

1.0 Amp. Surface Mount Glass Passivated Avalanche Rectifier

| | | |
|--|---|--|
| DO-214AC / SMA  | Voltage 400 V to 1000 V  | Current 1.0 A  |
| FEATURES <ul style="list-style-type: none"> • Low profile package • Ideal for automated placement • Low forward voltage drop • High forward surge current capability • Solder dip 260°C, 10s • Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC • Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C • Low leakage current | | |
| MECHANICAL DATA <ul style="list-style-type: none"> • Case: DO-214AC (SMA). Epoxy meets UL 94V-0 flammability rating. • Polarity: Color band denotes cathode end. • Terminals: Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test. HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test. | | |
| TYPICAL APPLICATIONS Used in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication. | | |

Maximum Ratings and Electrical Characteristics at 25°C

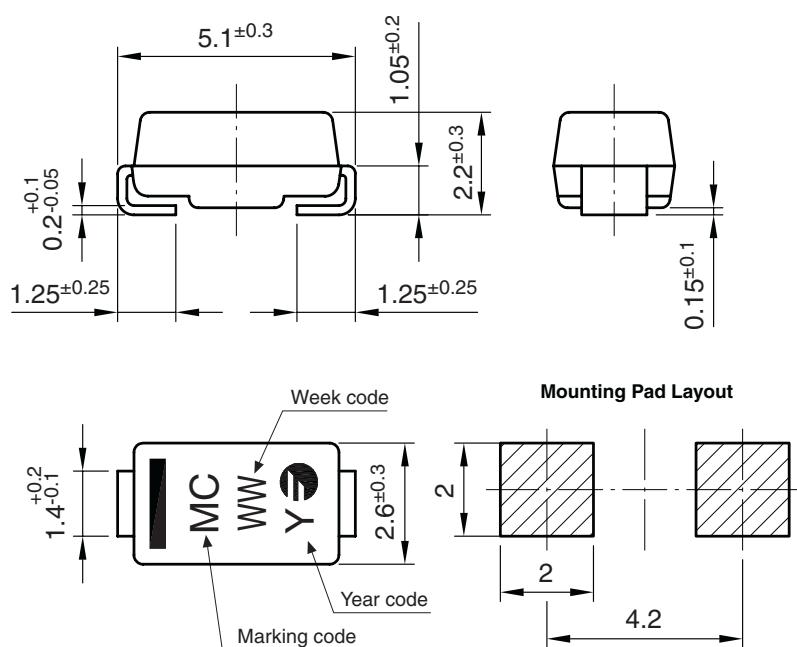
| | | FS1GE | FS1JE | FS1ME | | |
|--------------------------------|--|---|-------------------------------------|-----------------|--|--|
| Marking Code | | L6 | L7 | L8 | | |
| V_{RRM} | Maximum Recurrent Peak Reverse Voltage (V) | 400 | 600 | 1000 | | |
| V_{RMS} | Maximum RMS Voltage (V) | 280 | 420 | 700 | | |
| V_{DC} | Maximum DC Blocking Voltage (V) | 400 | 600 | 1000 | | |
| $I_{F(AV)}$ | Forward current at $T_c = 110^\circ\text{C}$ | 1.0 A | | | | |
| I_{FSM} | 8.3 ms. peak forward surge current (Jedec Method) | 30 A | | | | |
| V_F | Maximum Instantaneous Forward Voltage at 1.0A | 1.1 V | | | | |
| V_{BR} | Breakdown Voltage at $I_R = 100 \mu\text{A}$ | Min. Max. | 450 V 1400 V | 650 V 1050 V | | |
| I_R | Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_c = 25^\circ\text{C}$ $T_c = 125^\circ\text{C}$ | 1 μA 50 μA | | | |
| T_{rr} | Typical Reverse Recovery Time (0.5/1/0.25A) | 1 μs | | | | |
| C_j | Typical Junction Capacitance (1MHz; -4V) | 16 pF | | | | |
| $R_{th(j-c)}$ $R_{th(j-a)}$ | Typical Thermal Resistance (5x5 mm ² x 130 $\mu\text{Copper Area}$) | 27 $^\circ\text{C/W}$ 75 $^\circ\text{C/W}$ | | | | |
| $T_j - T_{stg}$ | Operating Junction and Storage Temperature Range | -55 to + 150 $^\circ\text{C}$ | | | | |
| E_{RSM} | Maximum non Repetitive Peak Reverse Avalanche energy. $I_R(BR) = 1 \text{ A}; T_j = 25^\circ\text{C}$ | 40 mJ | | | | |

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Ordering information

| PREFERRED P/N | PACKAGE CODE | DELIVERY MODE | BASE QUANTITY | UNIT WEIGHT (g) |
|----------------|--------------|----------------------------|---------------|-----------------|
| FS1JE TRTB | TRTB | 13" diameter tape and reel | 7,500 | 0.060 |
| FS1GE HE3 TRTB | TRTB | 13" diameter tape and reel | 7,500 | 0.060 |

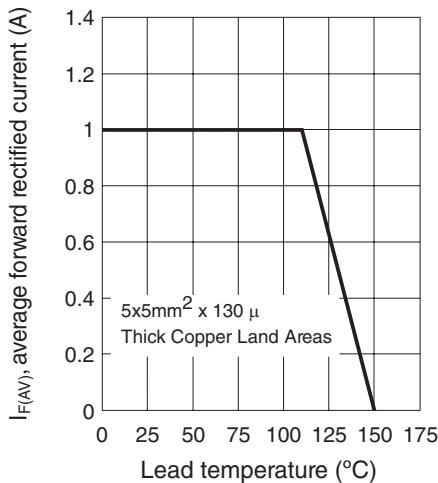
Package Outline Dimensions: (mm) DO-214AC / SMA



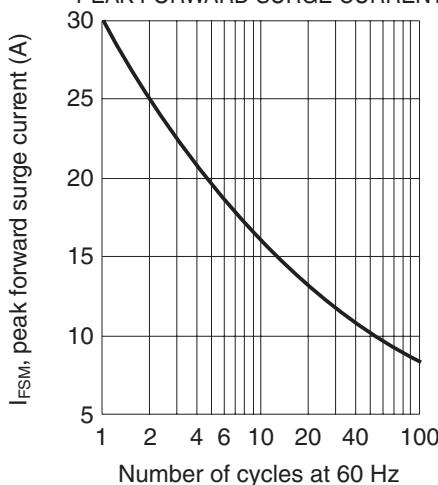
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Ratings and Characteristics (Ta 25 °C unless otherwise noted)

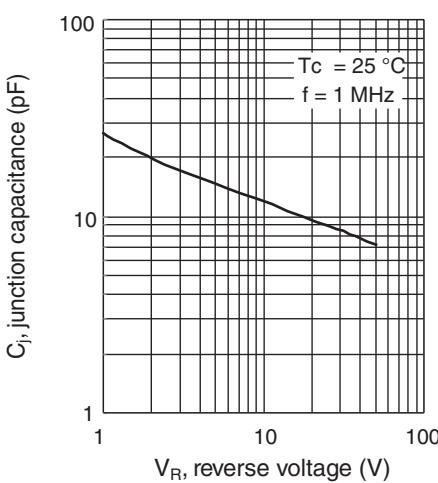
FORWARD CURRENT DERATING CURVE



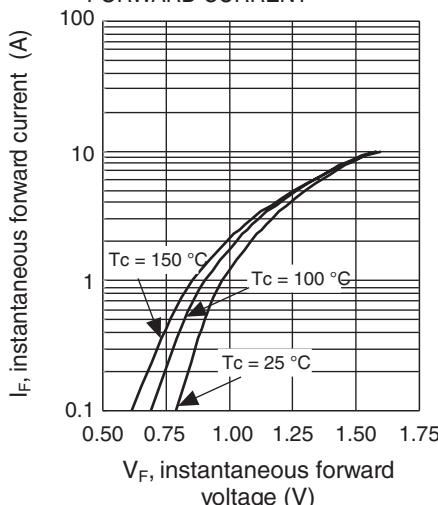
MAXIMUM NON REPETITIVE
PEAK FORWARD SURGE CURRENT



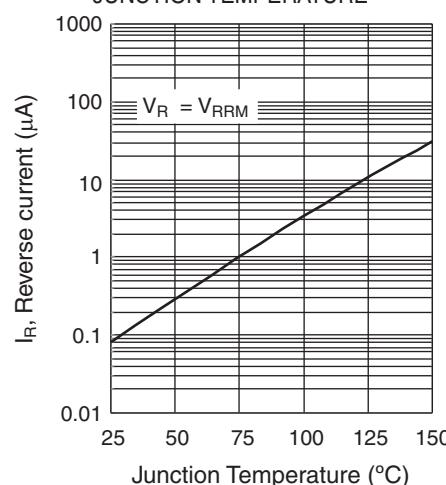
TYPICAL DIODE CAPACITANCE vs.
REVERSE VOLTAGE



TYPICAL FORWARD VOLTAGE vs.
FORWARD CURRENT



TYPICAL REVERSE CURRENT vs.
JUNCTION TEMPERATURE



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