

- 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



**Sub SMA**

## 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 ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER  | SYMBOL                             | S1AL         | S1BL | S1DL | S1GL | S1JL | S1KL |
|--|------------------------------------|--------------|------|------|------|------|------|
| Marking code   |                                    | 1AL          | 1BL  | 1DL  | 1GL  | 1JL  | 1KL  |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$                          | 50           | 100  | 200  | 400  | 600  | 800  |
| Maximum RMS voltage  | $V_{RMS}$                          | 35           | 70   | 140  | 280  | 420  | 560  |
| Maximum DC blocking voltage  | $V_{DC}$                           | 50           | 100  | 200  | 400  | 600  | 800  |
| Maximum average forward rectified current  | $I_{F(AV)}$                        | 1            |      |      |      |      |      |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load  | $I_{FSM}$                          | 30           |      |      |      |      |      |
| Maximum instantaneous forward voltage (Note 1) @ 1 A                                 | $V_F$                              | 1.1          |      |      |      |      |      |
| Maximum reverse current @ rated VR $T_J=25^\circ\text{C}$<br>$T_J=125^\circ\text{C}$ | $I_R$                              | 5<br>50      |      |      |      |      |      |
| Typical junction capacitance (Note 2)  | $C_j$                              | 9            |      |      |      |      |      |
| Typical reverse recovery time (Note 3)   | $T_{rr}$                           | 1.8          |      |      |      |      |      |
| Typical thermal resistance   | $R_{\theta JL}$<br>$R_{\theta JA}$ | 25<br>85     |      |      |      |      |      |
| Operating junction temperature range   | $T_J$                              | - 55 to +175 |      |      |      |      |      |
| Storage temperature range  | $T_{STG}$                          | - 55 to +175 |      |      |      |      |      |

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

Note 2: Measured at 1 MHz and Applied  $V_R=4.0$  Volts.

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

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|                  |            |    |            |         |                     |
|------------------|------------|----|------------|---------|---------------------|
| S1xL<br>(Note 1) | Prefix "H" | MT | Suffix "G" | Sub SMA | 7,500 / 13" Plasti  |
|                  |            | RQ |            | Sub SMA | 10,000 / 13" Paper  |
|                  |            | MQ |            | Sub SMA | 10,000 / 13" Plasti |
|                  |            | R3 |            | Sub SMA | 1,800 / 7" Plastic  |
|                  |            | RF |            | Sub SMA | 3,000 / 7" Plastic  |
|                  |            | R2 |            | Sub SMA | 7,500 / 13" Paper   |
|                  |            | M2 |            | Sub SMA | 7,500 / 13" Plasti  |
|                  |            | RH |            | Sub SMA | 10,000 / 13" Paper  |
|                  |            | MH |            | Sub SMA | 10,000 / 13" Plasti |

Note 1: "x" defines voltage from 50V (S1AL) to 1000V (S1ML)

### EXAMPLE

| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DE  |
|---------------|----------|--------------------|--------------|---------------------|-----|
| S1ML RU       | S1ML     |                    | RU           |                     |     |
| S1ML RUG      | S1ML     |                    | RU           | G                   | Gre |
| S1MLHRU       | S1ML     | H                  | RU           |                     | AEC |

### RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

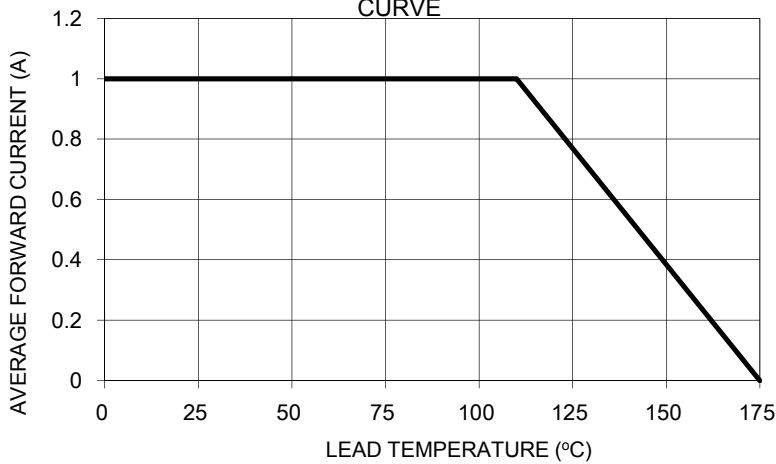


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

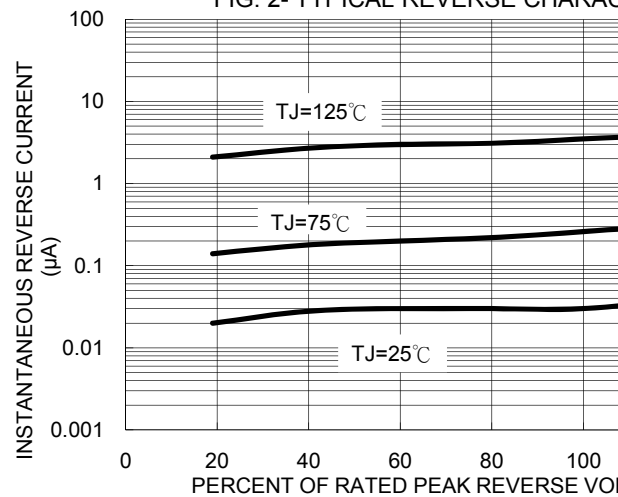


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

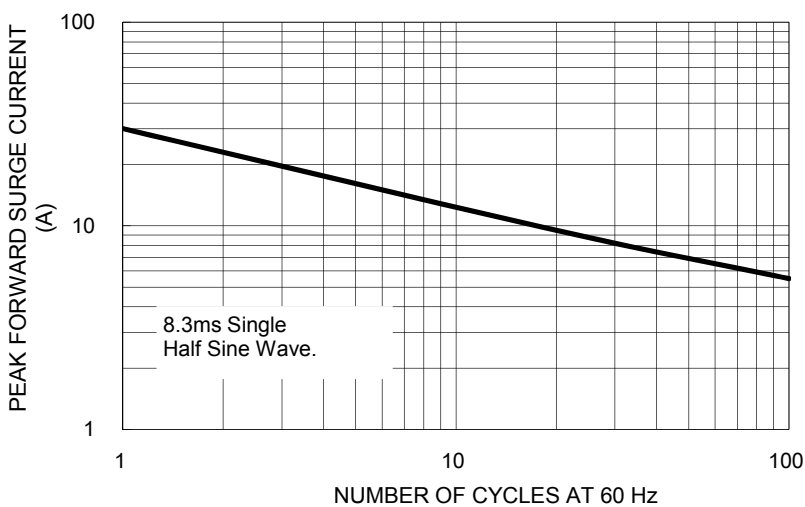
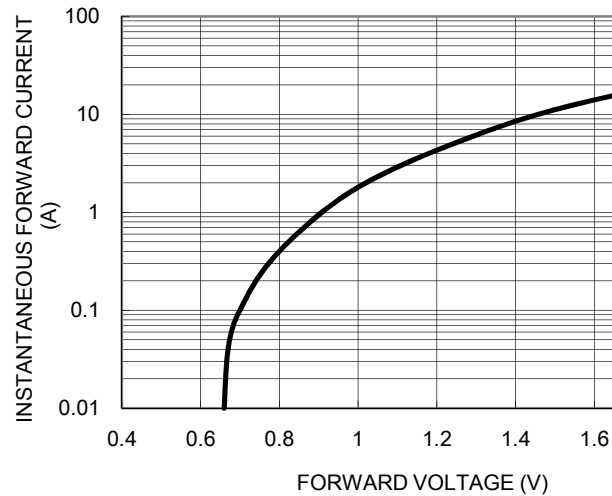
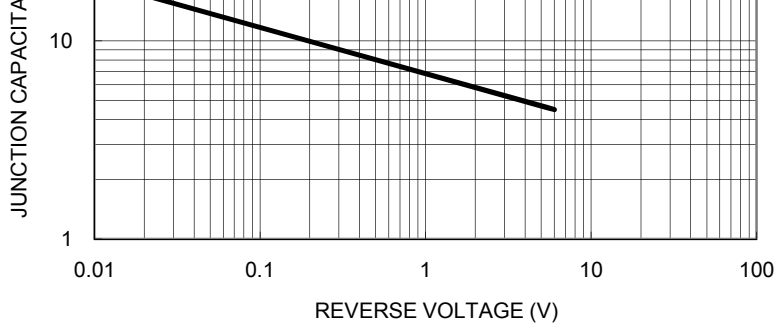
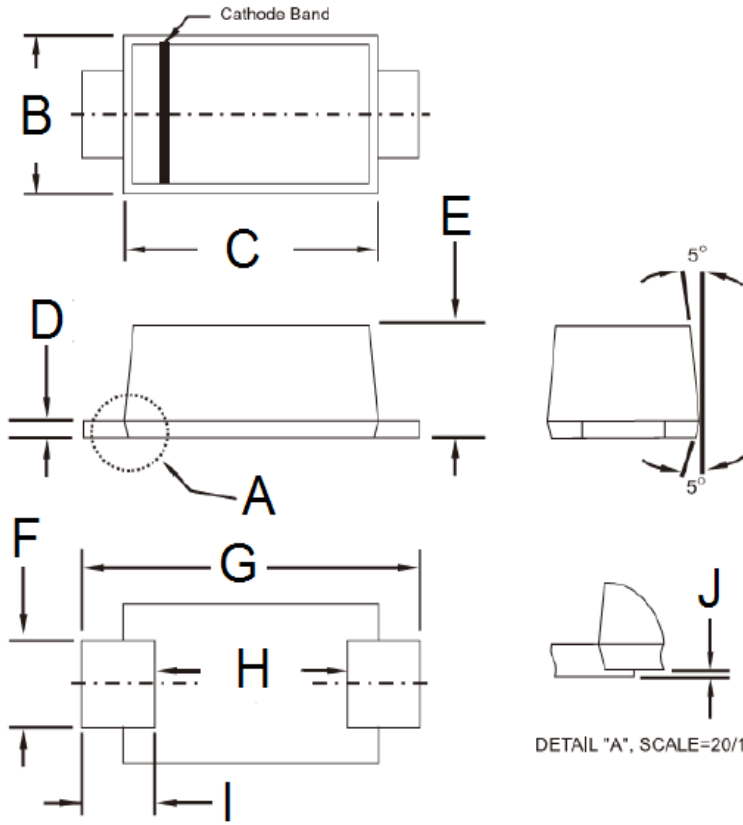


FIG. 4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



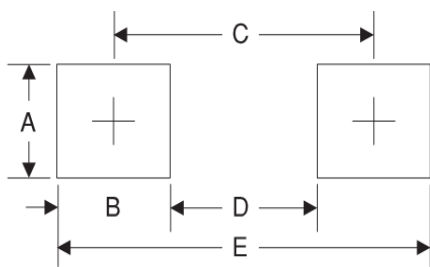


PACKAGE OUTLINE DIMENSIONS



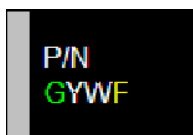
| DIM. | Unit (mm) |      | Unit (inch) |
|------|-----------|------|-------------|
|      | Min       | Max  | Min         |
| B    | 1.70      | 1.90 | 0.067       |
| C    | 2.70      | 2.90 | 0.106       |
| D    | 0.16      | 0.30 | 0.006       |
| E    | 1.23      | 1.43 | 0.048       |
| F    | 0.80      | 1.20 | 0.031       |
| G    | 3.40      | 3.80 | 0.134       |
| H    | 2.45      | 2.60 | 0.096       |
| I    | 0.35      | 0.85 | 0.014       |
| J    | 0.00      | 0.10 | 0.000       |

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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