



We Tame Photons to Work for You!



Products > LEDs > Surface Mount > SOT-23 Package > Half Moon Solder Terminals

Features / Options

Applications / Uses



- ▶ State-of-the-Art, High Brightness Chip Technology
- ▶ Choice of Colors and Lens Finishes
- ▶ Lead Frame / Lens Casting Reliability
- ▶ Easy-to-Solder Leads, Tin Finish
- ▶ Available Bulk or on Tape and Reel
- ▶ Lead Trimming and Forming Available
- ▶ Custom Shapes, Easily Tooled, Low Minimum

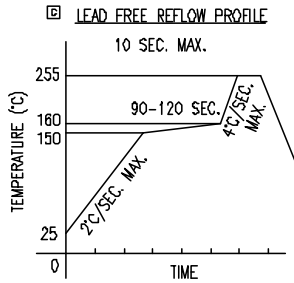
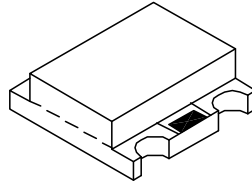
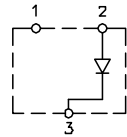
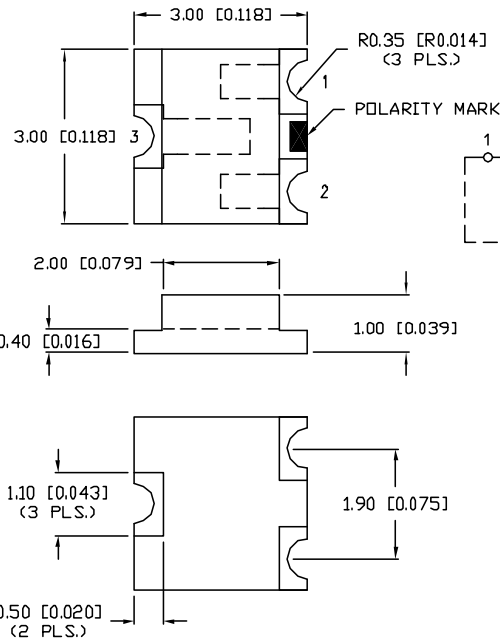
- ▶ Board or Panel Indication or Illumination
- ▶ Annunciator and Control Panels
- ▶ Telecom Switches and Central Station Equipment
- ▶ Large Panel Indicators

| Part Number: | SPEC | Brightness | Dice Material | Emitted Color | Peak Wavelength | Epoxy Lens | Operating Typ Vf (V) | Intensity Typ, mcd @ 20 mA | View Angle 2x Theta | | |
|-------------------|------|------------|---------------|---------------|-----------------|------------|----------------------|----------------------------|---------------------|--|---|
| SML-LX15AC-RP-TR | | STANDARD | GaAsP | Amber | 605 | Clear | 2.0 | 10 | 140 | | — |
| SML-LX15AC-TR | | STANDARD | GaAsP | Amber | 605 | Clear | 2.0 | 10 | 140 | | — |
| SML-LX15AGC-RP-TR | | STANDARD | GaAsP | | 605 | Clear | 2.0/2.2 | 10 | 140 | | — |
| SML-LX15AGC-TR | | STANDARD | GaAsP | Amber/Green | 605 | Clear | 2.0/2.2 | 10 | 140 | | — |
| SML-LX15AYC-RP-TR | | STANDARD | GaAsP | Amber/Green | 605 | Clear | 2.0/2.1 | 10 | 140 | | — |
| SML-LX15AYC-TR | | STANDARD | GaAsP | Amber/Yellow | 605 | Clear | 2.0/2.1 | 10 | 140 | | — |
| SML-LX15GC-RP-TR | | STANDARD | GaP | Green | 565 | Clear | 2.1 | 10 | 140 | | — |
| SML-LX15GC-TR | | STANDARD | GaP | Green | 565 | Clear | 2.1 | 10 | 140 | | — |
| SML-LX15GGC-RP-TR | | STANDARD | GaP | Green | 565 | Clear | 2.2 | 10 | 140 | | — |
| SML-LX15GGC-TR | | STANDARD | GaP | Green/Green | 565 | Clear | 2.2 | 10 | 140 | | — |

| | | | | | | | | | | | |
|--------------------|--|----------|---------|--------------|-----|-------|---------|----|-----|--|---|
| SML-LX15GIC-RP-TR | | STANDARD | GaP | | 565 | Clear | 2.2/2.0 | 10 | 140 | | — |
| SML-LX15GIC-TR | | STANDARD | GaP | Green/Red | 565 | Clear | 2.2/2.0 | 10 | 140 | | — |
| SML-LX15GYC-RP-TR | | STANDARD | GaP | Green/Yellow | 565 | Clear | 2.2/2.1 | 10 | 140 | | — |
| SML-LX15GYC-TR | | STANDARD | GaP | Green/Yellow | 565 | Clear | 2.2/2.1 | 10 | 140 | | — |
| SML-LX15IC-RP-TR | | STANDARD | GaAsP | Red | 635 | Clear | 2.0 | 10 | 140 | | — |
| SML-LX15IC-TR | | STANDARD | GaAsP | Red | 635 | Clear | 2.0 | 10 | 140 | | — |
| SML-LX15IGC-RP-TR | | STANDARD | GaAsP | Red/Green | 635 | Clear | 2.0/2.2 | 10 | 140 | | — |
| SML-LX15IGC-TR | | STANDARD | GaAsP | Red/Green | 635 | Clear | 2.0/2.2 | 10 | 140 | | — |
| SML-LX15IIC-RP-TR | | STANDARD | GaAsP | Red | 635 | Clear | 2.0 | 10 | 140 | | — |
| SML-LX15IIC-TR | | STANDARD | GaAsP | Red/Red | 635 | Clear | 2.0 | 10 | 140 | | — |
| SML-LX15IYC-RP-TR | | STANDARD | GaAsP | Red/Yellow | 635 | Clear | 2.0/2.1 | 10 | 140 | | — |
| SML-LX15PGC-RP-TR | | STANDARD | GaP | Green | 555 | Clear | 2.2 | 5 | 140 | | — |
| SML-LX15PGC-TR | | STANDARD | GaP | Green | 555 | Clear | 2.2 | 5 | 140 | | — |
| SML-LX15SBC-RP-TR | | STANDARD | SiC | Blue | 430 | Clear | 4.5 | 40 | 140 | | — |
| SML-LX15SBC-TR | | STANDARD | SiC | Blue | 430 | Clear | 4.5 | 40 | 140 | | — |
| SML-LX15SGC-RP-TR | | STANDARD | GaP | Green | 565 | Clear | 2.2 | 15 | 140 | | — |
| SML-LX15SGC-TR | | STANDARD | GaP | Green | 565 | Clear | 2.2 | 15 | 140 | | — |
| SML-LX15SIC-RP-TR | | HIGH | AlInGaP | Red | 636 | Clear | 2.0 | 60 | 140 | | — |
| SML-LX15SIC-TR | | HIGH | AlInGaP | Red | 636 | Clear | 2.0 | 60 | 140 | | — |
| SML-LX15SOC-TR | | HIGH | AlInGaP | Orange | 610 | Clear | 2.0 | 60 | 140 | | — |
| SML-LX15SRC-RP-TR | | STANDARD | GaAIAs | Red | 660 | Clear | 1.7 | 20 | 140 | | — |
| SML-LX15SRC-TR | | STANDARD | GaAIAs | Red | 660 | Clear | 1.7 | 20 | 140 | | — |
| SML-LX15SUGC-RP-TR | | HIGH | AlInGaP | Green | 574 | Clear | 2.2 | 45 | 140 | | — |
| SML-LX15SUGC-TR | | HIGH | AlInGaP | Green | 574 | Clear | 2.2 | 45 | 140 | | — |
| SML-LX15SYC-RP-TR | | HIGH | AlInGaP | Yellow | 590 | Clear | 2.0 | 60 | 140 | | — |

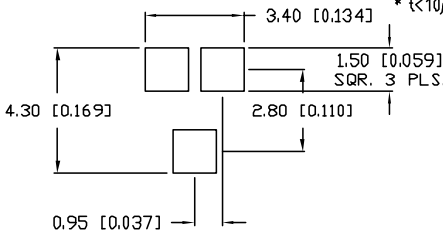
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|--------------------|--|----------|-----------|---------------|-----|-------|---------|-----|-----|--|---|
| SML-LX15SYC-TR | | HIGH | AlInGaP | Yellow | 590 | Clear | 2.1 | 60 | 140 | | — |
| SML-LX15UPGC-RP-TR | | HIGH | InGaN | Green | 525 | Clear | 3.5 | 45 | 140 | | — |
| SML-LX15UPGC-TR | | HIGH | InGaN | Green | 525 | Clear | 3.5 | 45 | 140 | | — |
| SML-LX15USBC-RP-TR | | HIGH | InGaN | Blue | 470 | Clear | 3.5 | 120 | 140 | | — |
| SML-LX15USBC-TR | | HIGH | InGaN | Blue | 470 | Clear | 3.5 | 120 | 140 | | — |
| SML-LX15YC-RP-TR | | STANDARD | GaAsP | Yellow | 585 | Clear | 2.1 | 10 | 140 | | — |
| SML-LX15YC-TR | | STANDARD | GaAsP | Yellow | 585 | Clear | 2.1 | 10 | 140 | | — |
| SML-LX15YGC-RP-TR | | STANDARD | GaAsP | | 585 | Clear | 2.1/2.2 | 10 | 140 | | — |
| SML-LX15YGC-TR | | STANDARD | GaAsP/GaP | Yellow/Green | 585 | Clear | 2.1/2.2 | 10 | 140 | | — |
| SML-LX15YYC-RP-TR | | STANDARD | GaAsP | Yellow | 585 | Clear | 2.1 | 10 | 140 | | — |
| SML-LX15YYC-TR | | STANDARD | GaAsP | Yellow/Yellow | 585 | Clear | 2.1 | 10 | 140 | | — |

UNCONTROLLED DOCUMENT



TOTAL TIME ABOVE 220°C IS 60 SECONDS MAX.

RECOMMENDED PAD LAYOUT



| | | |
|---------------|-------------------------------------|----------|
| PART NUMBER | | REV. |
| SML-LX15YC-TR | | D |
| REV. | E.C.N. NUMBER AND REVISION COMMENTS | DATE |
| A | E.C.N. #10967. | 3.14.03 |
| B | E.C.N. #11010. | 7.3.03 |
| C | E.C.N. #11148. | 11.30.05 |
| D | E.C.N. #11361 | 11.28.06 |

ELECTRO-OPTICAL CHARACTERISTICS $T_A=25^\circ\text{C}$ $I_f=20\text{mA}$

| PARAMETER | MIN | TYP | MAX | UNITS | TEST COND |
|--------------------|-------------|-----|-----|------------|----------------------|
| PEAK WAVELENGTH | | 585 | | nm | |
| FORWARD VOLTAGE | | 2.1 | 2.8 | V_f | $I_f=100\mu\text{A}$ |
| REVERSE VOLTAGE | 5.0 | | | V_r | $I_f=20\text{mA}$ |
| AXIAL INTENSITY | | 10 | | mcd | $I_f=20\text{mA}$ |
| VIEWING ANGLE | | 140 | | $2x$ theta | |
| EMITTED COLOR: | YELLOW | | | | |
| EPOXY LENS FINISH: | WATER CLEAR | | | | |

LIMITS OF SAFE OPERATION AT 25°C

| PARAMETER | MAX | UNITS |
|--------------------------|------------|-------|
| PEAK FORWARD CURRENT* | 160 | mA |
| STEADY CURRENT | 30 | mA |
| POWER DISSIPATION | 100 | mW |
| DERATE FROM 25°C | -1.2 | mW/°C |
| OPERATING, STORAGE TEMP. | -40 TO +85 | °C |

* $t < 10\mu\text{s}$

NOTES:

- THE POLARITY MARK IS ORIENTED TOWARDS THE TAPE SPROCKET HOLE.



CAUTION: MOISTURE SENSITIVE DEVICE
PER JEDEC LEVEL 4 STANDARDS

UNCONTROLLED DOCUMENT

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), XX=±0.5 (±0.020), XXX=±0.25 (±0.010), XXXX=±0.127 (±0.005). LEAD SIZE=±0.05 (0.002), LEAD LENGTH=±0.75 (±0.030). MIN.= *DECIMAL PRECISION MAX.= +0.00 DECIMAL PRECISION

| | | | |
|---|------------------------------|--|---|
| REV. D | PART NUMBER SML-LX15YC-TR | CONFIDENTIAL INFORMATION THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES. | |
| SOT-23 REPLACEMENT, SURFACE MOUNT LED, 585nm YELLOW LED, WATER CLEAR LENS, TAPE AND REEL. | | RELIABILITY NOTE OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS. | DRAWN BY: JC CHECKED BY: APPROVED BY: DATE: 11.28.06 PAGE: 1 OF 1 SCALE: N/A |