
- Bargraph meter

| <b>ELECTRO-OPTICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified) |                                |         |         |         |         |
|-----------------------------------------------------------------------------------------------|--------------------------------|---------|---------|---------|---------|
| PARAMETER                                                                                     | TEST COND.                     | UNITS   | MV53123 | MV54123 | MV57123 |
| Forward voltage ( $V_F$ )                                                                     |                                |         |         |         |         |
| typ.                                                                                          | $I_F = 20\text{ mA}$           | V       | 2.1     | 2.2     | 2.0     |
| max.                                                                                          | $I_F = 20\text{ mA}$           | V       | 3.0     | 3.0     | 3.0     |
| Luminous Intensity                                                                            |                                |         |         |         |         |
| min.                                                                                          | $I_F = 20\text{ mA}$           | mcd     | 1.0     | 1.0     | 1.0     |
| typ.                                                                                          | $I_F = 20\text{ mA}$           | mcd     | 4.0     | 4.0     | 4.0     |
| Peak wavelength                                                                               |                                |         |         |         |         |
| half width                                                                                    | $I_F = 20\text{ mA}$           | mcd     | 585     | 562     | 635     |
|                                                                                               |                                | nm      | 45      | 30      | 45      |
| Capacitance                                                                                   |                                |         |         |         |         |
| typ.                                                                                          | $V = 0, f = 1\text{ MHz}$      | pF      | 45      | 20      | 45      |
| Reverse voltage ( $V_R$ )                                                                     |                                |         |         |         |         |
| min.                                                                                          | $I_R = 100\text{ }\mu\text{A}$ | V       | 5.0     | 5.0     | 5.0     |
| Viewing angle (total)                                                                         |                                | degrees | 100     | 100     | 100     |

| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified) |                                             |                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|
|                                                                                        | MV53123                                     | MV54123<br>MV57123                          |
| Power dissipation                                                                      | 85 mW                                       | 120 mW                                      |
| Derate linearly from $50^\circ\text{C}$                                                | 1.6 mW/ $^\circ\text{C}$                    | 1.6 mW/ $^\circ\text{C}$                    |
| Storage and operating temperatures                                                     | $-55^\circ\text{C}$ to $+100^\circ\text{C}$ | $-55^\circ\text{C}$ to $+100^\circ\text{C}$ |
| Peak forward current (1 $\mu\text{sec}$ pulse width 300 pps)                           | 60 mA                                       | 90 mA                                       |
| Forward current                                                                        | 20 mA                                       | 30 mA                                       |
| Lead soldering time at $260^\circ\text{C}$ (See Note 1)                                | 5 sec.                                      | 5 sec.                                      |
| Reverse voltage                                                                        | 5.0 V                                       | 5.0 V                                       |

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



**NOTES**

1. The leads of the device immersed in molten solder, heated to a temperature of 260°C, to a point 1/16 inch (1.6 mm) from the body of the device per MIL-S-750, with dwell time of 5 seconds.



## RECTANGULAR SOLID STATE LAMPS

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