



### Features:

- Low Profile Package
- For Surface Mounted Applications
- Built-In Strain Relief, Ideal for Automated Placement
- High Temperature Soldering : 260°C/10 seconds at Terminals

### Mechanical Data

- Case : JEDEC SMA, molded plastic over passivated chip
- Terminals : solder plated, solderable per MIL-STD-750, method 2026
- Polarity : Colour band denotes cathode end
- Weight : 0.002oz, 0.064g

### Maximum Ratings and Thermal Characteristics

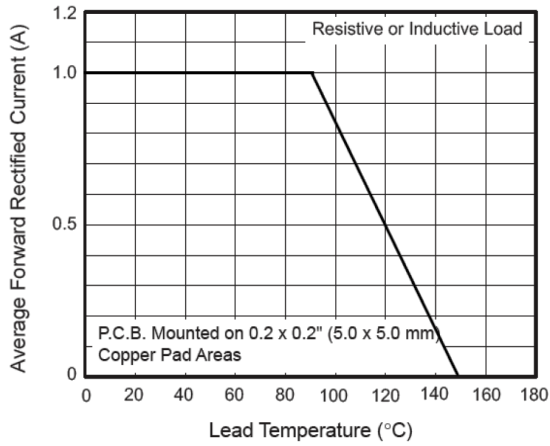
Ratings at 25°C ambient temperature unless otherwise specified

| Characteristic   | Symbol                             | RS1D-13-F   | RS1J-13-F | RS1K-13-F | RS1M-13-F | Units              |
|--|------------------------------------|-------------|-----------|-----------|-----------|--------------------|
| Maximum repetitive peak reverse voltage  | $V_{RRM}$                          | 200         | 600       | 800       | 1,000     | V                  |
| Maximum RMS voltage  | $V_{RMS}$                          | 140         | 420       | 560       | 700       | V                  |
| Maximum DC blocking voltage  | $V_{DC}$                           | 200         | 600       | 800       | 1,000     | V                  |
| Maximum average forward rectified current at $T_L=90^\circ\text{C}$                                    | $I_{F(AV)}$                        | 1           |           |           |           | A                  |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load                      | $I_{FSM}$                          | 30          |           |           |           | A                  |
| Maximum Instantaneous Forward Voltage at 1A  | $V_F$                              | 1.3         |           |           |           | V                  |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$ | $I_R$                              | 5<br>50     |           |           |           | $\mu\text{A}$      |
| Typical reverse recovery time (Note 1)   | $t_{IT}$                           | 150         | 250       | 500       |           | ns                 |
| Typical junction capacitance (Note 2)  | $C_J$                              | 10          |           | 7         |           | pF                 |
| Typical thermal resistance (Note3)   | $R_{\theta JA}$<br>$R_{\theta JL}$ | 105<br>32   |           |           |           | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range   | $T_J, T_{STG}$                     | -55 to +175 |           |           |           | $^\circ\text{C}$   |

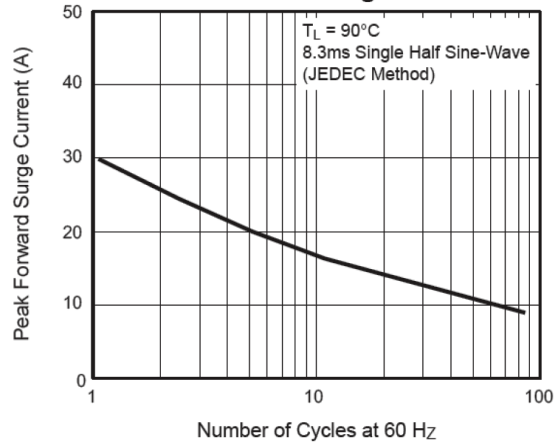
### Note:

- (1) Reverse recovery time test conditions :  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (2) Measured at 1MHz and applied reverse voltage of 4V
- (3) Thermal resistance from junction to lead

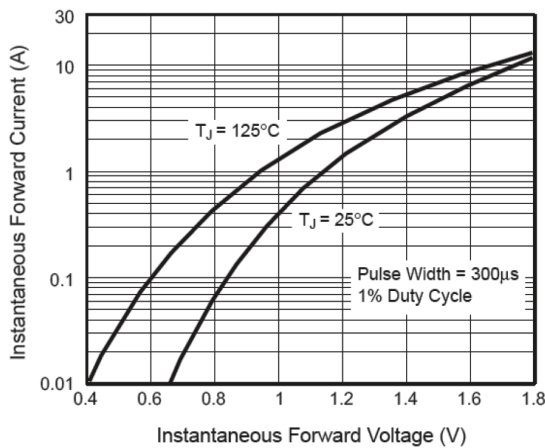
**Fig. 1 — Forward Current Derating Curve**



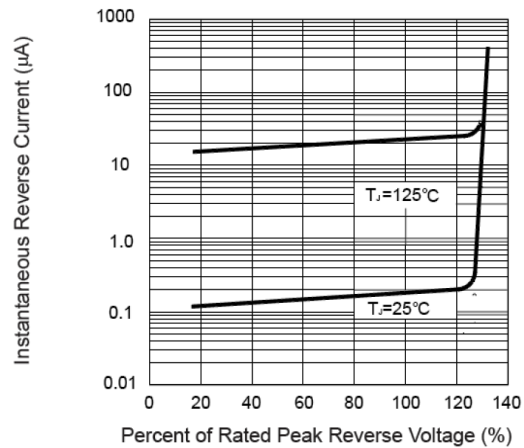
**Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current**



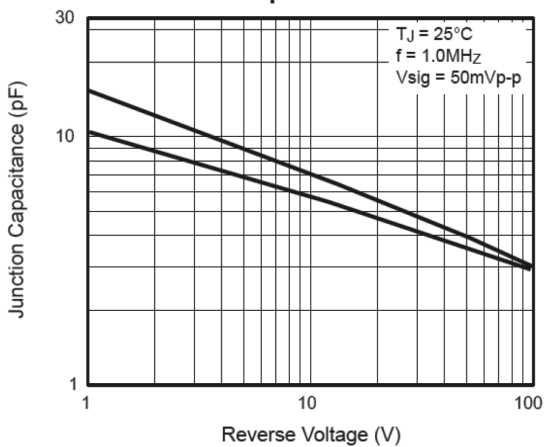
**Fig. 3 — Typical Instantaneous Forward Characteristics**



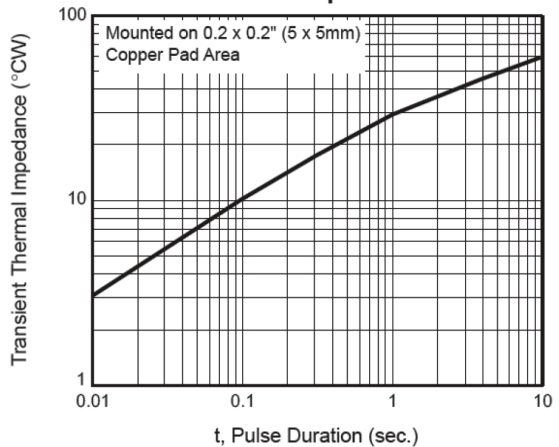
**Fig. 4 — Typical Reverse Characteristics**



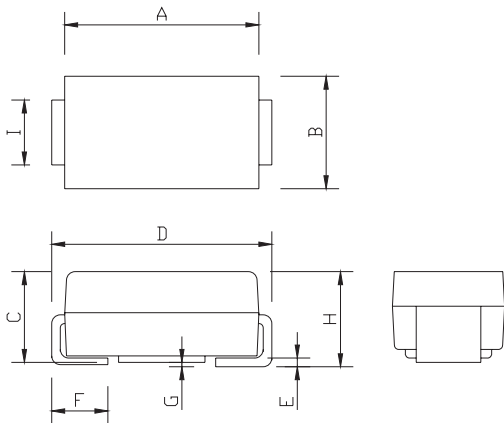
**Fig. 5 — Typical Junction Capacitance**



**Fig. 6 — Typical Transient Thermal Impedance**



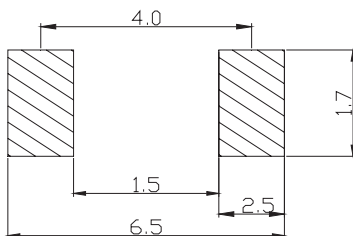
## Package Outline Dimensions



| DO-214AC(SMA) |          |      |
|---------------|----------|------|
| Dim.          | Min.     | Max. |
| A             | 4.25     | 4.65 |
| B             | 2.4      | 2.8  |
| C             | 1.85     | 2.15 |
| D             | 4.85     | 5.35 |
| E             | 0.2 Typ. |      |
| F             | 0.9      | 1.5  |
| G             | 0.2 Max. |      |
| H             | 1.9      | 2.3  |
| I             | 1.35     | 1.65 |

Dimensions : Millimetres

## Soldering Footprint



Dimensions : Millimetres

## Package Information

| Device   | Package       | Shipping            |
|--|---------------|---------------------|
| RS1D-13-F<br>RS1J-13-F<br>RS1K-13-F<br>RS1M-13-F | DO-214AC(SMA) | 5,000 / Tape & Reel |

## Part Number Table

| Description             | Part Number |
|-------------------------|-------------|
| Surface Mount Rectifier | RS1D-13-F   |
|                         | RS1J-13-F   |
|                         | RS1K-13-F   |
|                         | RS1M-13-F   |

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