

## Small Signal Product

## 1A, 50V - 1000V Surface Mount Glass Passivated Silicon Rectifiers

### FEATURES

- Plastic package has carries underwriters
- Ideal for automated placement
- Surge overload rating to 30 Amperes peak
- Reliable low cost construction utilizing molded plastic technique results in in-expensive product
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC


**MELF**


### MECHANICAL DATA

**Case:** MELF

Molding compound, UL flammability classification rating 94V-0

**Mounting position:** Any

**Polarity:** Indicated by silver cathode band

**Weight:** 0.12 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)    |                    |              |             |             |             |             |             |             |      |
|-------------------------------------------------------------------------------------------------|--------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| PARAMETER                                                                                       | SYMBOL             | LL40<br>01G  | LL40<br>02G | LL40<br>03G | LL40<br>04G | LL40<br>05G | LL40<br>06G | LL40<br>07G | UNIT |
| Maximum repetitive peak reverse voltage                                                         | V <sub>RRM</sub>   | 50           | 100         | 200         | 400         | 600         | 800         | 1000        | V    |
| Maximum RMS voltage                                                                             | V <sub>RMS</sub>   | 35           | 70          | 140         | 280         | 420         | 560         | 700         | V    |
| Maximum DC blocking voltage                                                                     | V <sub>DC</sub>    | 50           | 100         | 200         | 400         | 600         | 800         | 1000        | V    |
| Maximum average forward rectified current                                                       | I <sub>F(AV)</sub> | 1            |             |             |             |             |             |             | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load             | I <sub>FSM</sub>   | 30           |             |             |             |             |             |             | A    |
| Maximum instantaneous forward voltage (Note 1)<br>@ 1 A                                         | V <sub>F</sub>     | 1.1          |             |             |             |             |             |             | V    |
| Maximum reverse current @ rated V <sub>R</sub><br>T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C | I <sub>R</sub>     | 5<br>100     |             |             |             |             |             |             | μA   |
| Typical junction capacitance (Note 2)                                                           | C <sub>J</sub>     | 15           |             |             |             |             |             |             | pF   |
| Typical thermal resistance                                                                      | R <sub>θJC</sub>   | 50           |             |             |             |             |             |             | °C/W |
| Operating junction temperature range                                                            | T <sub>J</sub>     | - 65 to +150 |             |             |             |             |             |             | °C   |
| Storage temperature range                                                                       | T <sub>STG</sub>   | - 65 to +150 |             |             |             |             |             |             | °C   |

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Measured at 1 MHz and Applied Reverse Voltage of 4.0V DC.

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## RATINGS AND CHARACTERISTICS CURVES

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Fig.1 Forward Current Derating Curve

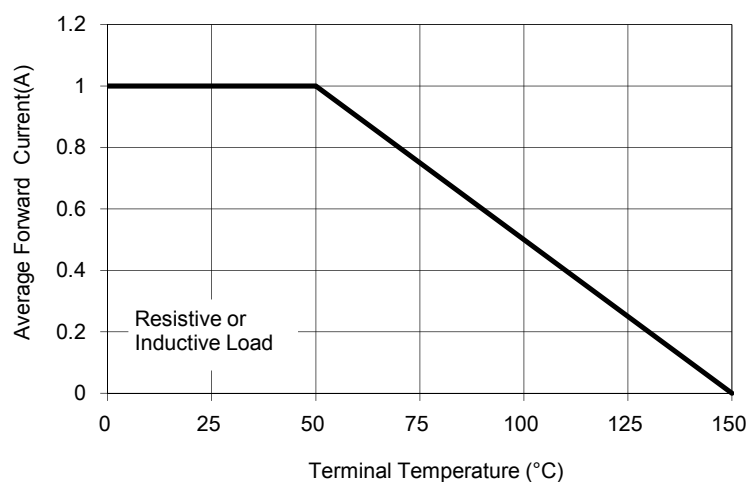


Fig. 2 Maximum Non-Repetitive Peak Forward Surge Current



Fig. 3 Instantaneous Forward Characteristics

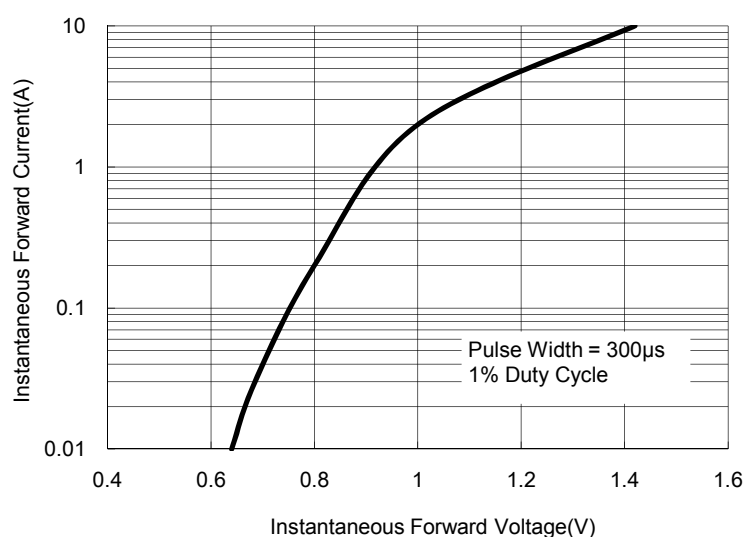


Fig. 4 Typical Reverse Characteristics

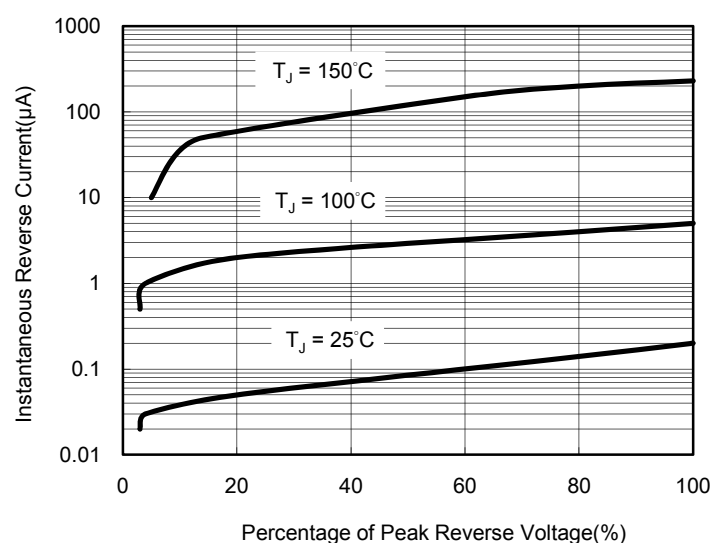


Fig. 5 Typical Junction Capacitance

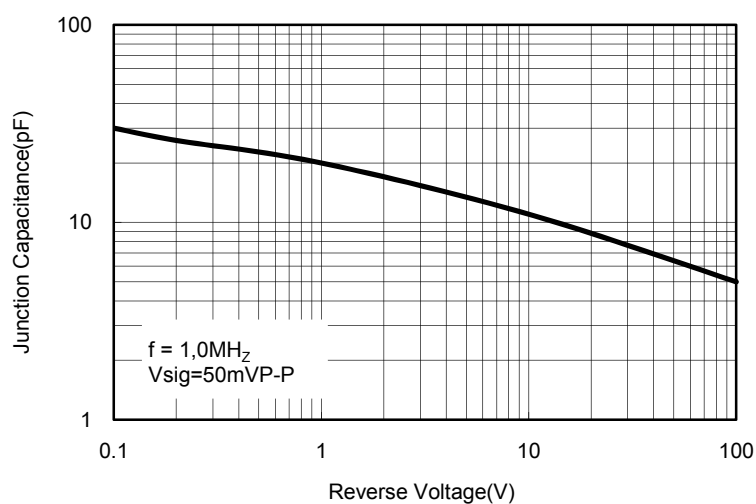
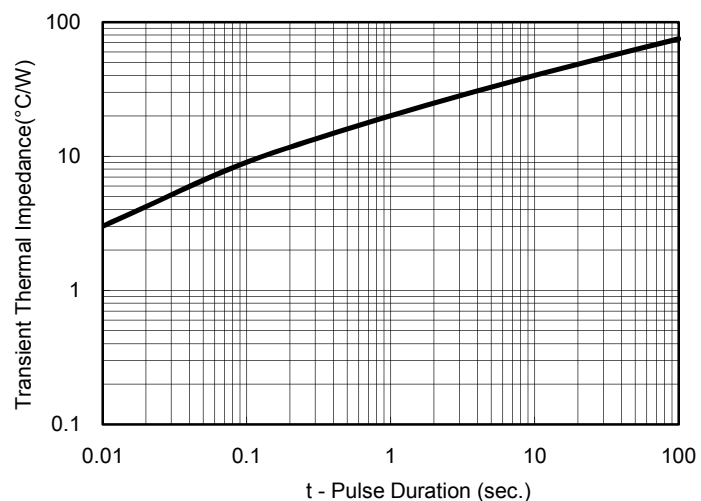


Fig. 6 Typical Transient Thermal Impedance



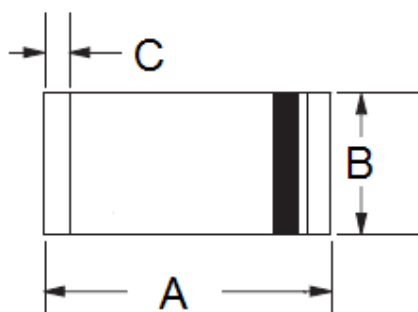
Small Signal Product

| ORDERING INFORMATION |              |         |               |
|----------------------|--------------|---------|---------------|
| PART NO.             | PACKING CODE | PACKAGE | PACKING       |
| LL400xG<br>(Note 1)  | L0           | MELF    | 5K / 13" Reel |

Note 1: "x" defines voltage from 50V (LL4001G) to 1000V (LL4007G)

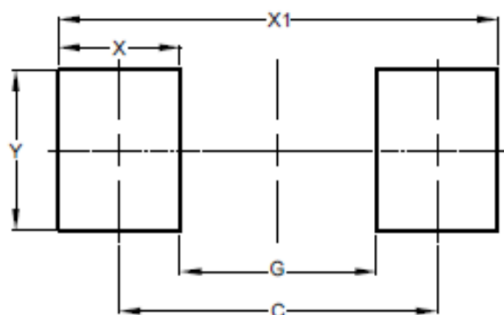
| EXAMPLE       |          |              |             |
|---------------|----------|--------------|-------------|
| PREFERRED P/N | PART NO. | PACKING CODE | DESCRIPTION |
| LL4007G L0    | LL4007G  | L0           |             |

PACKAGE OUTLINE DIMENSIONS  
**MELF**



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 4.80      | 5.50 | 0.189       | 0.217 |
| B    | 2.25      | 2.67 | 0.089       | 0.105 |
| C    | 0.30      | 0.60 | 0.012       | 0.024 |

SUGGEST PAD LAYOUT



| DIM. | Unit (mm) | Unit (inch) |
|------|-----------|-------------|
|      | Typ.      | Typ.        |
| C    | 4.80      | 0.189       |
| G    | 3.30      | 0.130       |
| X    | 1.50      | 0.059       |
| X1   | 6.30      | 0.248       |
| Y    | 2.70      | 0.106       |

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