

Surface Mount Fast Recovery Rectifiers

FEATURES

- Ideal for automated placement
- Compact package size
- High surge current capability
- Low power loss, high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

MECHANICAL DATA

Case: SOD-123HE







SOD-123HE

HALOGEN

Molding compound, UL flammability classification rating 94V-0 Base P/N with suffix "G" on packing code - green compound (halogen-free) Base P/N with prefix "H" on packing code - AEC-Q101 qualified **Terminal:** Matte tin plated leads, solderable per JESD22-B102 Meet JESD 201 class 1A whisker test with prefix "H" on packing code meet JESD 201 class 2 whisker test **Polarity:** Indicated by cathode band **Weight:** 0.022g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | |
|--|---|----------------|--------|--------|------|--|
| PARAMETER | SYMBOL | RS1JLS | RS1KLS | RS1MLS | UNIT | |
| Marking code | | RJLS | RKLS | RMLS | | |
| Maximum repetitive peak reverse voltage | V _{RRM} | 600 | 800 | 1000 | V | |
| Maximum RMS voltage | V _{RMS} | 420 | 560 | 700 | V | |
| Maximum DC blocking voltage | V _{DC} | 600 | 800 | 1000 | V | |
| Maximum average forward rectified current | I _{F(AV)} | 1.2 | | | Α | |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 50 | | | А | |
| Maximum instantaneous forward voltage (Note 1) @ 1.2 A | V _F | 1.3 | | | V | |
| Maximum reverse current @ rated VR T _J =25 °C T _J =125 °C | I _R | 5 150 | | μA | | |
| Maximum reverse recovery time (Note 2) | trr | 300 | | | ns | |
| Typical thermal resistance | $R_{_{	extsf{	heta}JC}}$ $R_{_{	hetaJA}}$ | 26 80 | | °C/W | | |
| Operating junction temperature range | TJ | - 55 to +150 | | OC | | |
| Storage temperature range | T _{STG} | - 55 to +150 C | | | °C | |

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

Note 2: Reverse recovery test condition: I_F =0.5A, I_R =1.0A, I_{RR} =0.25A



RS1JLS - RS1MLS

Taiwan Semiconductor

| ORDERING INFORMATION | | | | | |
|----------------------|-------------|--------------|----------------|-----------|-------------------|
| PART NO. | AEC-Q101 | PACKING CODE | GREEN COMPOUND | PACKAGE | PACKING |
| | QUALIFIED | | CODE | | |
| RS1xLS | Prefix "H" | RV | Suffix "G" | SOD-123HE | 3,000 / 7" Reel |
| (Note 1, 2) | (Note 1, 2) | RQ | | SOD-123HE | 10,000 / 13" Reel |
| | | | | | |

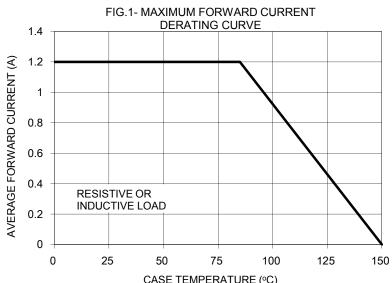
Note 1: "x" defines voltage from 600V (RS1JLS) to 1000V (RS1MLS)

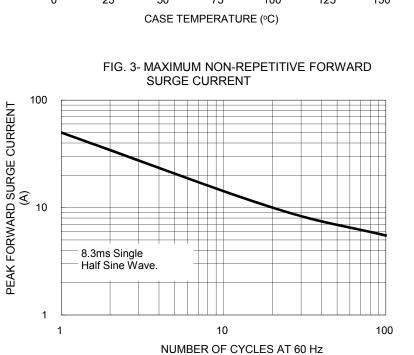
Note 2: Whole series with green compound (halogen-free)

| EXAMPLE | | | | | | |
|---------------|----------|-----------------------|--------------|------------------------|--------------------------------------|--|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION | |
| RS1MLSHRVG | RS1MLS | Н | RV | G | AEC-Q101 qualified Green compound | |

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)





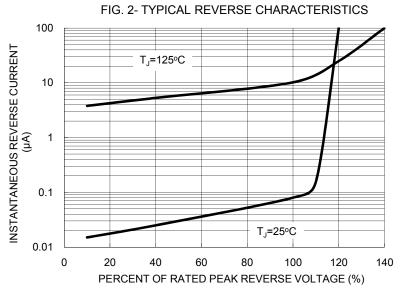
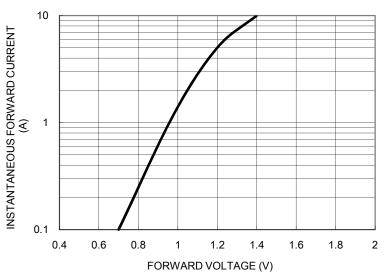


FIG. 4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

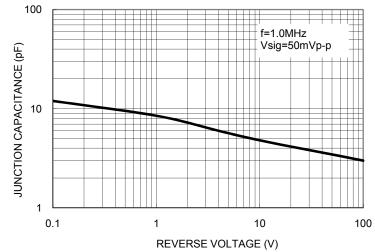


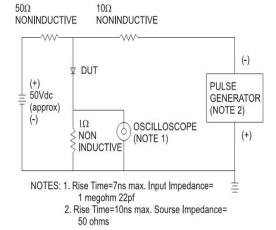


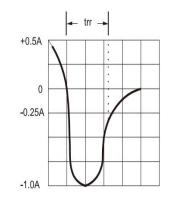
Taiwan Semiconductor

FIG. 5- TYPICAL JUNCTION CAPACITANCE

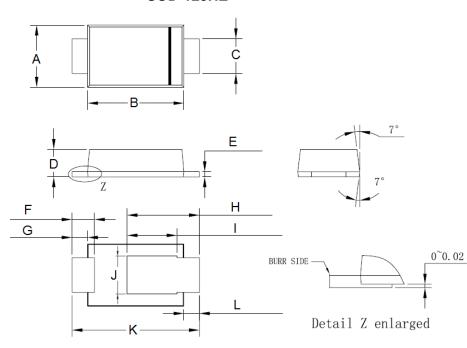
FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





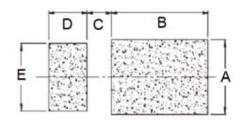


PACKAGE OUTLINE DIMENSIONS SOD-123HE

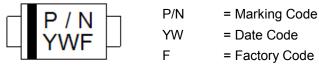


| DIM. | Unit (mm) | | Unit (inch) | | |
|------|-----------|------|-------------|-------|--|
| | Min | Max | Min | Max | |
| А | 1.65 | 1.95 | 0.065 | 0.077 | |
| В | 2.60 | 3.00 | 0.102 | 0.118 | |
| С | 0.85 | 1.15 | 0.033 | 0.045 | |
| D | 0.75 | 0.85 | 0.030 | 0.033 | |
| E | 0.10 | 0.20 | 0.004 | 0.008 | |
| F | 0.55 | 0.75 | 0.022 | 0.030 | |
| G | 0.35 | 0.55 | 0.014 | 0.022 | |
| Н | 1.90 | 2.30 | 0.075 | 0.091 | |
| I | 1.35 | 1.55 | 0.053 | 0.061 | |
| J | 0.95 | 1.25 | 0.037 | 0.049 | |
| К | 3.50 | 3.90 | 0.138 | 0.154 | |
| L | 0.35 | 0.55 | 0.014 | 0.022 | |

SUGGESTED PAD LAYOUT



MARKING DIAGRAM



Unit (mm) Unit (inch) Symbol 0.055 A 1.40 В 2.40 0.094 С 0.70 0.028 D 0.90 0.035 Е 1.40 0.055

= Factory Code

Document Number: DS_D1407030



Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or seling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Document Number: DS_D1407030

Downloaded from Arrow.com