



**THE DATASHEET OF
ES1DLW RVG**



1A, 200V - 600V Surface Mount Super Fast Rectifiers

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low profile package
- Low power loss, high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


SOD-123W


MECHANICAL DATA

Case: SOD-123W

Molding compound: UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Part no. with suffix "H" means AEC-Q101 qualified

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

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

Polarity: Indicated by cathode band

Weight: 16 mg (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted) | | | | | |
|--|-----------------|-------------------------|--------|--------|--------------------|
| PARAMETER | SYMBOL | ES1DLW | ES1GLW | ES1JLW | UNIT |
| Marking Code | | EDLW | EGLW | EJLW | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 200 | 400 | 600 | V |
| Maximum RMS voltage | V_{RMS} | 140 | 280 | 420 | V |
| Maximum DC blocking voltage | V_{DC} | 200 | 400 | 600 | 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 | 0.95 | 1.30 | 1.70 | V |
| Maximum reverse current @ rated V_R | I_R | $T_J=25^\circ\text{C}$ | | | μA |
| | | $T_J=125^\circ\text{C}$ | | | |
| Typical junction capacitance (Note 2) | C_J | 20 | | | pF |
| Maximum reverse recovery time (Note 3) | t_{rr} | 35 | | | ns |
| Typical thermal resistance | $R_{\theta JL}$ | 25 | | | $^\circ\text{C/W}$ |
| | $R_{\theta JA}$ | 80 | | | |
| Operating junction temperature range | T_J | - 55 to +175 | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | - 55 to +175 | | | $^\circ\text{C}$ |

Note 1: Pulse test with $PW=300\mu\text{s}$, 1% duty cycle

Note 2: Measured at 1 MHz and applied $V_R=4.0\text{ V}$

Note 3: Test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

ORDERING INFORMATION

| PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
|-----------------------|-----------------|--------------|---------------------|----------|-------------------------|
| ES1xLW (Note 1, 2) | H | RV | G | SOD-123W | 3,000 / 7" Plastic reel |
| | | RQ | | | 10,000 / 13" Paper reel |

Note 1: "x" defines voltage from 200V (ES1DLW) to 600V (ES1JLW)

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

EXAMPLE

| EXAMPLE P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
|-------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| ES1JLWHRVG | ES1JLW | H | RV | G | AEC-Q101 qualified Green compound |

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

FIG.1 FORWARD CURRENT DERATING CURVE

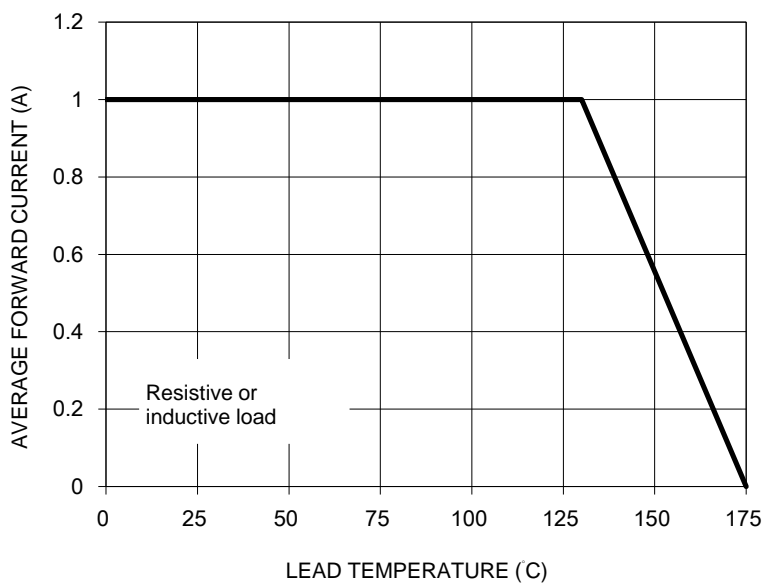


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

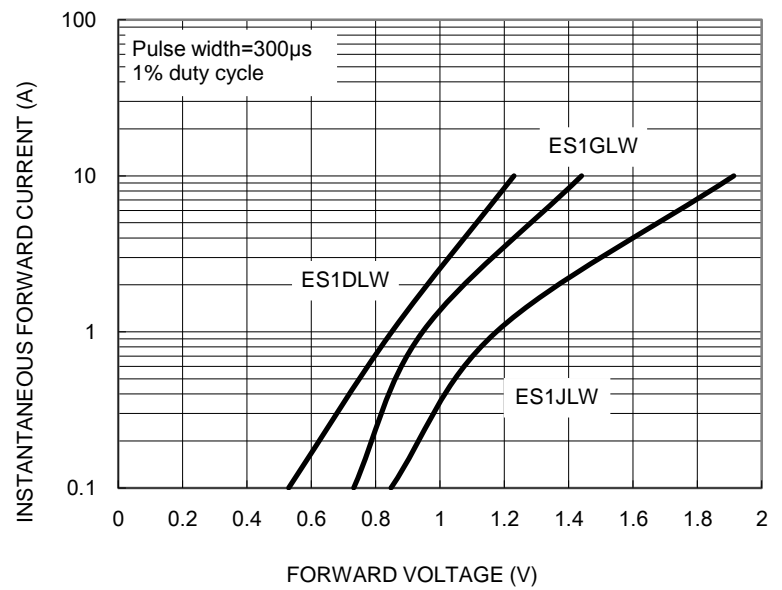


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

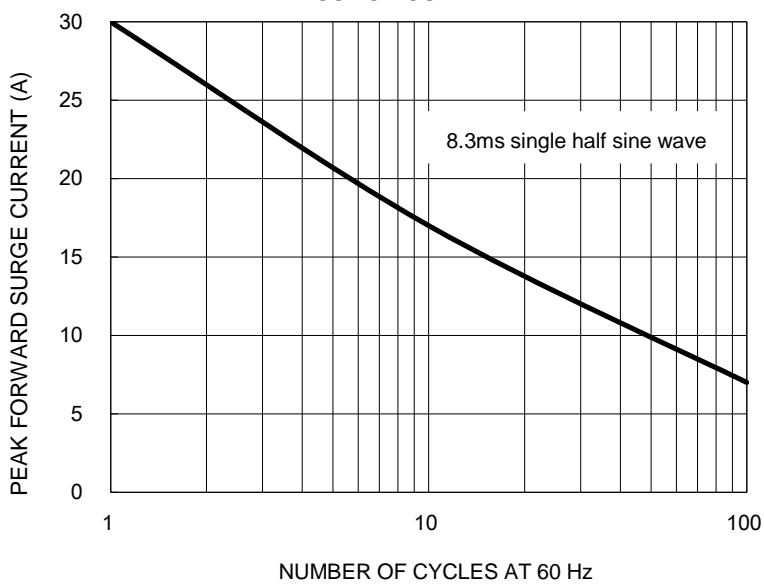


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

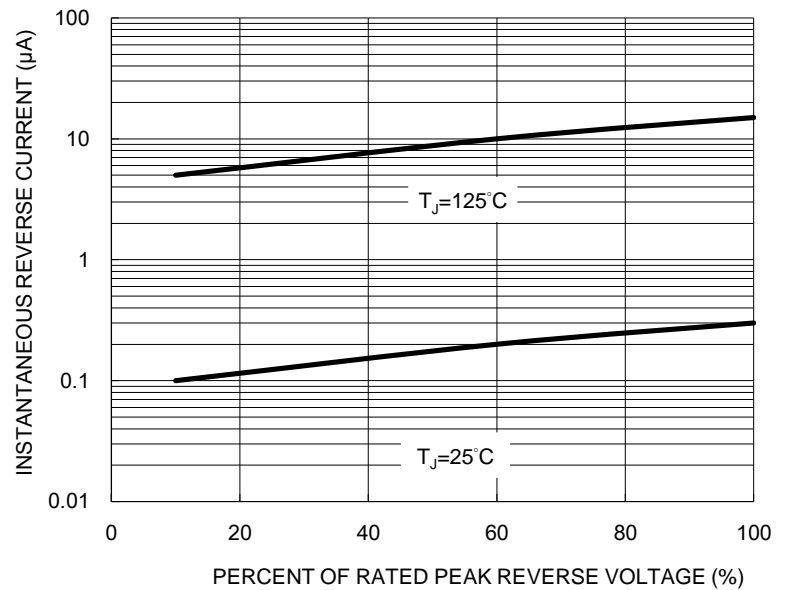
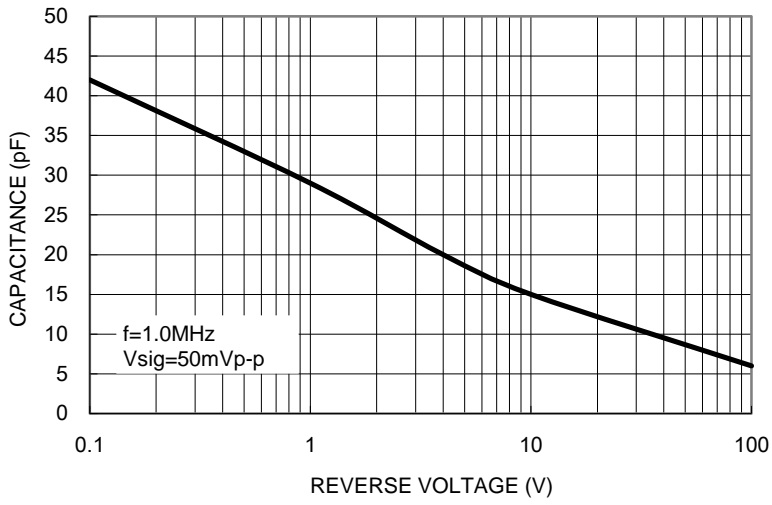
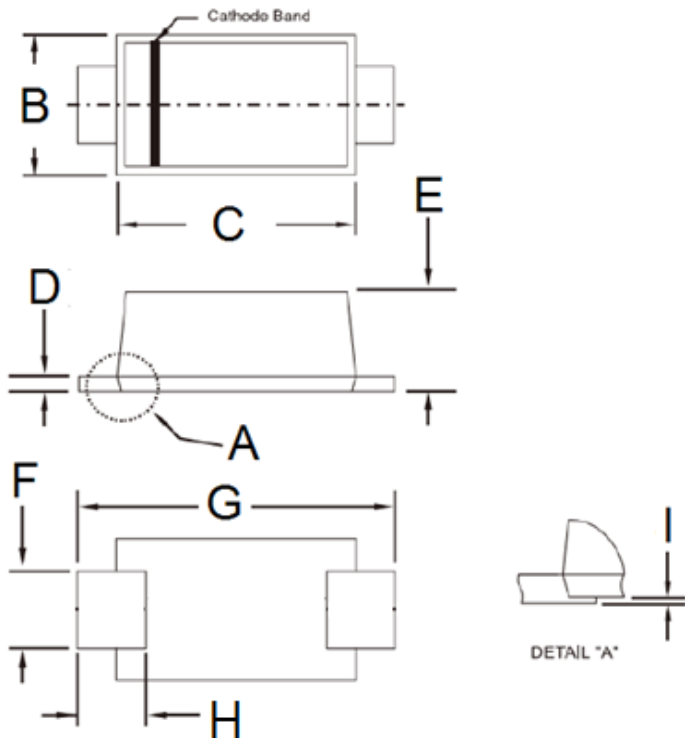


FIG. 5 TYPICAL JUNCTION CAPACITANCE



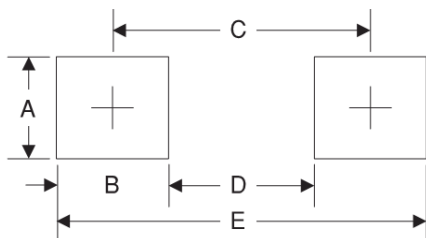
PACKAGE OUTLINE DIMENSIONS

SOD-123W



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| B | 1.70 | 1.90 | 0.067 | 0.075 |
| C | 2.60 | 2.90 | 0.102 | 0.114 |
| D | 0.10 | 0.22 | 0.004 | 0.009 |
| E | 0.90 | 1.02 | 0.035 | 0.040 |
| F | 0.90 | 1.05 | 0.035 | 0.041 |
| G | 3.60 | 3.80 | 0.142 | 0.150 |
| H | 0.50 | 0.85 | 0.020 | 0.033 |
| I | 0.00 | 0.10 | 0.000 | 0.004 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.4 | 0.055 |
| B | 1.2 | 0.047 |
| C | 3.1 | 0.122 |
| D | 1.9 | 0.075 |
| E | 4.3 | 0.169 |

MARKING DIAGRAM



P/N = Marking Code
 YW = Date Code
 F = Factory Code

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