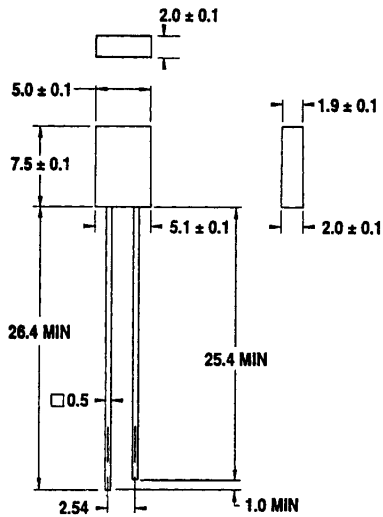




RECTANGULAR SOLID STATE LAMPS

YELLOW MV53123
HIGH EFFICIENCY GREEN MV54123
HIGH EFFICIENCY RED MV57123

PACKAGE DIMENSIONS



C1667A

NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MM)
2. TOLERANCES ARE ± 0.10 " 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 2×5 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

- 2×5 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



RECTANGULAR SOLID STATE LAMPS

| ELECTRO-OPTICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ 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 | | mcd | 585 | 562 | 635 |
| half width | $I_f=20\text{ mA}$ | nm | 45 | 30 | 45 |
| Capacitance | | | | | |
| typ. | $V=0, f=1\text{ MHz}$ | pF | 45 | 20 | 45 |
| Reverse voltage (V_R) | | | | | |
| min. | $I_R=100\ \mu\text{A}$ | V | 5.0 | 5.0 | 5.0 |
| Viewing angle (total) | | degrees | 100 | 100 | 100 |

| ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ Unless Otherwise Specified) | | |
|--|---|---|
| | MV53123 | MV54123 MV57123 |
| Power dissipation | 85 mW | 120 mW |
| Derate linearly from 50°C | $1.6\text{ mW}/^\circ\text{C}$ | $1.6\text{ mW}/^\circ\text{C}$ |
| Storage and operating temperatures | -55°C to $+100^\circ\text{C}$ | -55°C to $+100^\circ\text{C}$ |
| Peak forward current (1 μsec pulse width 300 pps) | 60 mA | 90 mA |
| Forward current | 20 mA | 30 mA |
| Lead soldering time at 260°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)

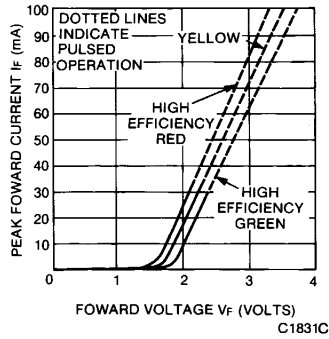


Fig. 1. Forward Current vs. Forward Voltage

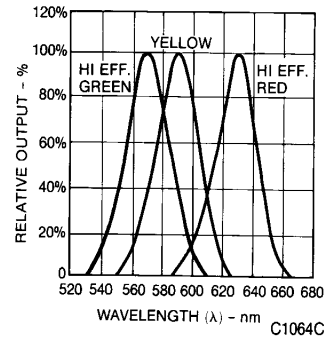


Fig. 2. Spectral Distribution

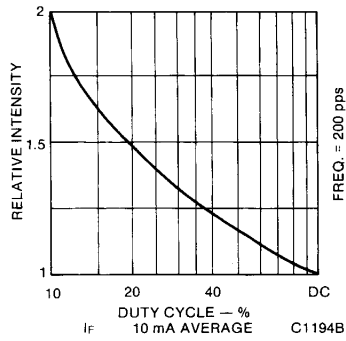


Fig. 3. Luminous Intensity vs. Duty Cycle

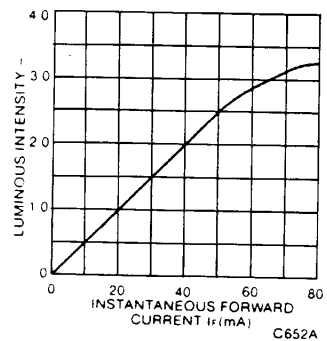


Fig. 4. Luminous Intensity vs. Forward Current

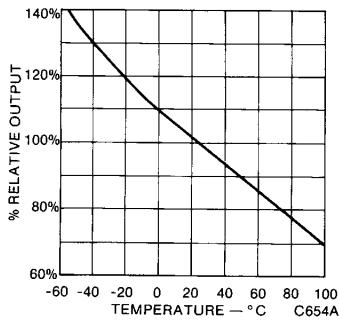


Fig. 5. Output vs. Temperature

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.