

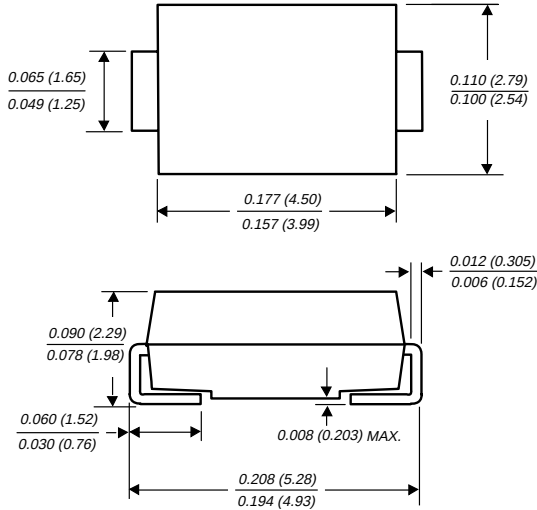
RS1A THRU RS1K

SURFACE MOUNT FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 800 Volts

Forward Current - 1.0 Ampere

DO-214AC MODIFIED J-BEND



Dimensions are in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications in order to optimize board space
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Fast switching for high efficiency
- ◆ Glass passivated chip junction
- ◆ High temperature soldering: 250°C/10 seconds at terminals



MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic over passivated chip

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.002 ounce, 0.064 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	UNITS
Device marking code		RA	RB	RD	RG	RJ	RK	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	500	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	Volts
Maximum average forward rectified current at $T_L=90^\circ\text{C}$	$I_{(AV)}$	1.0						Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=90^\circ\text{C}$	I_{FSM}	30.0						Amps
Maximum instantaneous forward voltage at 1.0A	V_F	1.30						Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	5.0 50.0						μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	150				250		ns
Typical junction capacitance (NOTE 2)	C_J	10.0					7.0	pF
Maximum thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	105.0 32.0						$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150						$^\circ\text{C}$

NOTES:

(1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(3) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVES RS1A THRU RS1J

FIG. 1 - FORWARD CURRENT DERATING CURVE

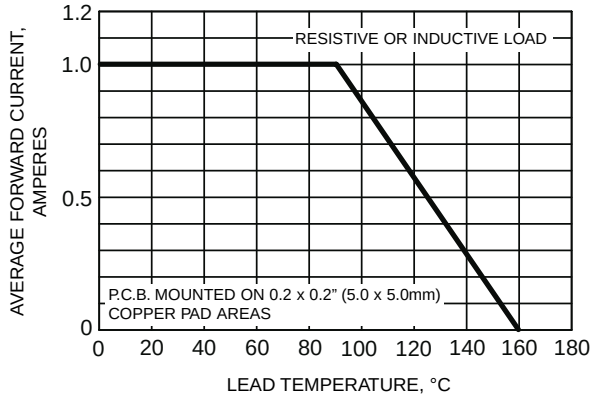


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

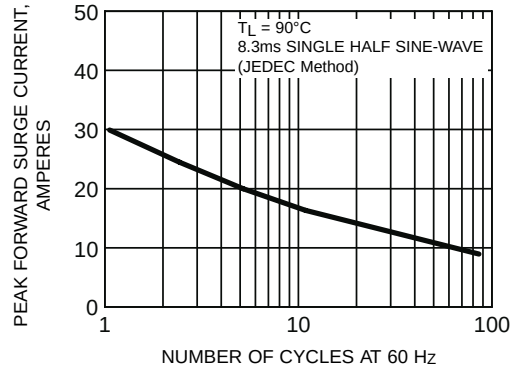


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

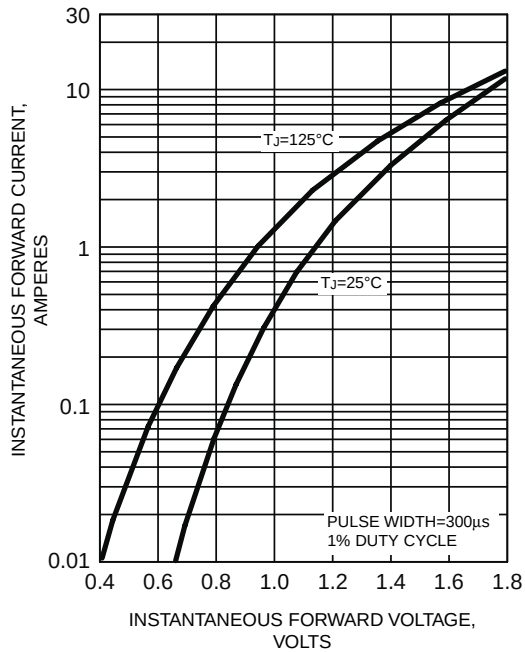


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

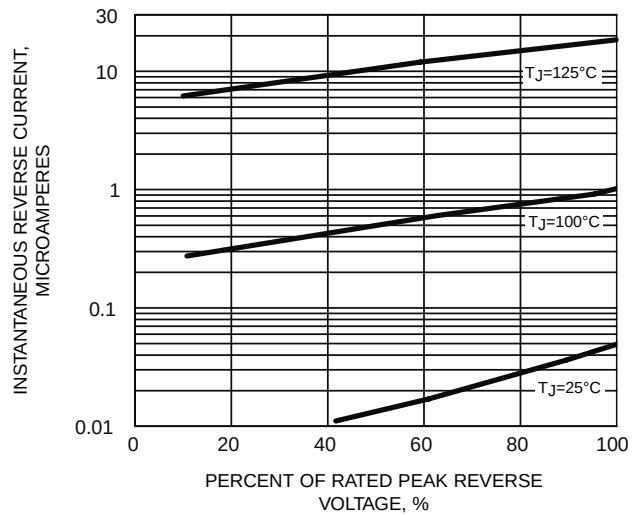


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

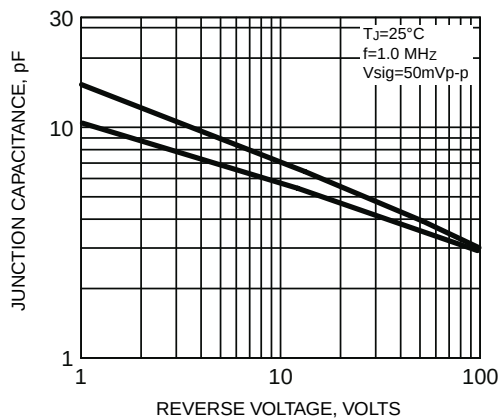


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

