FAST RECOVERY RECTIFIERS

RS1A---RS1M

FEATURES

High current capability

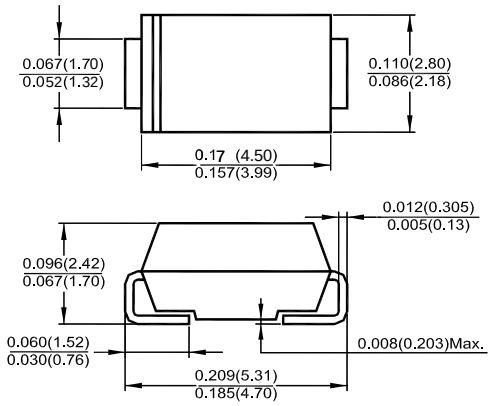
High surge current capability

High reliability

Low reverse current

Low forward voltage drop

Fast switching for high efficiency



Dimensions in inches and (millimeters)

DO-214AC (SMA)

MECHANICAL DATA

SMA (DO-214AC) molded plastic

Polarity: Color band denotes cathode end

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbols	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Unit
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 ^{o}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 = 1A	V_F	1.3							V
Maximum DC Reverse Current at T_A = 25 ^{o}C	I_R	5							µA
at Rated DC Blocking Voltage at T_A = 100 ^{o}C		50							
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_S	- 65 to + 150							^{o}C

1) Reverse recovery test conditions IF = 0.5 A, IR = 1 A, Irr = 0.25 A.

2) Measured at 1 MHz and applied reverse voltage of 4 V.

RS1A---RS1M Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

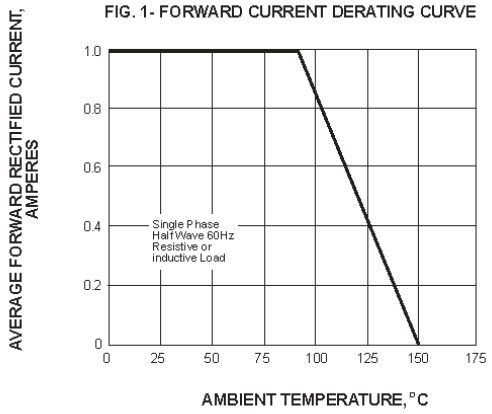


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

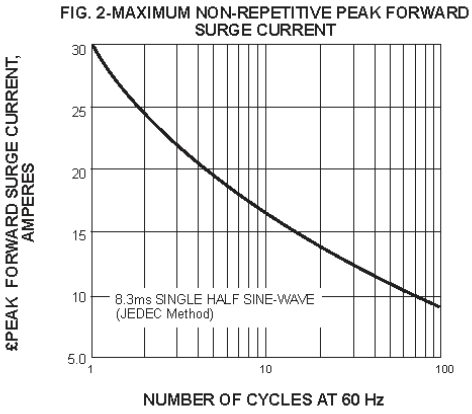


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

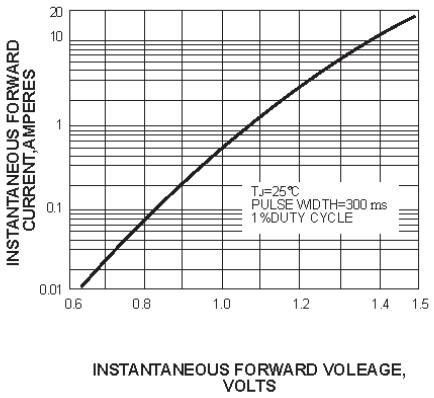


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

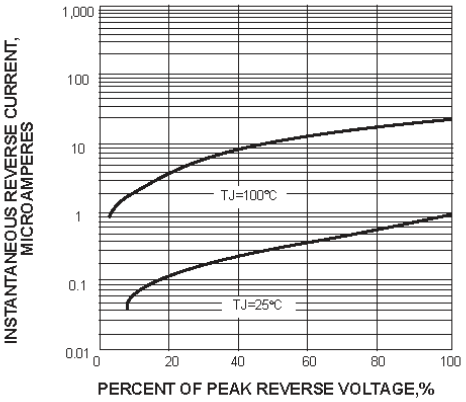


FIG. 5-TYPICAL JUNCTION CAPACITANCE

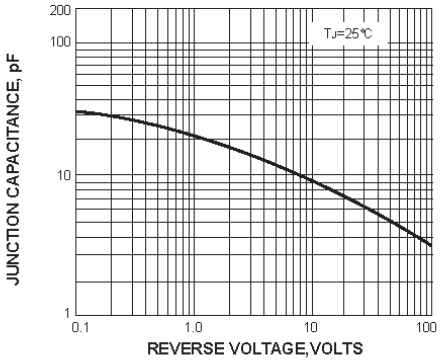


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE