ANBONSEMI
INNOVATOR IN SEMICONDUCTOR

RS1A-F-Q1 THRU RS1M-F-Q1

1.0A Surface Mount Fast Recovery Rectifiers-50-1000V

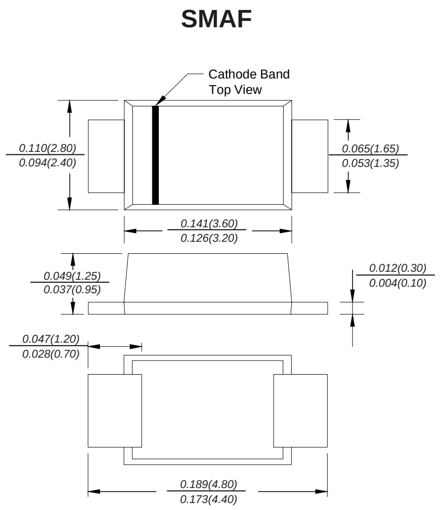
Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- Glass passivated chip junction
- Compliant to RoHS Directive 2011/65/EU
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- **Case**: JEDEC SMAF molded plastic body
- **Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

Package outline



Dimensions in inches and (millimeters)

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			30	A
Reverse current	V_R = V_{RRM} T_A = 25°C	I_R			5.0	μA
	V_R = V_{RRM} T_A = 100°C				50	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		50		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		15		pF
Storage temperature		T_{STG}	-65		+150	°C

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	t_{rr} *5 (ns)	Operating temperature T_J, (°C)
RS1A-F-Q1	50	35	50	1.30	150	-55 to +150
RS1B-F-Q1	100	70	100			
RS1D-F-Q1	200	140	200			
RS1G-F-Q1	400	280	400			
RS1J-F-Q1	600	420	600		250	
RS1K-F-Q1	800	560	800		500	
RS1M-F-Q1	1000	700	1000			

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=1.0A

*5 Maximum Reverse recovery time, note 2

Note: 1.P.C.B. mounted with 0.2x0.2”(5.0x5.0mm) copper pad areas
2. Reverse recovery time test condition, I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

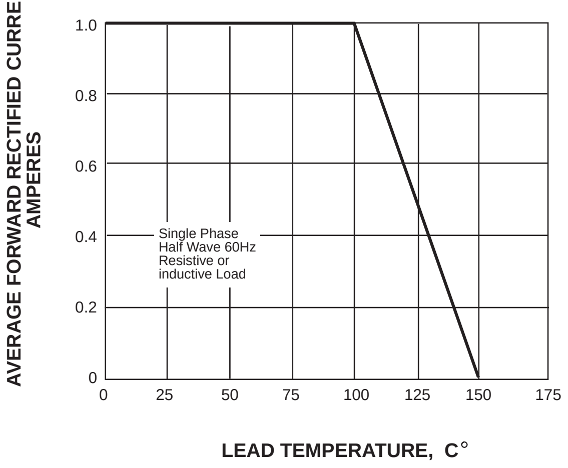


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

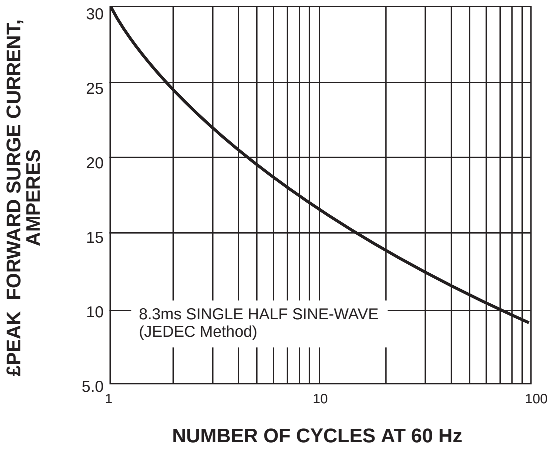


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

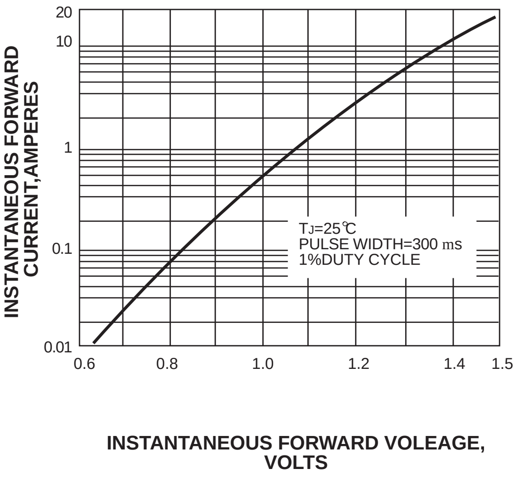


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

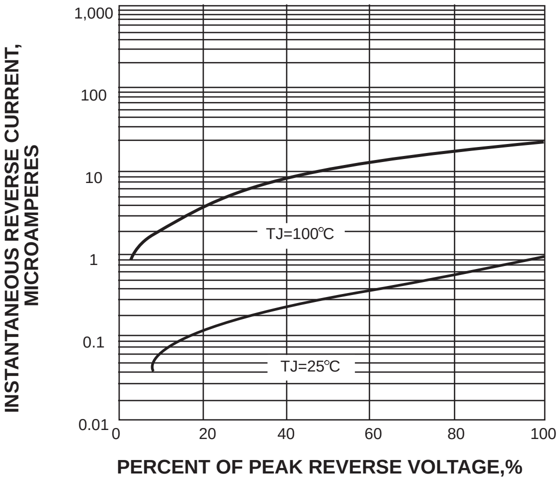


FIG. 5-TYPICAL JUNCTION CAPACITANCE

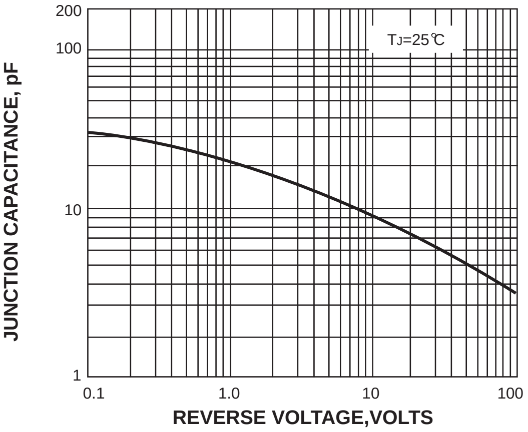
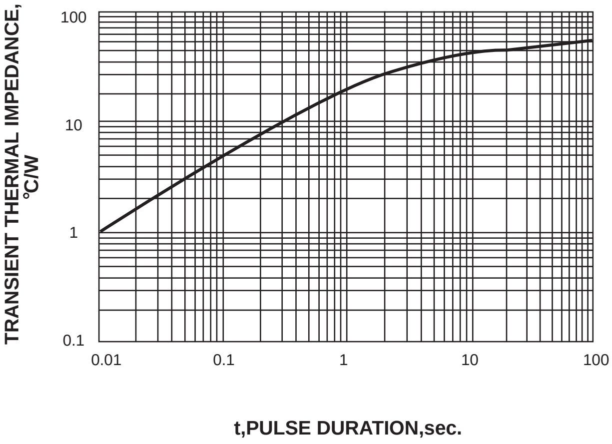
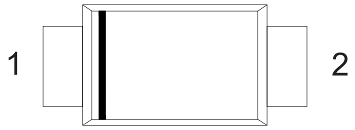


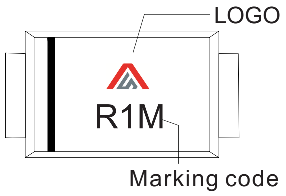
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



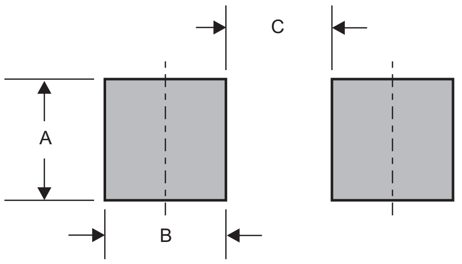
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example
RS1A-F-Q1	R1A	
RS1B-F-Q1	R1B	
RS1D-F-Q1	R1D	
RS1G-F-Q1	R1G	
RS1J-F-Q1	R1J	
RS1K-F-Q1	R1K	
RS1M-F-Q1	R1M	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMAF	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)