

### III. Fast / Ultra Fast / Super Fast Recovery Rectifier

#### 1.0A Surface Mount Fast Recovery Rectifier

#### RS1A~RS1M

(Package: SMA (DO-214AC))

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

FIG. 1- FORWARD CURRENT DERATING CURVE

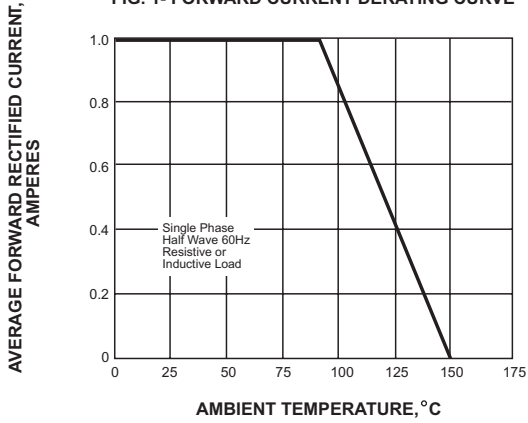


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

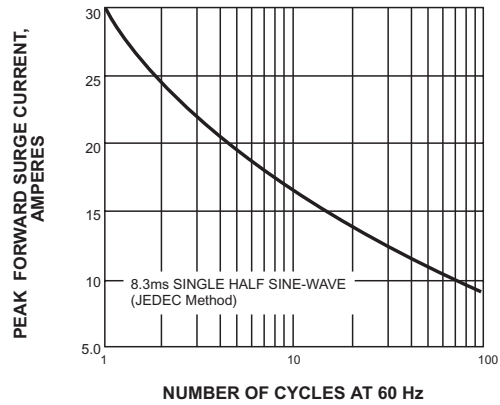


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

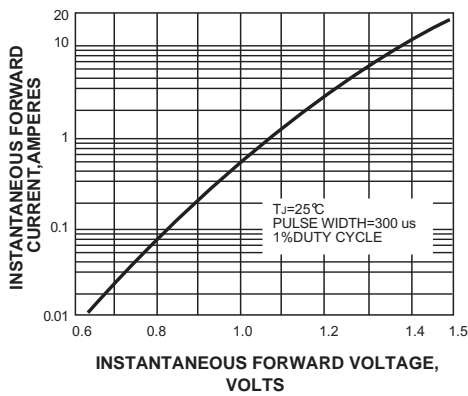


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

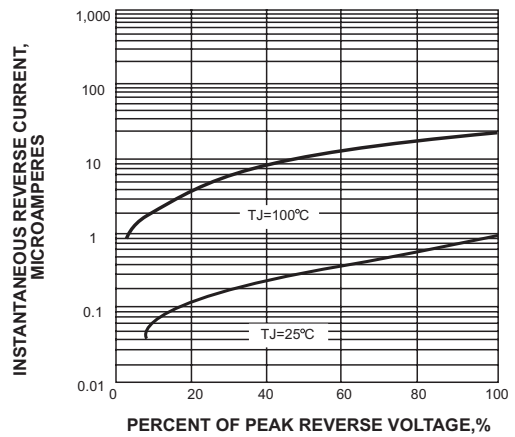


FIG. 5-TYPICAL JUNCTION CAPACITANCE

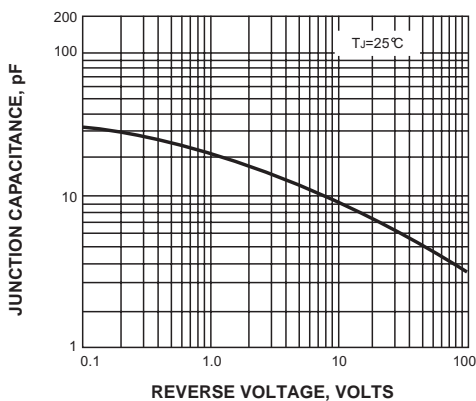


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

