

**1A, 40V - 200V Surface Mount Schottky Barrier Rectifiers**

**FEATURES**

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- 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



**HALOGEN FREE**

**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 J-STD-002  
Meet JESD 201 class 2 whisker test  
**Polarity:** Indicated by cathode band  
**Weight:** 16 mg (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)    |                    |              |         |          |          |          |      |
|-------------------------------------------------------------------------------------------------|--------------------|--------------|---------|----------|----------|----------|------|
| PARAMETER                                                                                       | SYMBOL             | SS1H4LW      | SS1H6LW | SS1H10LW | SS1H15LW | SS1H20LW | UNIT |
| Marking Code                                                                                    |                    | 1H4LW        | 1H6LW   | 1H10LW   | 1H15LW   | 1H20LW   |      |
| Maximum repetitive peak reverse voltage                                                         | V <sub>RRM</sub>   | 40           | 60      | 100      | 150      | 200      | V    |
| Maximum RMS voltage                                                                             | V <sub>RMS</sub>   | 28           | 42      | 70       | 105      | 140      | V    |
| Maximum DC blocking voltage                                                                     | V <sub>DC</sub>    | 40           | 60      | 100      | 150      | 200      | 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) @ 1 A                                            | V <sub>F</sub>     | 0.65         | 0.70    | 0.80     | 0.85     |          | 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>     | 0.5          |         |          |          |          | μA   |
|                                                                                                 |                    | 0.3          |         | 0.2      |          | 0.1      | mA   |
| Typical thermal resistance                                                                      | R <sub>θJL</sub>   | 25           |         |          |          |          | °C/W |
|                                                                                                 | R <sub>θJA</sub>   | 80           |         |          |          |          |      |
| Operating junction temperature range                                                            | T <sub>J</sub>     | - 55 to +175 |         |          |          |          | °C   |
| Storage temperature range                                                                       | T <sub>STG</sub>   | - 55 to +175 |         |          |          |          | °C   |

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

| ORDERING INFORMATION   |                 |              |                     |          |                         |
|------------------------|-----------------|--------------|---------------------|----------|-------------------------|
| PART NO.               | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE  | PACKING                 |
| SS1HxLW<br>(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 40V (SS1H4LW) to 200V (SS1H20LW)

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

| EXAMPLE     |          |                 |              |                     |                                      |
|-------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| EXAMPLE P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| SS1H4LWHRVG | SS1H4LW  | H               | RV           | G                   | AEC-Q101 qualified<br>Green compound |

RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

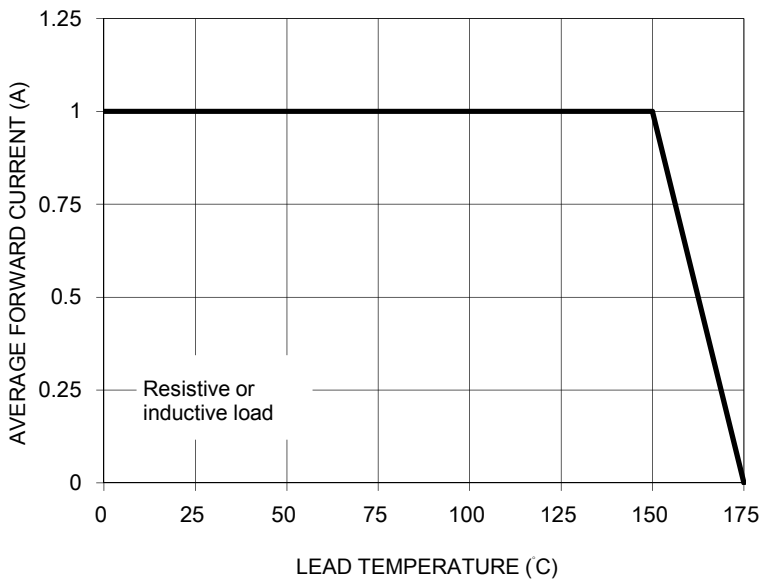


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

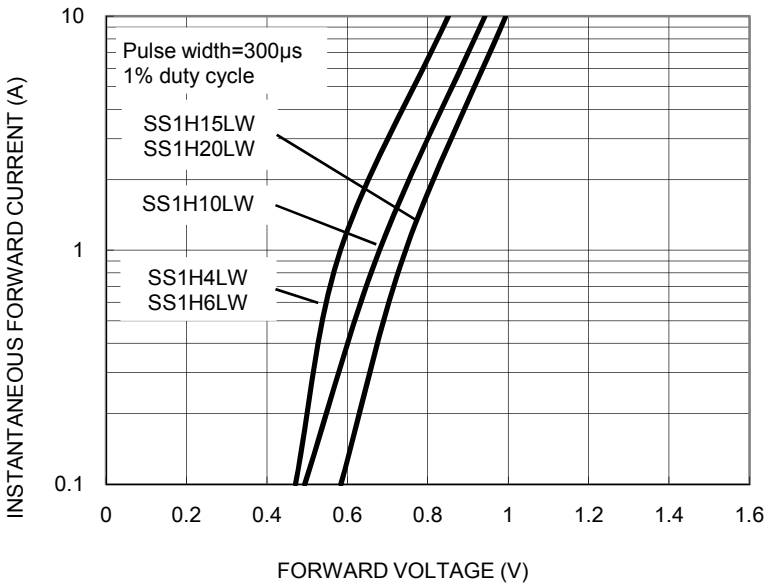


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



FIG. 4 TYPICAL REVERSE CHARACTERISTICS

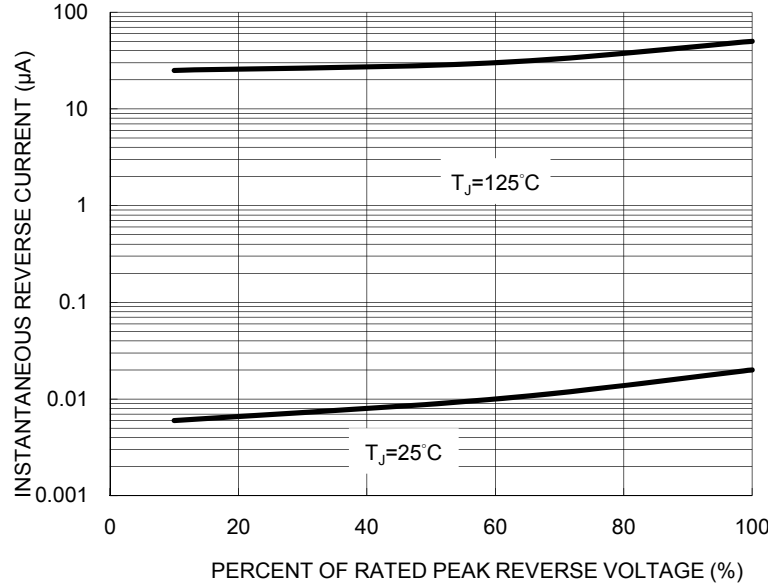
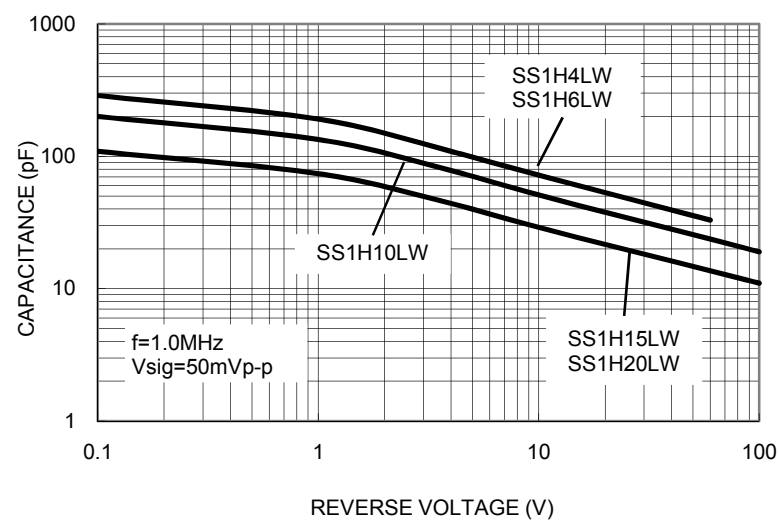
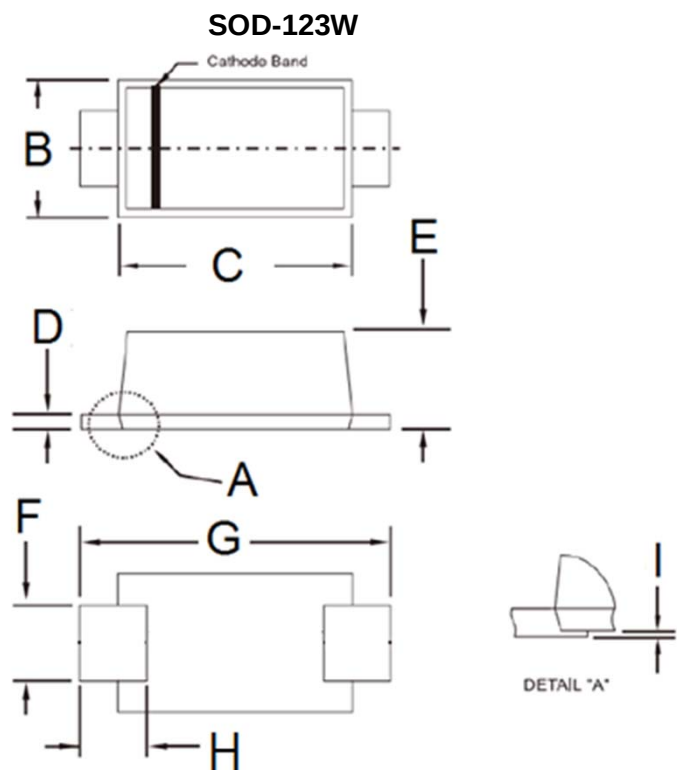


FIG. 5 TYPICAL JUNCTION CAPACITANCE

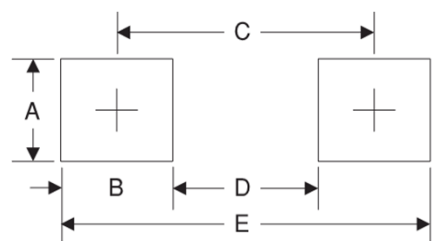


PACKAGE OUTLINE DIMENSIONS



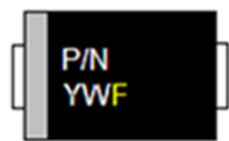
| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| B    | 1.70      | 1.90 | 0.067       | 0.075 |
| C    | 2.60      | 2.90 | 0.102       | 0.114 |
| D    | 0.10      | 0.22 | 0.004       | 0.009 |
| 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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