

## Surface Mount Schottky Barrier Rectifier

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guardring for overvoltage protection
- High surge current capability
- 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:** DO-214AB (SMC)

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - 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:** 0.21 g (approximately)

**DO-214AB (SMC)**

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25℃ unless otherwise noted)                 |                    |              |          |          |              |              |              |           |              |           |      |
|-------------------------------------------------------------------------------------------------------------|--------------------|--------------|----------|----------|--------------|--------------|--------------|-----------|--------------|-----------|------|
| PARAMETER                                                                                                   | SYMBOL             | SS<br>32     | SS<br>33 | SS<br>34 | SS<br>35     | SS<br>36     | SS<br>39     | SS<br>310 | SS<br>315    | SS<br>320 | Unit |
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>   | 20           | 30       | 40       | 50           | 60           | 90           | 100       | 150          | 200       | V    |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>   | 14           | 21       | 28       | 35           | 42           | 63           | 70        | 105          | 140       | V    |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>    | 20           | 30       | 40       | 50           | 60           | 90           | 100       | 150          | 200       | V    |
| Maximum average forward rectified current                                                                   | I <sub>F(AV)</sub> | 3            |          |          |              |              |              |           |              |           | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load                         | I <sub>FSM</sub>   | 100          |          |          |              | 70           |              |           |              |           | A    |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 3 A @ 25℃<br>I <sub>F</sub> = 3 A @ 100℃ | V <sub>F</sub>     | 0.5<br>0.4   |          |          | 0.75<br>0.65 |              | 0.85<br>0.70 |           | 0.95<br>0.80 |           | V    |
| Maximum reverse current @ rated VR    T <sub>J</sub> =25 ℃<br>T <sub>J</sub> =100℃<br>T <sub>J</sub> =125 ℃ | I <sub>R</sub>     | 0.5          |          |          |              |              | 0.1          |           |              |           | mA   |
|                                                                                                             |                    | 10           |          |          | 5            |              | -            |           |              |           |      |
|                                                                                                             |                    | -            |          |          | -            |              | 0.5          |           |              |           |      |
| Voltage rate of change (Rated V <sub>R</sub> )                                                              | dV/dt              | 10000        |          |          |              |              |              |           |              |           | V/μs |
| Typical thermal resistance                                                                                  | R <sub>θJL</sub>   | 17           |          |          |              |              |              |           |              |           | ℃/W  |
|                                                                                                             | R <sub>θJA</sub>   | 55           |          |          |              |              |              |           |              |           |      |
| Operating junction temperature range                                                                        | T <sub>J</sub>     | - 55 to +125 |          |          |              | - 55 to +150 |              |           |              |           | ℃    |
| Storage temperature range                                                                                   | T <sub>STG</sub>   | - 55 to +150 |          |          |              |              |              |           |              |           | ℃    |

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

| ORDERING INFORMATION |                    |              |                     |         |                          |
|----------------------|--------------------|--------------|---------------------|---------|--------------------------|
| PART NO.             | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING                  |
| SS3xx<br>(Note 1)    | Prefix "H"         | R7           | Suffix "G"          | SMC     | 850 / 7" Plastic reel    |
|                      |                    | R6           |                     | SMC     | 3,000 / 13" Paper reel   |
|                      |                    | M6           |                     | SMC     | 3,000 / 13" Plastic reel |

Note 1: "xx" defines voltage from 20V (SS32) to 200V (SS320)

| EXAMPLE       |          |                    |              |                     |                    |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| SS36 R7       | SS36     |                    | R7           |                     |                    |
| SS36 R7G      | SS36     |                    | R7           | G                   | Green compound     |
| SS36HR7       | SS36     | H                  | R7           |                     | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

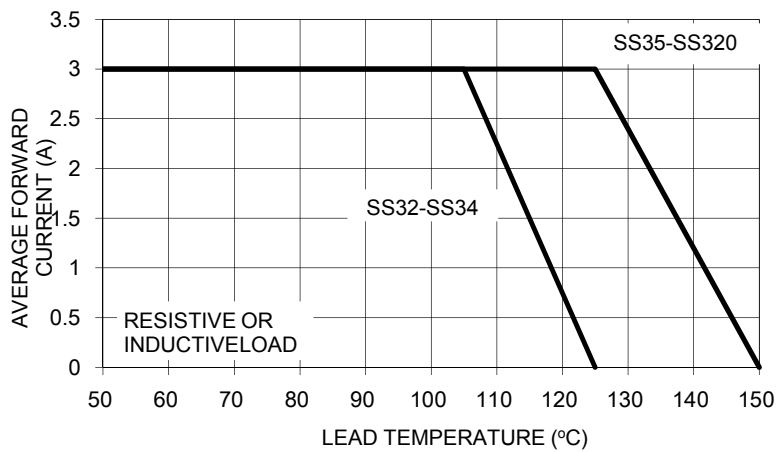


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

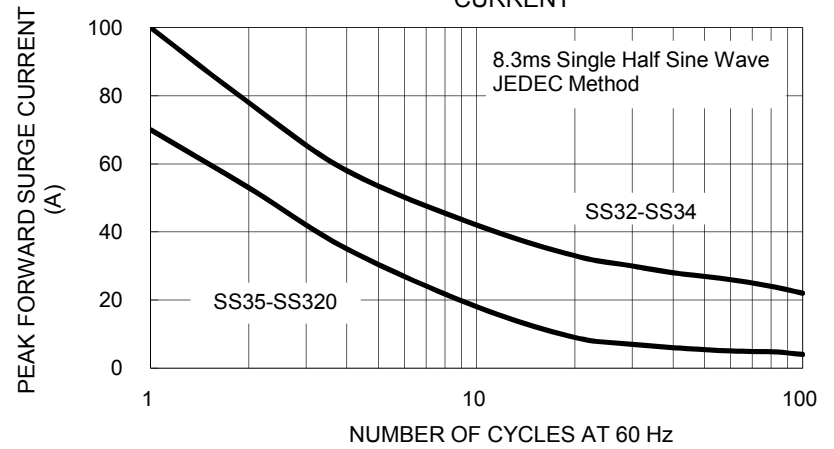


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

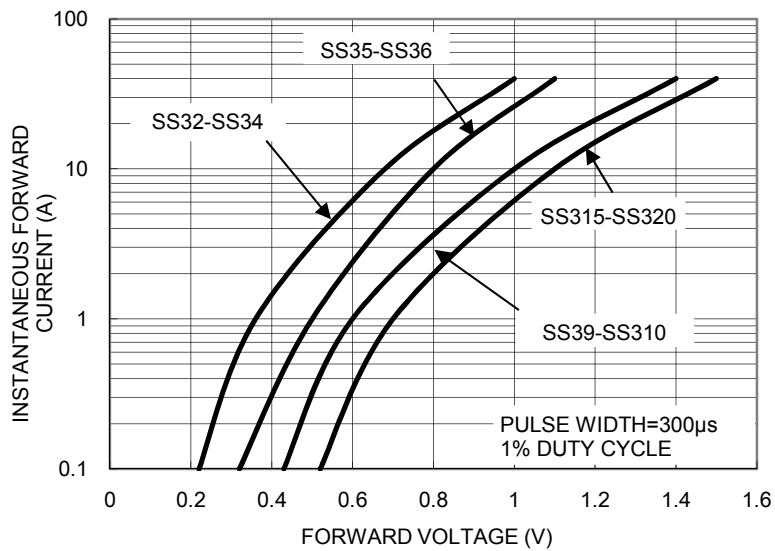


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

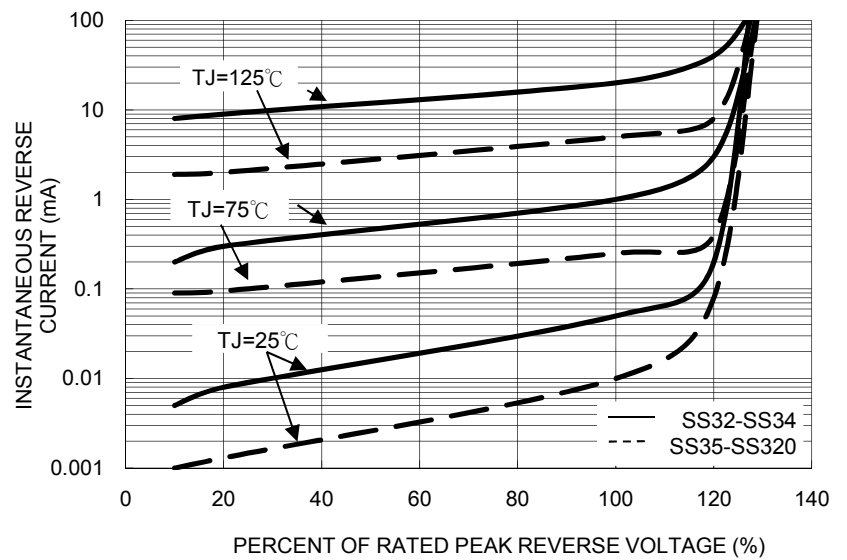


FIG. 5 TYPICAL JUNCTION CAPACITANCE

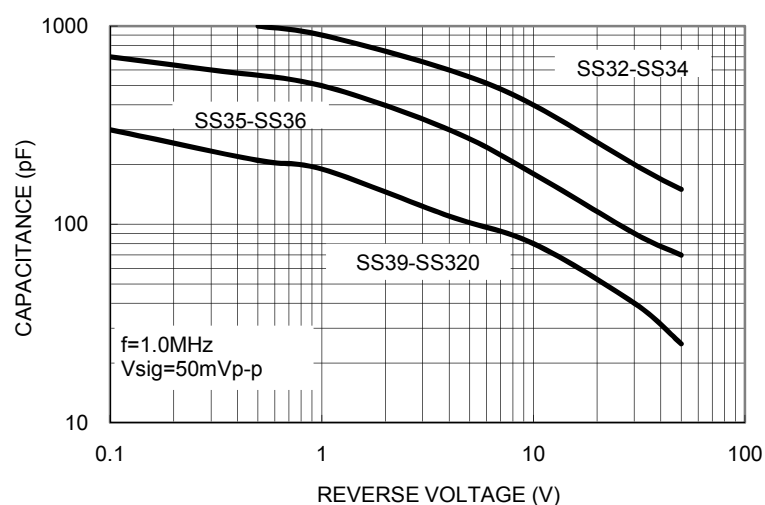
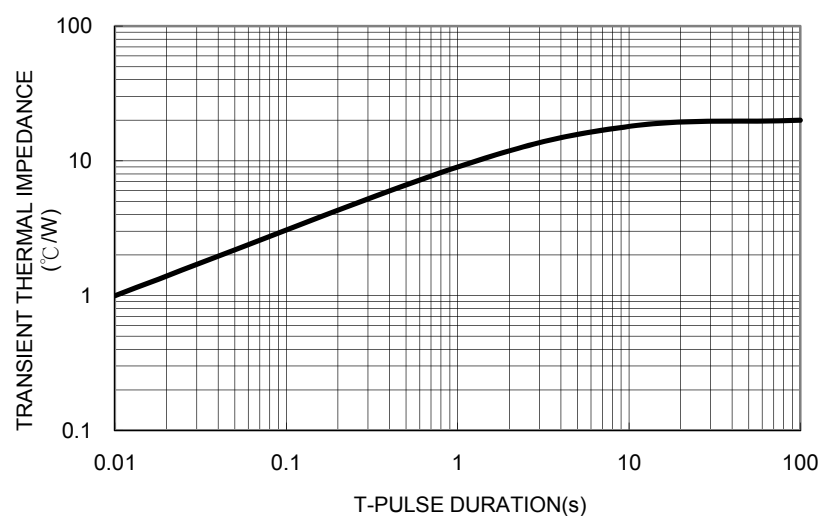
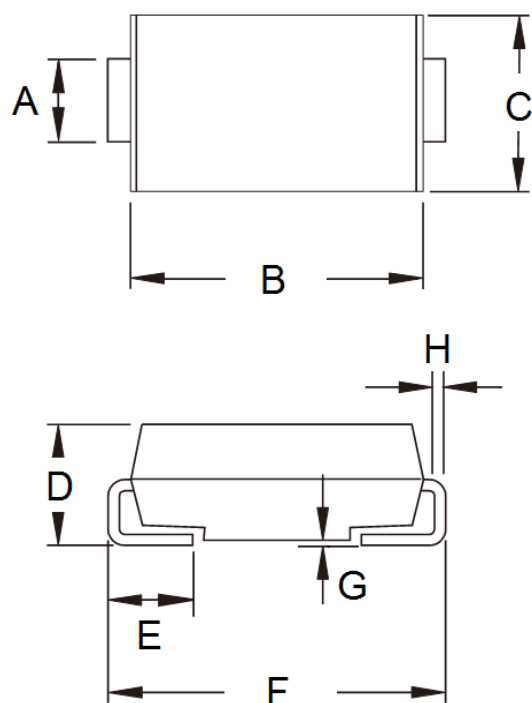


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

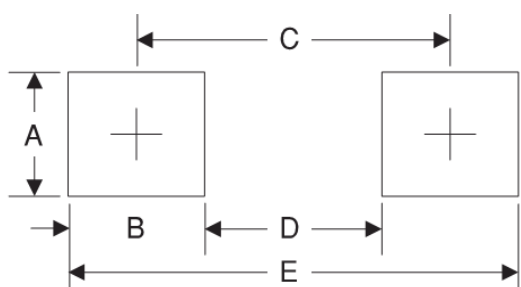


## PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 2.90      | 3.20 | 0.114       | 0.126 |
| B    | 6.60      | 7.11 | 0.260       | 0.280 |
| C    | 5.59      | 6.22 | 0.220       | 0.245 |
| D    | 2.00      | 2.62 | 0.079       | 0.103 |
| E    | 1.00      | 1.60 | 0.039       | 0.063 |
| F    | 7.75      | 8.13 | 0.305       | 0.320 |
| G    | 0.10      | 0.20 | 0.004       | 0.008 |
| H    | 0.15      | 0.31 | 0.006       | 0.012 |

## SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 3.3       | 0.130       |
| B      | 2.5       | 0.098       |
| C      | 6.8       | 0.268       |
| D      | 4.4       | 0.173       |
| E      | 9.4       | 0.370       |

## MARKING DIAGRAM



P/N = Specific Device Code  
G = Green Compound  
YW = Date Code  
F = Factory Code

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