LEDTRONICS, INC.®

23105 Kashiwa Court, Torrance, CA 90505
Phone: (800) 579-4875 or (310) 534-1505 Fax: (310) 534-1424
E-mail: webmaster@ledtronics.com
Website: http://www.ledtronics.com

# SML070TWRG4-TR

## Hi-Eff Red/Green

## 3.3×3.1×2.4mm Right-Angled SMD

## 135° viewing angle

| |
|---|
| DWG BY:<br>GP<br>12-22-11 |
| CHK BY:<br>PL<br>12-22-11 |
| REVISION LTR: -<br><br>12-22-11 |

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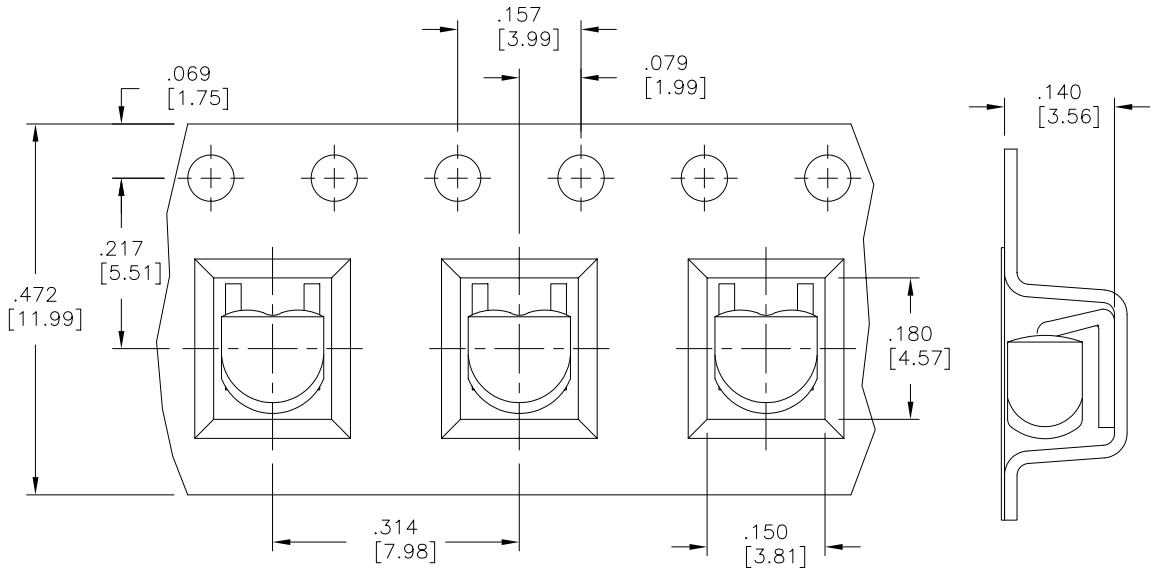
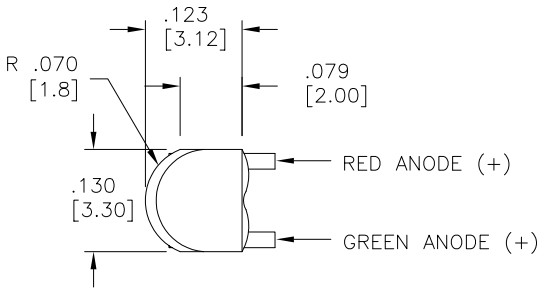


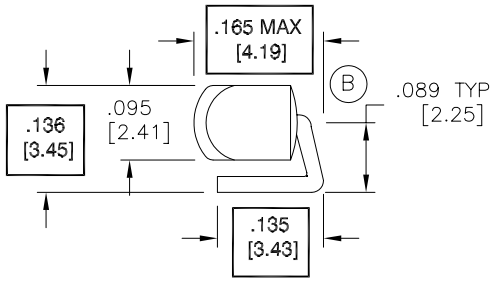

## ● Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm (0.01") unless otherwise specified.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.



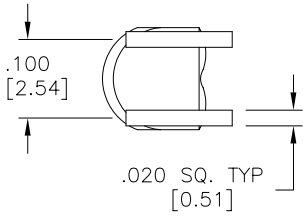

## ● Features:

1. Chip material: GaAsP/GaP(Hi-Eff Red) and GaP/GaP (Green)
2. Emitted color : Hi-Eff Red and Green
3. Lens Appearance : White Diffused

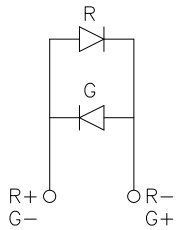


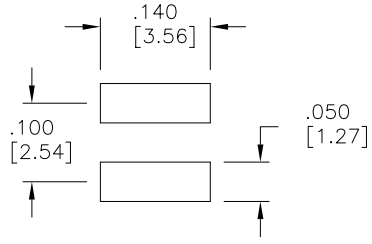

## ● Tape & Reel Specifications:

1. Reed Size: 13" Dia.
2. Parts per Reel: 2500




**CIRCUIT DIAGRAM**




**RECOMMENDED PAD LAYOUT**

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## ● Absolute maximum ratings(Ta=25℃)

| Parameter | Symbol | Hi-Eff Red | Green | Unit |
|---|---|---|---|---|
| Power Dissipation | Pd | 80 | 80 | mW |
| Forward Current | $I_F$ | 30 | 30 | mA |
| Peak Forward Current*[1] | $I_{FP}$ | 150 | 150 | mA |
| Reverse Voltage | $V_R$ | 5 | | V |
| Operating Temperature | Topr | -40℃~85℃ | | |
| Storage Temperature | Tstg | -40℃~100℃ | | |
| Soldering Temperature | Tsol | 260℃max (for 5 seconds) | | |
| Hand Soldering Temperature | Tsol | 350℃max(for 3 seconds ) | | |

*[1]Condition for $I_{FP}$ is pulse of 1/10 duty and 0.1msec width.

## ● Electrical and optical characteristics(Ta=25℃)

| Parameter | Symbol | Condition | Color | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$=2mA | Hi-Eff Red<br>Green | - | 1.7<br>1.9 | 2.4<br>2.4 | V |
| Luminous Intensity | Iv | $I_F$=2mA | Hi-Eff Red<br>Green | - | -<br>- | - | mcd |

## ● Electrical and optical characteristics(Ta=25℃)

| Parameter | Symbol | Condition | Color | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$=20mA | Hi-Eff Red<br>Green | - | 2.0<br>2.2 | 2.6<br>2.6 | V |
| Luminous Intensity | Iv | $I_F$=20mA | Hi-Eff Red<br>Green | - | 6.0<br>15 | - | mcd |
| Reverse Current | $I_R$ | $V_R$=5V | Hi-Eff Red<br>Green | - | - | 100 | μA |
| Peak Wave Length | λp | $I_F$=20mA | Hi-Eff Red<br>Green | -<br>560 | 642<br>567 | -<br>569 | nm |
| Dominant Wave Length | λd | $I_F$=20mA | Hi-Eff Red<br>Green | -<br>567 | 625<br>572 | -<br>574 | nm |
| Spectral Line Half-width | Δλ | $I_F$=20mA | Hi-Eff Red<br>Green | - | 42<br>30 | - | nm |
| Viewing Angle | $2\theta_{1/2}$ | $I_F$=20mA | Hi-Eff Red<br>Green | - | 135 | - | deg |
| Chromaticity Coordinates | X<br>Y | $I_F$=20mA | Hi-Eff Red | - | 0.70<br>0.29 | - | |
| Chromaticity Coordinates | X<br>Y | $I_F$=20mA | Green | - | 0.46<br>0.53 | - | |

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## ● Typical electro-optical characteristics curves

Fig.1 Relative intensity vs. Wavelength

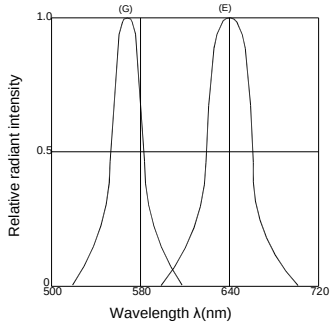



Fig.2 Forward current derating curve vs. Ambient temperature

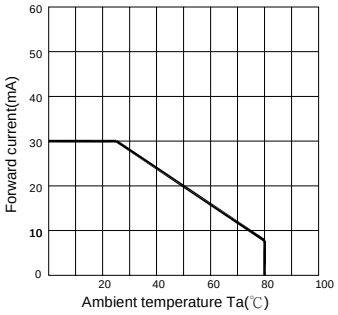



Fig.3 Forward current vs. Forward voltage

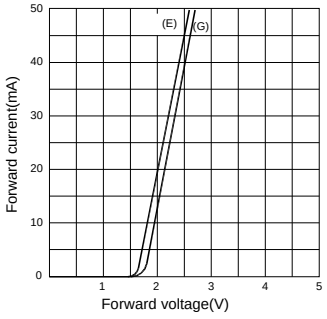



Fig.4 Relative luminous intensity vs. Ambient temperature

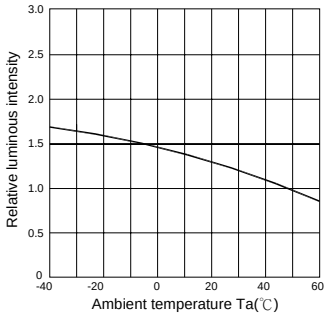



Fig.5 Relative luminous intensity vs. Forward current

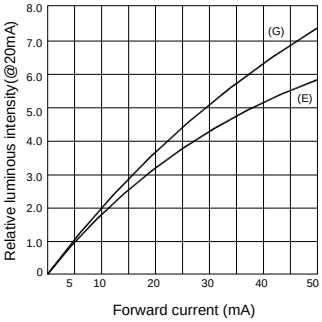
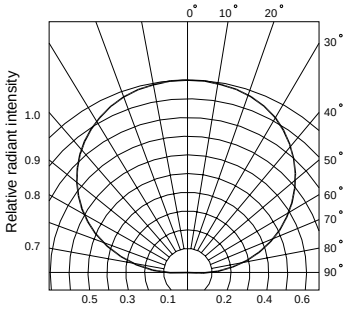



Fig.6 Radiation diagram




## ● DIP soldering (Wave Soldering)

Preheating : 120℃,within 120~180 sec.
Operation heating : 255℃±5℃ within 5 sec.260℃ (Max)
Gradual Cooling (Avoid quenching).