Small Signal Product

# Surface Mount Glass Plassivated Silicon Rectifiers

## FEATURES

- Plastic package has carries underwriters
- Ideal for automated placement
- Surge overload rating to 30 Ampers 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
- Halogen-free according to IEC 61249-2-21 definition

**MELF**

Pb-Free

RoHS COMPLIANT

## MECHANICAL DATA

**Case:** MELF

Molding compound, UL flammability classification rating 94V-0

Packing code with suffix "G" means green compound (halogen-free)

**Mounting position:** Any

**Polarity:** Indicated by silver cathode band

**Weight:** 0.12 g (approximately)

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

## RATINGS AND CHARACTERISTICS CURVES

($T_A$=25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

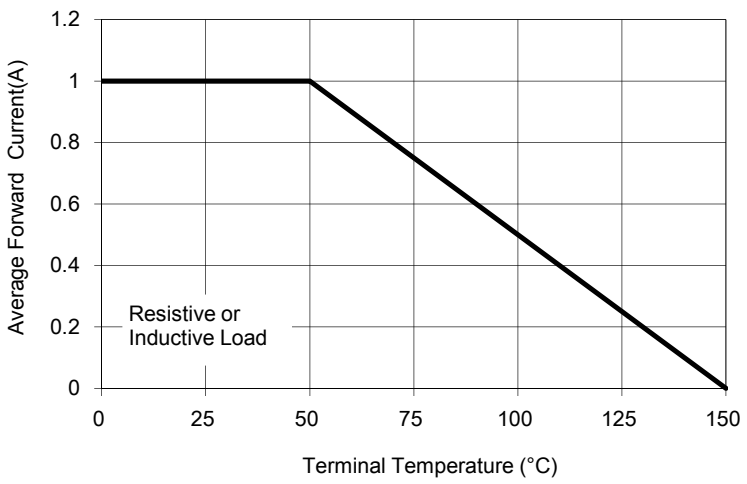



Fig. 2 Maximum Non-Repetitive Peak Forward Surge Current

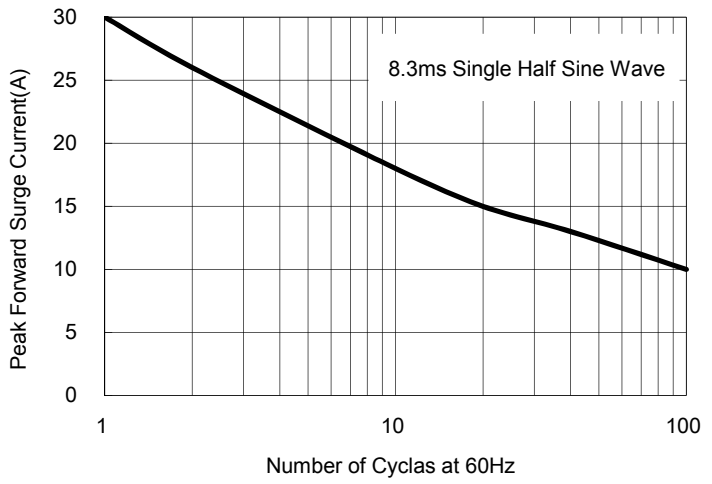



Fig. 3 Instantaneous Forward Characteristics

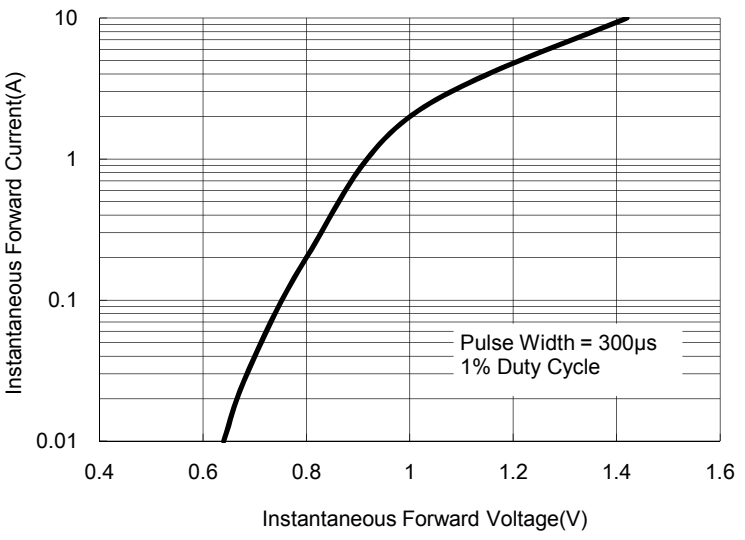



Fig. 4 Typical Reverse Characteristics

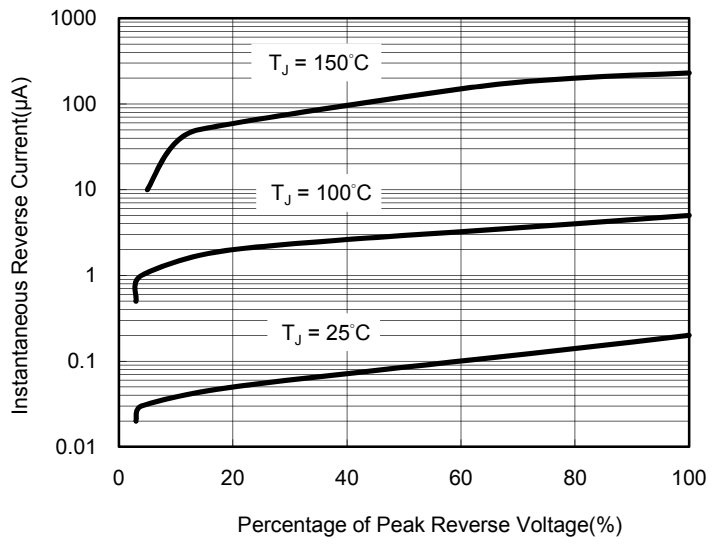



Fig. 5 Typical Junction Capacitance

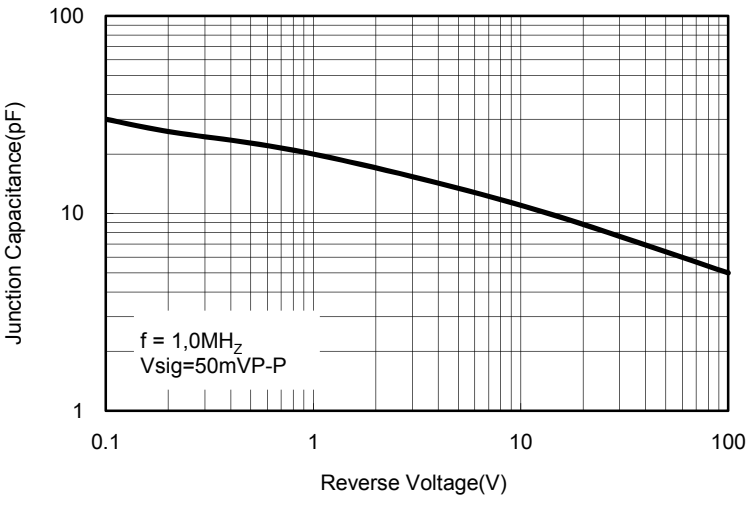
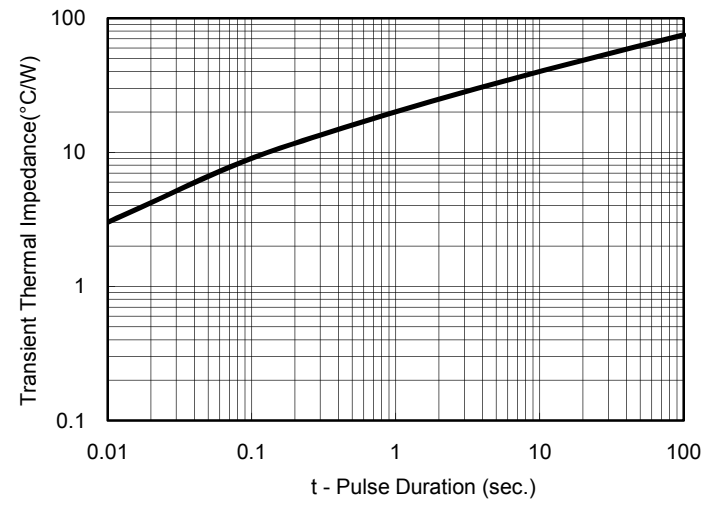
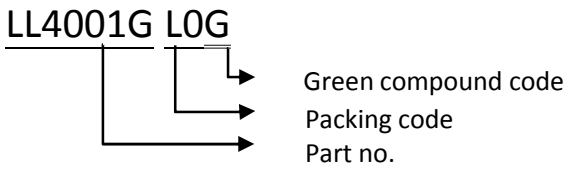



Fig. 6 Typical Transient Thermal Impedance

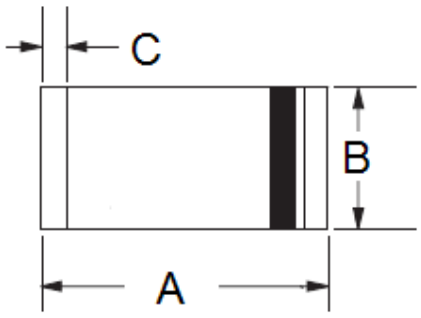


## ORDER INFORMATION (EXAMPLE)



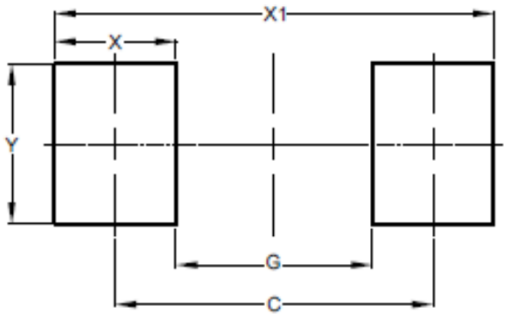

## PACKAGE OUTLINE DIMENSIONS

**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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