RS1AD THRU RS1MD

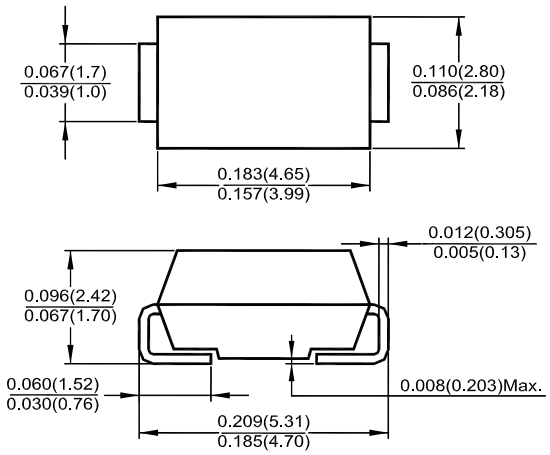
SURFACE MOUNT FAST RECOVERY RECTIFIERS

Reverse Voltage – 50 to 1000 V
Forward Current – 1 A

Features

- High current capability
- High surge current capability
- High reliability
- Low reverse current
- Low forward voltage drop
- Fast switching for high efficiency

SMA (DO-214AC)



Dlmenslons In Inches and (mllllmeters)

Mechanical Data

- **Case:** SMA (DO-214AC) molded plastic
- **Mounting position:** Any
- **Lead:** Lead formed for surface mount
- **Polarity:** Color band denotes cathode end

Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20 %.

Parameter	Symbols	RS1AD	RS1BD	RS1DD	RS1GD	RS1JD	RS1KD	RS1MD	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Current at T_a = 90 °C	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	35							A
Maximum Forward Voltage at I_F = 1 A	V_F	1.3							V
Maximum DC Reverse Current at T_a = 25 °C at Rated DC Blocking Voltage at T_a = 100 °C	I_R	5 50							μA
Maximum Reverse Recovery Time [1]	t_{rr}	150				250	500		ns
Typical Junction Capacitance [2]	C_j	50							pF
Operating and Storage Temperature Range	T_j, T_{stg}	- 65 to + 150							°C

[1] Reverse recovery test conditions I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.
[2] Measured at 1 MHz and applied reverse voltage of 4 V.

FIG. 1- FORWARD CURRENT DERATING CURVE

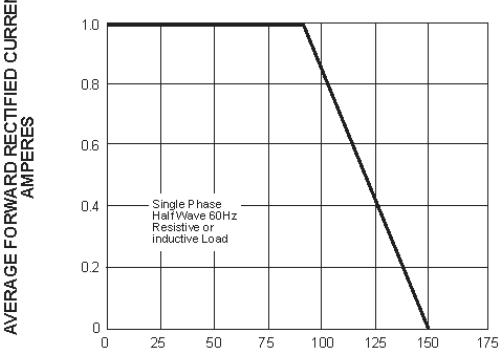


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

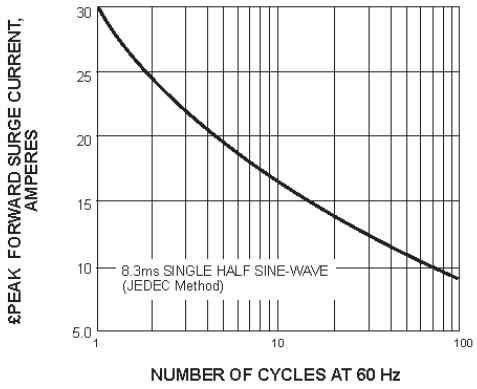


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

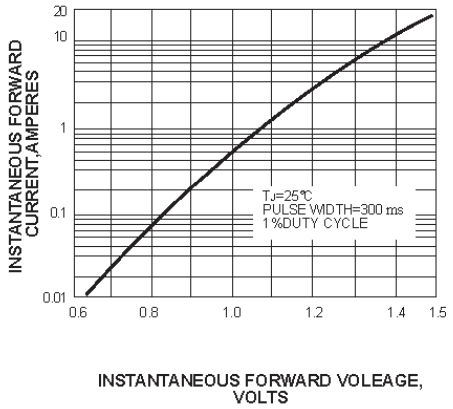


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

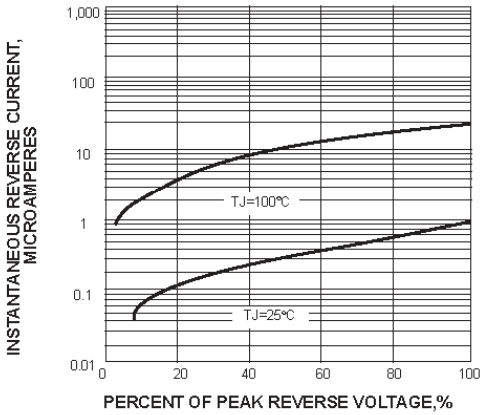


FIG. 5-TYPICAL JUNCTION CAPACITANCE

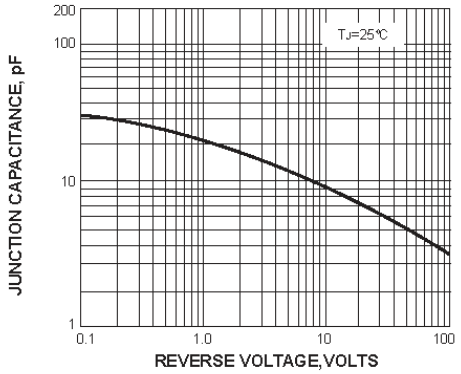


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE