

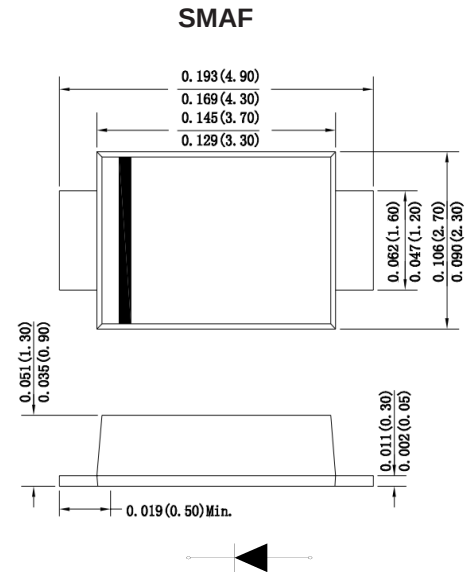
Surface Mount Fast Recovery Rectifier Diode

Feature

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Idea for printed circuit board
- Glass passivated junction chip
- Fast switching for fast recovery
- High forward surge current capability
- AEC-Q101 qualified
- High temperature soldering guaranteed
260°C/10 seconds at terminals

Mechanical Data

- Package: SMAF
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbol marking on body
- Mounting Position: Any



Dimensions in inches and (millimeters)

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%.

Parameter	Symbol	RS1A AFQ	RS1B AFQ	RS1D AFQ	RS1G AFQ	RS1J AFQ	RS1K AFQ	RS1M AFQ	Unit
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 =100°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	1.30							V
Maximum DC reverse current T _A =25°C at rated DC blocking voltage T _A =125°C	I _R	2.0 200							uA
Maximum reverse recovery time(Note 1)	T _{rr}	150				250	500		ns
Typical junction capacitance (Note2)	C _J	10.0							pF
Typical thermal resistance	R _{qJA}	70.0							°C/W
Operating junction and storage temperature range	T _J ,T _{STG}	-55 to +150							°C

Notes:

1. Reverse recovery time test 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.



Ratings and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

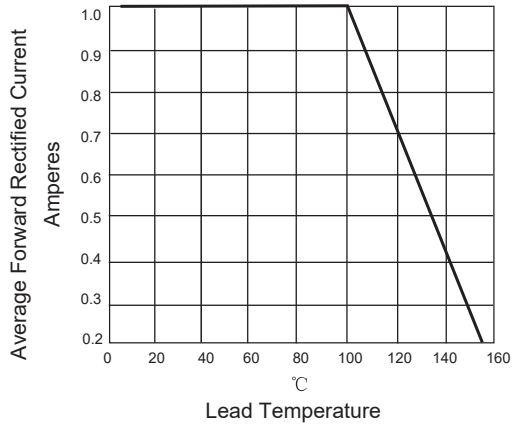


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

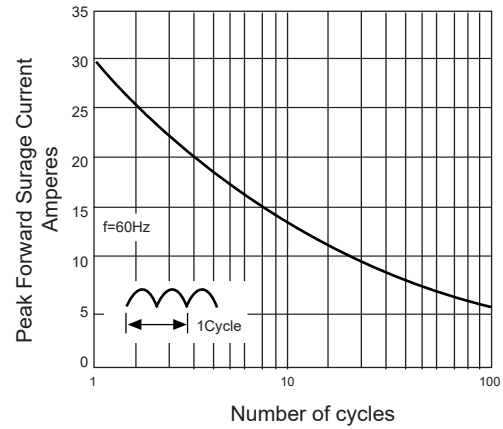


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

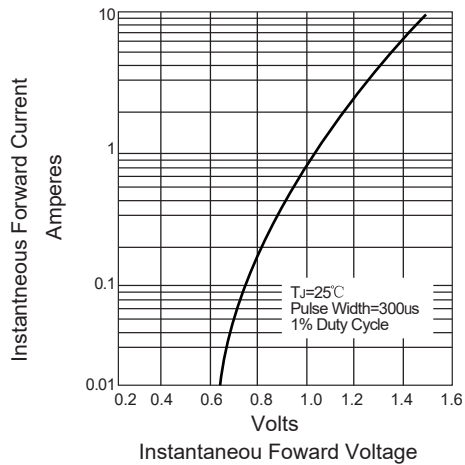
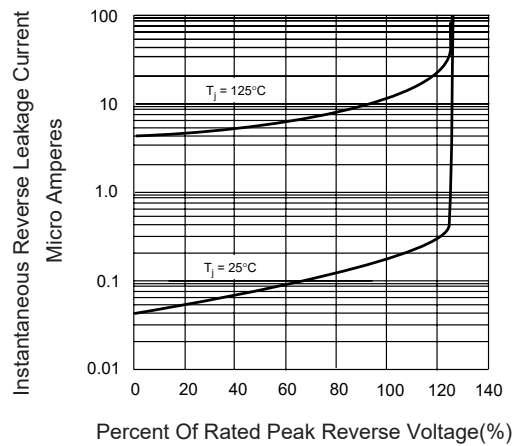
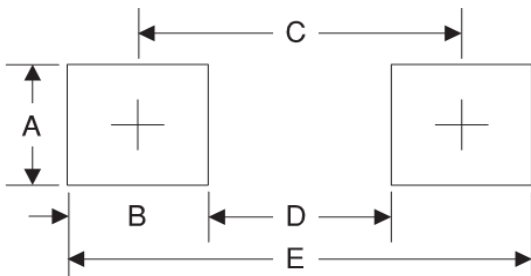


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.90	0.154
D	2.00	0.078
E	5.10	0.200