

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

1.0A Surface Mount Fast Recovery Rectifier

RS1A~RS1M

(Package: SMA (DO-214AC))

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| <p>FEATURES</p> <ul style="list-style-type: none"> • The plastic package carries Underwriters Laboratory Flammability Classification 94V-0 • For surface mounted applications • Fast switching for high efficiency • Low reverse leakage • Built-in strain relief, ideal for automated placement • High forward surge current capability • High temperature soldering guaranteed : 250 /10 seconds at terminals <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : JEDEC DO-214AC molded plastic body • Terminals : Solder plated, solderable per MIL-STD-750, Method 2026 • Polarity : Color band denotes cathode end • Mounting Position : Any • Weight : 0.083 grams | <p>Case: SMA Dimensions in inches and (millimeters)</p> |
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Ratings & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

| Characteristic | Symbol | RS1A | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | Units |
|---|----------------|-------------|------|------|------|------|------|-------|---------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum average forward rectified current at $T_L = 90$ | I_O | 1.0 | | | | | | | Amps |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 30.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | V_F | 1.00 | 1.30 | | 1.70 | | | Volts | |
| Maximum DC reverse current $T_a = 25$ at rated DC blocking voltage $T_a = 100$ | I_R | 5.0 50.0 | | | | | | | μA |
| Maximum reverse recovery time (Note 1) | T_{rr} | 150 | | | | 250 | 500 | | ns |
| Typical junction capacitance (Note 2) | C_j | 15.0 | | | | | | | Pf |
| Typical thermal resistance (Note 3) | R_{th-JA} | 50.0 | | | | | | | / W |
| Operating junction and storage temperature range | T_j, T_{stg} | -65 to +150 | | | | | | | |

Note :

1. Reverse recovery condition $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$
2. Measured at 1MHz and applied reverse voltage of 4.0 volts D.C.
3. P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

Ratings and Characteristic Curves of RS1A~RS1M

