

## 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



**Sub SMA**

### TYPICAL APPLICATIONS

For use in high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications

### MECHANICAL DATA

**Case:** Sub SMA

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:** 0.019 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted) |                    |              |              |        |      |
|----------------------------------------------------------------------------------------------|--------------------|--------------|--------------|--------|------|
| PARAMETER                                                                                    | SYMBOL             | SS34L        | SS36L        | SS310L | UNIT |
| Marking code                                                                                 |                    | 34L          | 36L          | 310L   |      |
| Maximum repetitive peak reverse voltage                                                      | V <sub>RRM</sub>   | 40           | 60           | 100    | V    |
| Maximum RMS voltage                                                                          | V <sub>RMS</sub>   | 28           | 42           | 70     | V    |
| Maximum DC blocking voltage                                                                  | V <sub>DC</sub>    | 40           | 60           | 100    | 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>   | 80           |              |        | A    |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 3 A                       | V <sub>F</sub>     | 0.5          | 0.75         | 0.85   | V    |
| Maximum reverse current @ rated VR    T <sub>J</sub> =25 °C<br>T <sub>J</sub> =125 °C        | I <sub>R</sub>     | 0.5          |              | 0.1    | mA   |
|                                                                                              |                    | 60           | 10           | 5      |      |
| Voltage rate of change (Rated V <sub>R</sub> )                                               | dV/dt              | 10000        |              |        | V/μs |
| Typical thermal resistance                                                                   | R <sub>θJC</sub>   | 30           |              |        | °C/W |
|                                                                                              | R <sub>θJA</sub>   | 60           |              |        |      |
| Operating junction temperature range                                                         | T <sub>J</sub>     | - 55 to +125 | - 55 to +150 |        | °C   |
| Storage temperature range                                                                    | T <sub>STG</sub>   | - 55 to +150 |              |        | °C   |

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

| ORDERING INFORMATION |                    |              |                     |         |                                       |
|----------------------|--------------------|--------------|---------------------|---------|---------------------------------------|
| PART NO.             | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING                               |
| SS3xxL<br>(Note1)    | Prefix "H"         | RU           | Suffix "G"          | Sub SMA | 1,800 / 7" Plastic reel (8mm tape)    |
|                      |                    | RV           |                     | Sub SMA | 3,000 / 7" Plastic reel (8mm tape)    |
|                      |                    | RT           |                     | Sub SMA | 7,500 / 13" Paper reel (8mm tape)     |
|                      |                    | MT           |                     | Sub SMA | 7,500 / 13" Plastic reel (8mm tape)   |
|                      |                    | RQ           |                     | Sub SMA | 10,000 / 13" Paper reel (8mm tape)    |
|                      |                    | MQ           |                     | Sub SMA | 10,000 / 13" Plastic reel (8mm tape)  |
|                      |                    | R3           |                     | Sub SMA | 1,800 / 7" Plastic reel (12mm tape)   |
|                      |                    | RF           |                     | Sub SMA | 3,000 / 7" Plastic reel (12mm tape)   |
|                      |                    | R2           |                     | Sub SMA | 7,500 / 13" Paper reel (12mm tape)    |
|                      |                    | M2           |                     | Sub SMA | 7,500 / 13" Plastic reel (12mm tape)  |
|                      |                    | RH           |                     | Sub SMA | 10,000 / 13" Paper reel (12mm tape)   |
|                      |                    | MH           |                     | Sub SMA | 10,000 / 13" Plastic reel (12mm tape) |

Note 1: "xx" defines voltage from 40V (SS34L) to 100V (SS310L)

| EXAMPLE       |          |                    |              |                     |                    |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| SS34L RU      | SS34L    |                    | RU           |                     |                    |
| SS34L RUG     | SS34L    |                    | RU           | G                   | Green compound     |
| SS34LHRU      | SS34L    | H                  | RU           |                     | AEC-Q101 qualified |

### RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

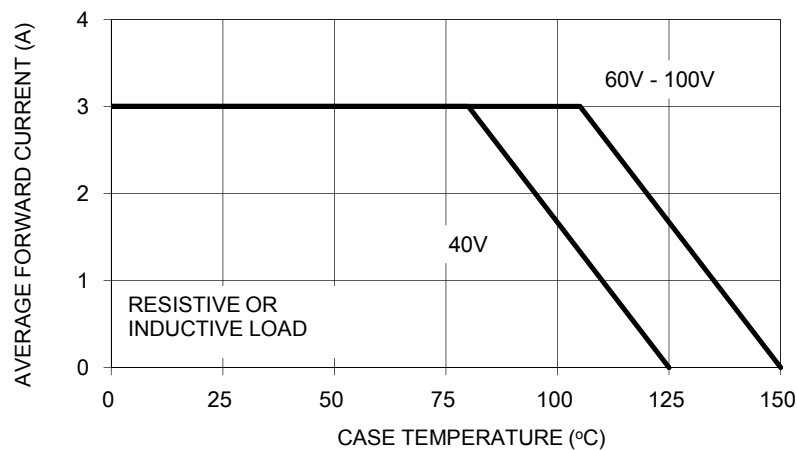


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

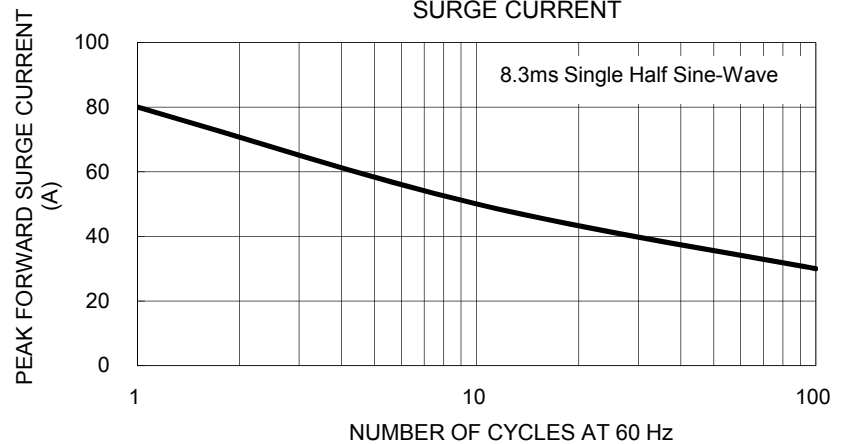


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

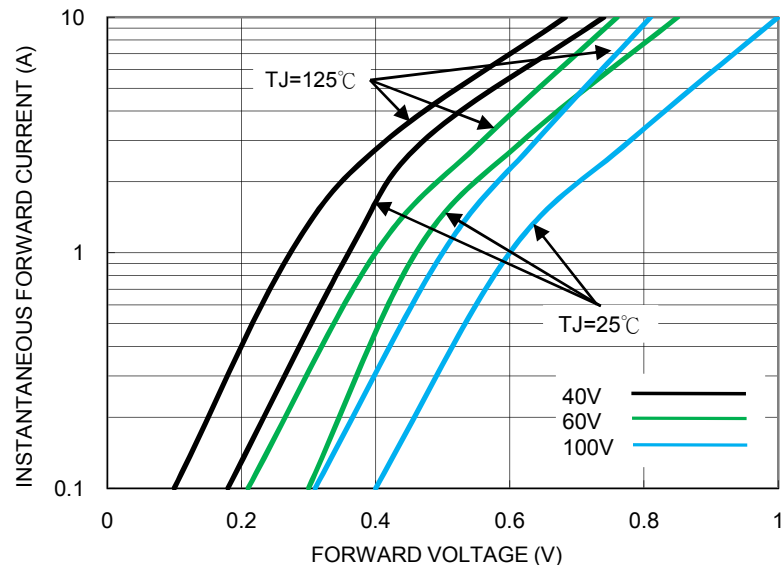


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

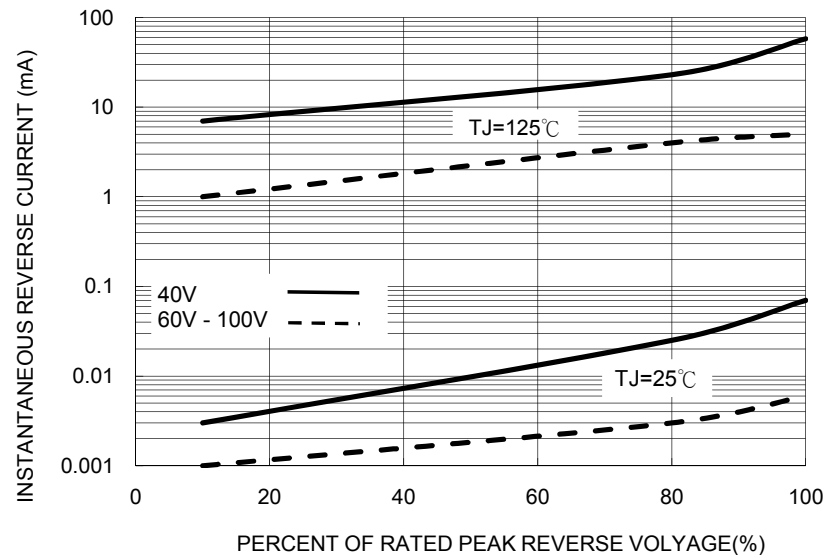
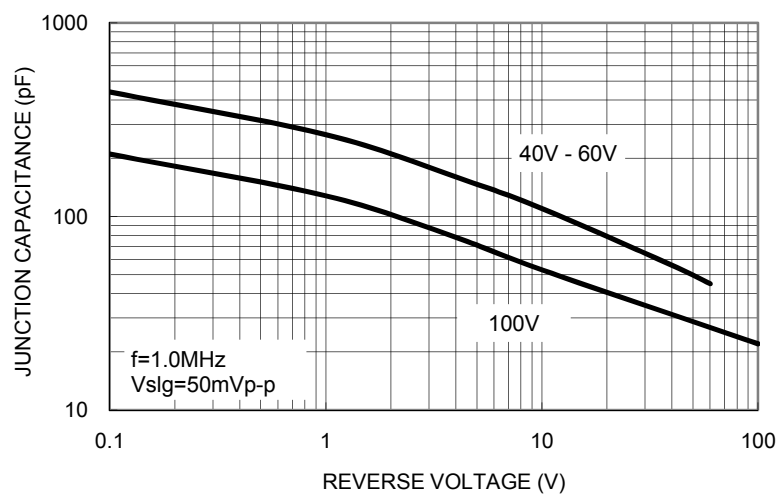
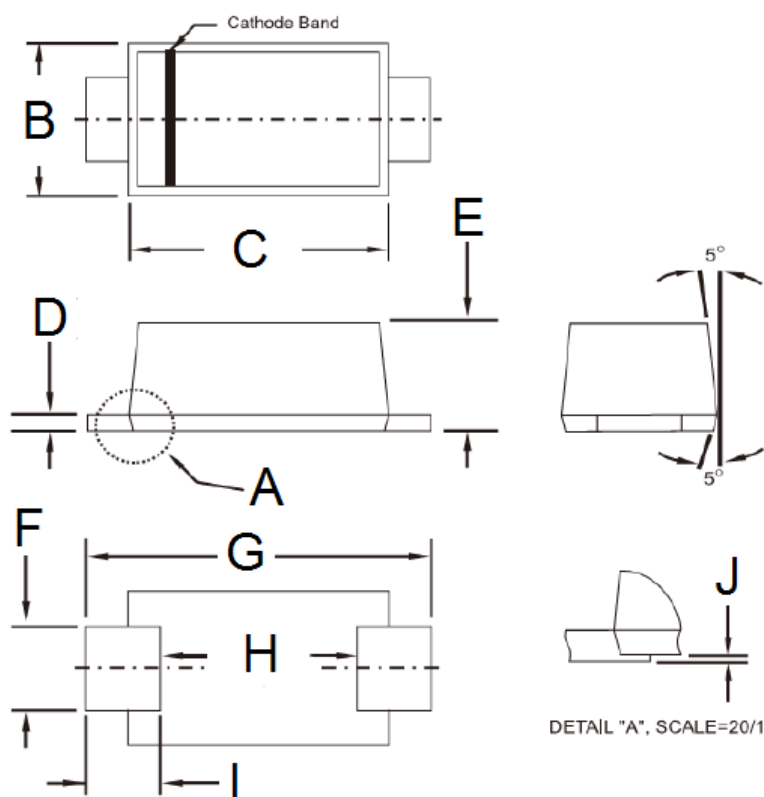


FIG. 5 TYPICAL JUNCTION CAPACITANCE

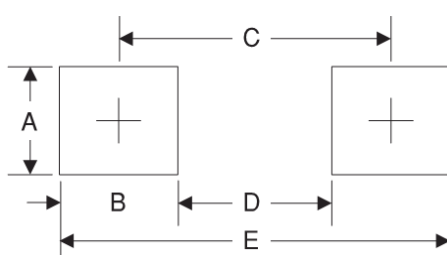


# PACKAGE OUTLINE DIMENSIONS



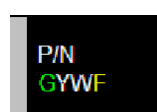
| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| B    | 1.70      | 1.90 | 0.067       | 0.075 |
| C    | 2.70      | 2.90 | 0.106       | 0.114 |
| D    | 0.16      | 0.30 | 0.006       | 0.012 |
| E    | 1.23      | 1.43 | 0.048       | 0.056 |
| F    | 0.80      | 1.20 | 0.031       | 0.047 |
| G    | 3.40      | 3.80 | 0.134       | 0.150 |
| H    | 2.45      | 2.60 | 0.096       | 0.102 |
| I    | 0.35      | 0.85 | 0.014       | 0.033 |
| J    | 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  
G = Green Compound  
YW = Date Code  
F = Factory Code

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