





## STANDARD RED T-1<sup>3/4</sup> SOLID STATE LAMPS

| <b>ELECTRO OPTICAL CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ Unless Otherwise Specified) |                            |      |              |         |         |         |      |               |
|---|----------------------------|------|--------------|---------|---------|---------|------|---------------|
| PARAMETER   | TEST COND.                 | 5052 | 6053<br>5053 | 5054A-1 | 5054A-2 | 5054A-3 | 5055 | UNIT          |
| Luminous Intensity<br>$I_v$ min.  | $I_f=20$ mA<br>$I_f=10$ mA | 0.7  | 0.5          | 1.0     | 2.0     | 3.0     | 0.1  | mcd<br>mcd    |
| Forward voltage<br>$V_f$ mcd  | $I_f=20$ mA<br>$I_f=10$ mA | 2.2  | 2.2          | 2.2     | 2.2     | 2.2     | 2.2  | V<br>V        |
| Peak wavelengths<br>$\lambda_p$ typical   | $I_f=20$ mA                | 660  | 660          | 660     | 660     | 660     | 660  | nm            |
| Spectral line<br>half width typical   | $I_f=20$ mA                | 20   | 20           | 20      | 20      | 20      | 20   | nm            |
| Capacitance<br>typical  | $V=0$<br>$f=1$ MHz         | 30   | 30           | 30      | 30      | 30      | 30   | pF            |
| Reverse current<br>$I_R$ max.   | $V_R=5.0$ V                | 100  | 100          | 100     | 100     | 100     | 100  | $\mu\text{A}$ |
| Viewing angle<br>typical, See Figures   |                            | 72   | 80           | 24      | 24      | 24      | 150  | degrees       |

| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^\circ\text{C}$ Unless Otherwise Specified) |                 |
|--|-----------------|
| Power dissipation  | 180 mW          |
| Derate linearly from 25°   | 2.0 mW/°C       |
| Storage and operating temperatures   | -55°C to +100°C |
| Lead soldering time at 260°C (See Note 2)  | 5 sec.          |
| Continuous forward current   | 100 mA          |
| Peak forward current (1 $\mu$ sec pulse, 0.3% duty cycle)                            | 1.0 A           |
| Reverse voltage  | 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(1.6 mm) from the body of the device per MIL-S-750, with a dwell time of 5 seconds. |

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

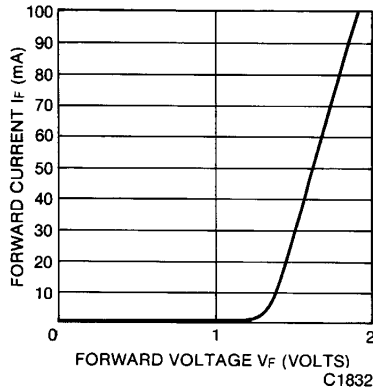


Fig. 1. Forward Current vs. Forward Voltage

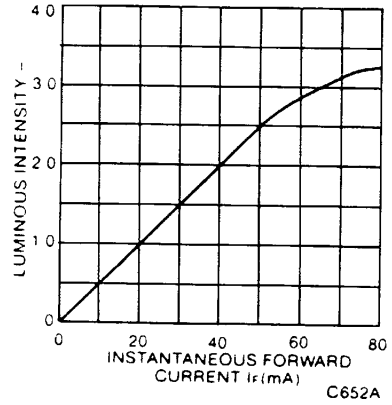


Fig. 2. Luminous Intensity vs. Forward Current

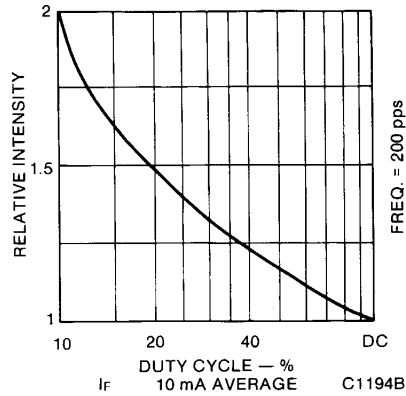


Fig. 3. Luminous Intensity vs. Duty Cycle

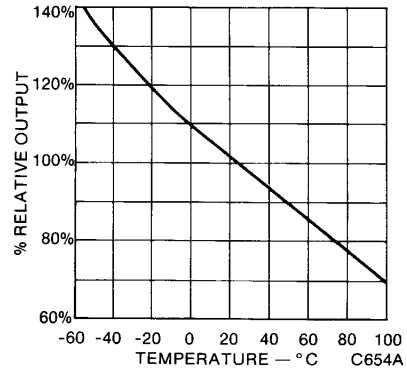


Fig. 4. Output vs. Temperature

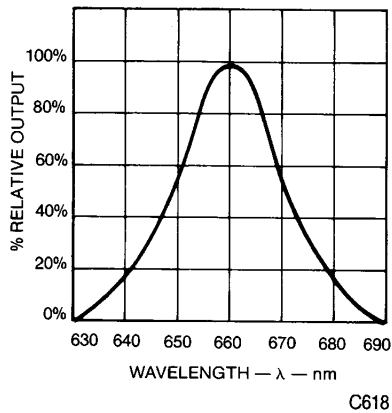


Fig. 5. Spectral Distribution

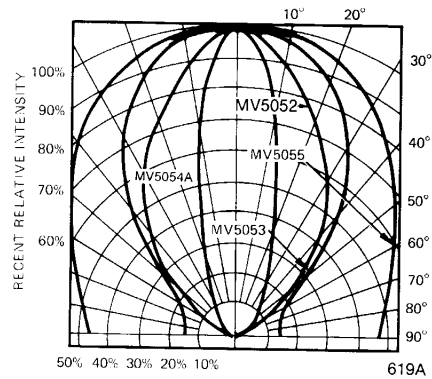


Fig. 6. Spatial Distribution (Note 1)