





## 1.0 Amp. Surface Mount Schottky Barrier Rectifier

|  |   |                         |  |
|--|---|-------------------------|--|
| <div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 20px;"><b>DO-214AC (SMA)</b></div>  </div> | <b>Voltage</b><br>20 V to 200V  | <b>Current</b><br>1.0 A |  |
|  | <b>FEATURES</b> <ul style="list-style-type: none"> <li>Low profile package</li> <li>Ideal for automated placement</li> <li>Guardring for overvoltage protection</li> <li>Low power losses, high efficiency</li> <li>Low forward voltage drop</li> <li>High forward surge current capability</li> <li>Solder dip 260°C, 10s</li> <li>AEC-Q101 qualified</li> <li>Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC</li> <li>Meets MSL level 1, per J-STD-020, LF maximum peak of 260° C</li> <li>Low leakage current</li> </ul> |                         | <br><br><br><b>RoHS COMPLIANT</b> |
|  | <b>MECHANICAL DATA</b> <ul style="list-style-type: none"> <li><b>Case:</b> DO-214AC (SMA). Epoxy meets UL 94V-0 flammability rating.</li> <li><b>Polarity:</b> Color band denotes cathode end.</li> <li><b>Terminals:</b> 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.</li> <li><b>HE3 suffix</b> for high reliability grade, meets JESD 201 class 2 whisker test.</li> </ul>   |                         |  |
|  | <b>TYPICAL APPLICATIONS</b><br>Used in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.   |                         |  |

### Maximun Ratings and Electrical Characteristics at 25°C

|              |  | FSS12           | FSS13 | FSS14 | FSS15 | FSS16           | FSS19 | FSS110 | FSS115 | FSS120 |
|--------------|--|-----------------|-------|-------|-------|-----------------|-------|--------|--------|--------|
| Marking code |  | A1              | A2    | A3    | A4    | A6              | A7    | A8     | A9     | 9A     |
| $V_{RRM}$    | Maximum Recurrent Peak Reverse Voltage (V)           | 20              | 30    | 40    | 50    | 60              | 90    | 100    | 150    | 200    |
| $V_{RMS}$    | Maximum RMS Voltage (V)                              | 14              | 21    | 28    | 35    | 42              | 63    | 70     | 105    | 140    |
| $V_{DC}$     | Maximum DC Blocking Voltage (V)                      | 20              | 30    | 40    | 50    | 60              | 90    | 100    | 150    | 200    |
| $I_{F(AV)}$  | Forward Current at Tc (See graphic)                  | 1.0 A           |       |       |       |                 |       |        |        |        |
| $I_{FSM}$    | 8.3 ms. Peak Forward Surge Current<br>(Jedec Method) | 30 A            |       |       |       |                 |       |        |        |        |
| $T_j$        | Operating Temperature Range                          | -65°C to +125°C |       |       |       | -65°C to +150°C |       |        |        |        |
| $T_{stg}$    | Storage Temperature Range                            | -65°C to +150°C |       |       |       |                 |       |        |        |        |

### Electrical Characteristics at Tamb = 25 °C

|                                |  |                    |                  |                  |                  |
|--------------------------------|--|--------------------|------------------|------------------|------------------|
| $V_F$                          | Maximum Instantaneous Forward Voltage<br>$I_F = 1\text{ A}$<br>@ 25 °C (Note 1)<br>@ 100 °C                    | 0.5 V<br>0.4 V     | 0.75 V<br>0.65 V | 0.80 V<br>0.70 V | 0.95 V<br>0.85 V |
| $I_R$                          | Maximum DC Reverse Current $T_j = 25\text{ °C}$ at<br>Rated DC Blocking Voltage $T_j = 125\text{ °C}$ (Note 3) | 0.2 mA             |                  | 0.1 mA           |                  |
| $C_j$                          | Typical Junction Capacitance   | 110 pF             | 90 pF            | 70 pF            |                  |
| $R_{th(j-c)}$<br>$R_{th(j-a)}$ | Typical Thermal Resistance (Note 2)  | 28 °C/W<br>88 °C/W |                  |                  |                  |

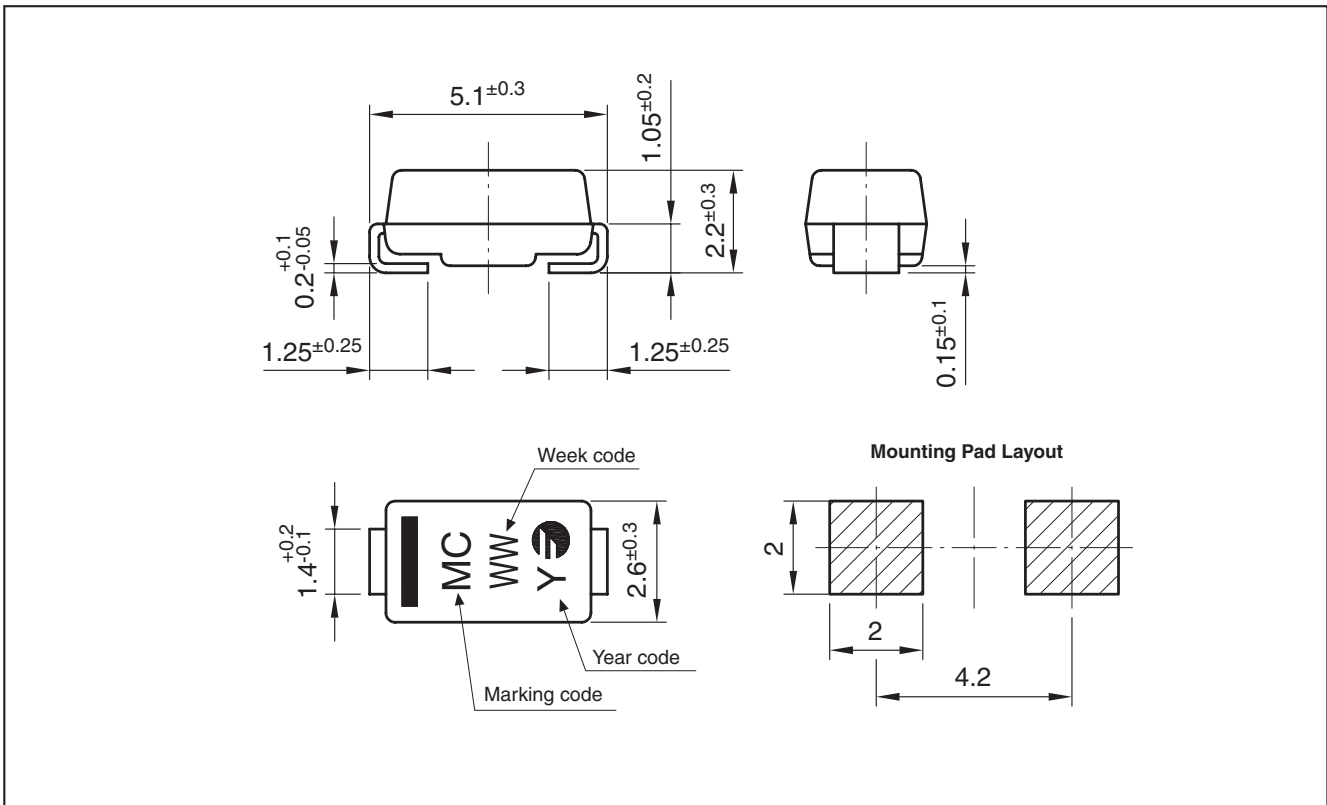
Notes: 1. Pulse Test: 300µ Pulse Width, 1% Duty Cycle  
 2. Thermal Resistance from Junction to Case per diode  
 3. Pulse test: Pulse width ≤ 40ms

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**Ordering information**

| PREFERRED P/N  | PACKAGE CODE | DELIVERY MODE              | BASE QUANTITY | UNIT WEIGHT (g) |
|----------------|--------------|----------------------------|---------------|-----------------|
| FSS14 TRTB     | TRTB         | 13" diameter tape and reel | 7,500         | 0.060           |
| FSS14 TRTS     | TRTS         | 7" diameter tape and reel  | 1,800         | 0.060           |
| FSS14 HE3 TRTB | TRTB         | 13" diameter tape and reel | 7,500         | 0.060           |
| FSS14 HE3 TRTS | TRTS         | 7" diameter tape and reel  | 1,800         | 0.060           |

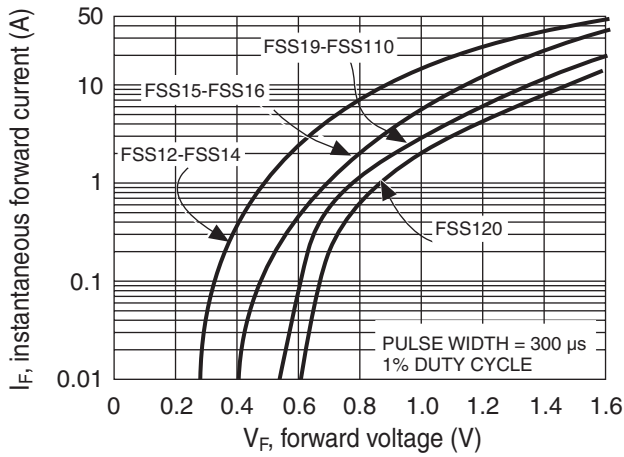
**Package Outline Dimensions: (mm) DO-214AC (SMA)**



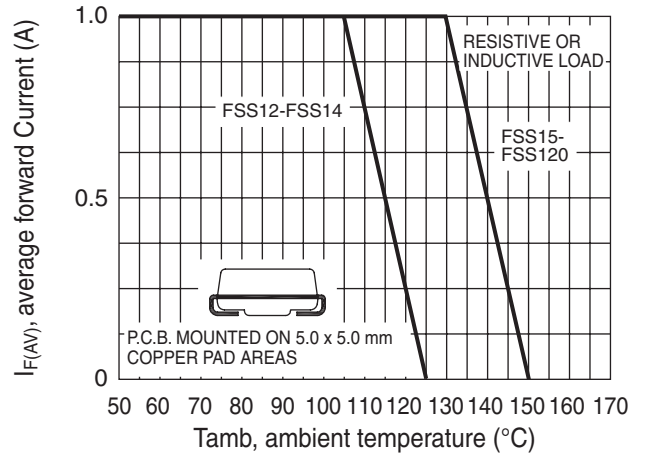
### 1.0 Amp. Surface Mount Schottky Barrier Rectifier

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

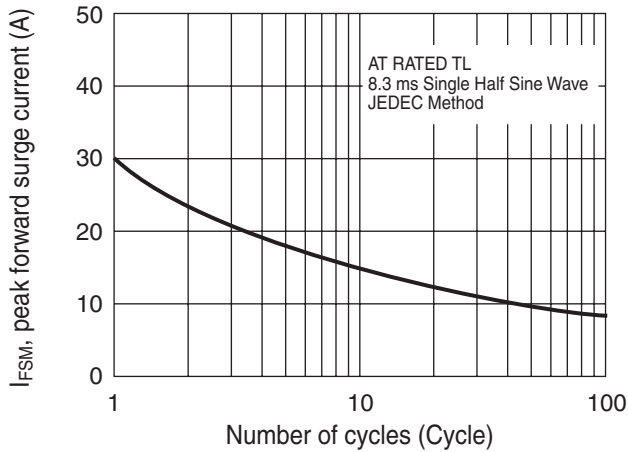
**TYPICAL FORWARD CHARACTERISTIC**



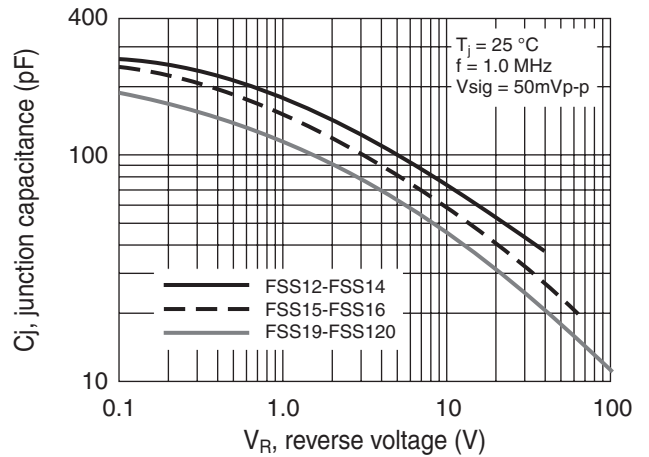
**MAXIMUM FORWARD CURRENT DERATING CURVE**



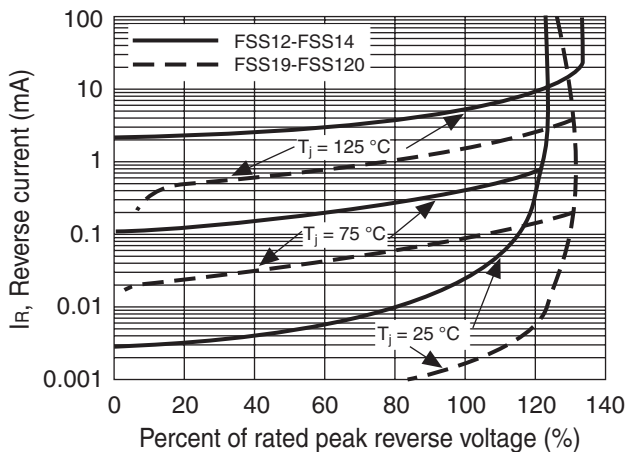
**MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



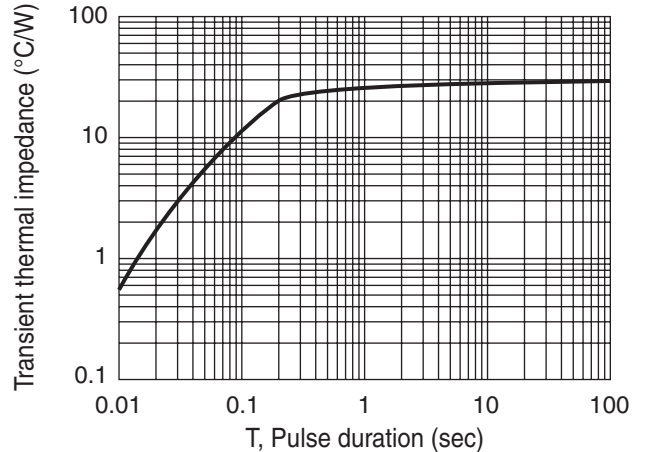
**TYPICAL JUNCTION CAPACITANCE**



**TYPICAL REVERSE CHARACTERISTIC**



**TYPICAL TRANSIENT THERMAL IMPEDANCE**



**1.0 Amp. Surface Mount Schottky Barrier Rectifier****Revision History**

| <b>Date</b>  | <b>Revision</b> | <b>Description of Changes</b>       |
|--------------|-----------------|-------------------------------------|
| 14-Oct-2011  | 0               | Original Data Sheet                 |
| 28-Feb-2013  | 1               | 200V Reference included             |
| 15-June-2017 | 2               | Change Marking code for FSS16 to A6 |

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