

<b>SURFACE MOUNT FAST RECOVERY RECTIFIER</b>	Reverse Voltage - 50 to 1000 Volts Forward Current -1.0 Ampere
<p style="text-align: center;"><b>SMAF</b></p> <p style="text-align: center;">Dimensions in inches and (millimeters)</p>	<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: 260°C/10 seconds at terminals</li> <li>◆ Glass passivated chip junction</li> </ul> <p><b>Mechanical Data</b></p> <p><b>Case:</b> SMAF molded plastic body over passivated chip  <b>Terminals:</b> Solder plated, solderable per MIL-STD-750, Method 2026  <b>Polarity:</b> Color band denotes cathode end  <b>Mounting Position:</b> Any  <b>Weight:</b> 0.0014 ounce, 0.038 grams</p>

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

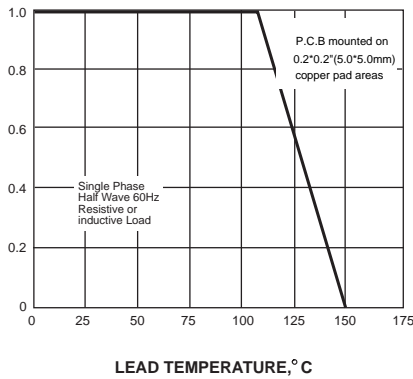
	SYMBOLS	RS1AF	RS1BF	RS1DF	RS1GF	RS1JF	RS1KF	RS1MF	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	30.0							A
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3							V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0							$\mu\text{A}$
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)	$R_{\theta JA}$	88.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

**TYPICAL RATINGS AND CHARACTERISTIC CURVES RS1AF THRU RS1MF**

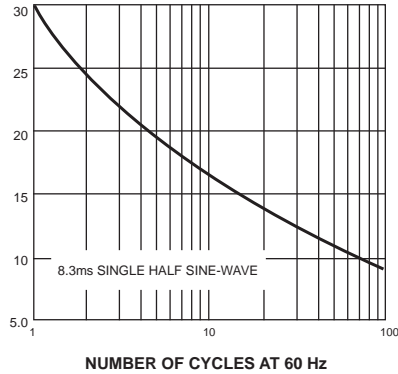
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



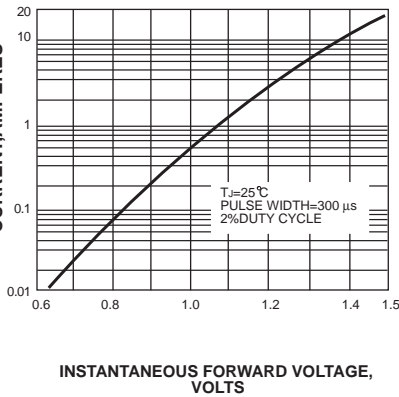
PEAK FORWARD SURGE CURRENT, AMPERES

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



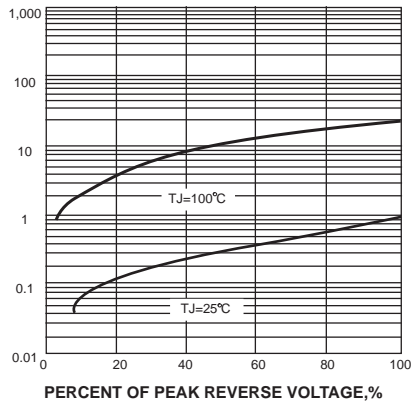
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



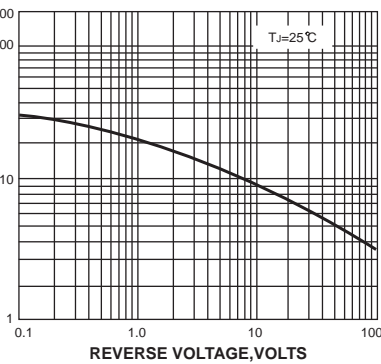
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

