



Super Fast Rectifier Diodes

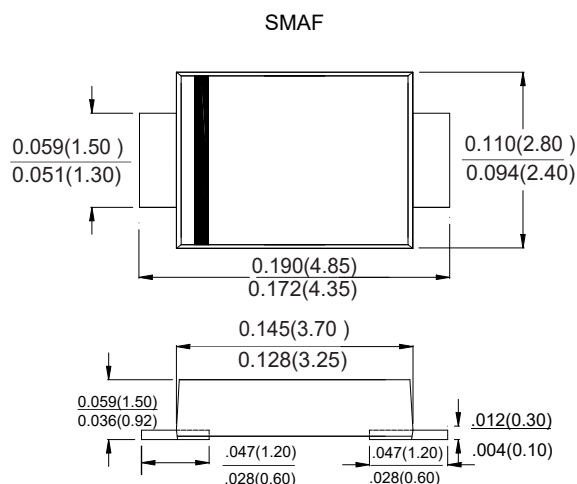
ES1AF THRU ES1JF 50 to 600 V 1.0A

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Fast Recovery times for high efficiency
- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

- Case: Molded plastic, SMAF
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number



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, derate current by 20%.

Type Number or marks	Symbols	ES1AF	ES1BF	ES1DF	ES1GF	ES1JF	Units
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	Volts
Maximum Average Forward Rectified Current. Lead Length @Ta(Fig 1)	I(AV)	1.0					Amp
Peak Forward Surge Current,8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	IFSM	30					Amp
Maximum Forward Voltage at 1.0A DC	VF	1.0			1.3	1.7	Volts
Maximum DC reverse current at Tj=25°C rated DC blocking voltage per Tj=100°C	IR	5.0 50					uAmp
Typical Thermal Resistance Tj =25°C	Rθ JL	20					°C/W
Typical Junction capacitance (Note2)	Cj	25					pF
Maximum Reverse Recovery Time (Note1)	TRR	35					nS
Operating Temperature Range	TJ	-55 to +150					°C
Storage Temperature Range	TSTG	-55 to +150					°C

Note:

The above typical data meet the following standards

1. Measured with $I_F = 0.5A$, $I_R = 1A$, $IRR = 0.25A$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
3. The typical data above is for reference only.

Ordering Information (Example)

Preferred P/N	Package code	Unit weight(g)	Minimum Package(pcs)	Inner box Quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
SMAF SMA DO-214AC	F1	Approximate 0.034	3000	12000	96000	7" reel
	F2	Approximate 0.034	10000	20000	160000	13" reel
	F4	Approximate 0.034	7500	15000	120000	13" reel



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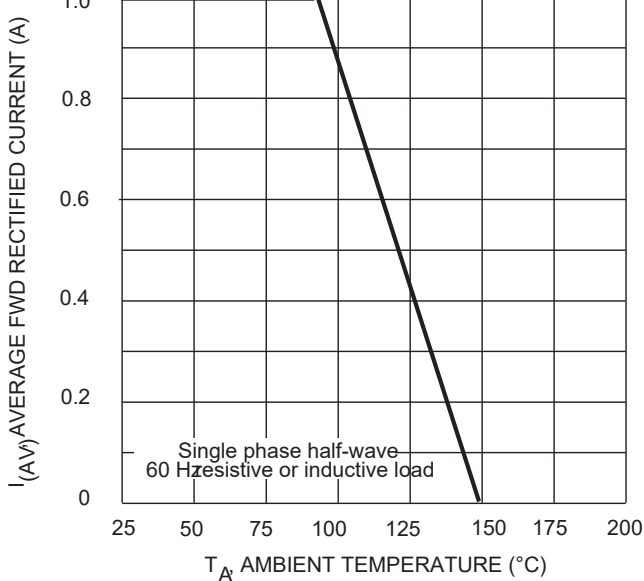


Fig. 1 Forward Derating Curve

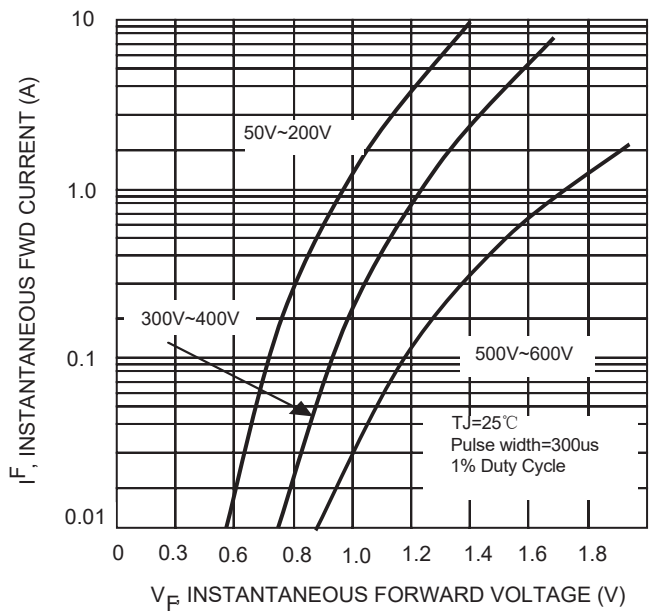


Fig. 2 Typical Forward Characteristics

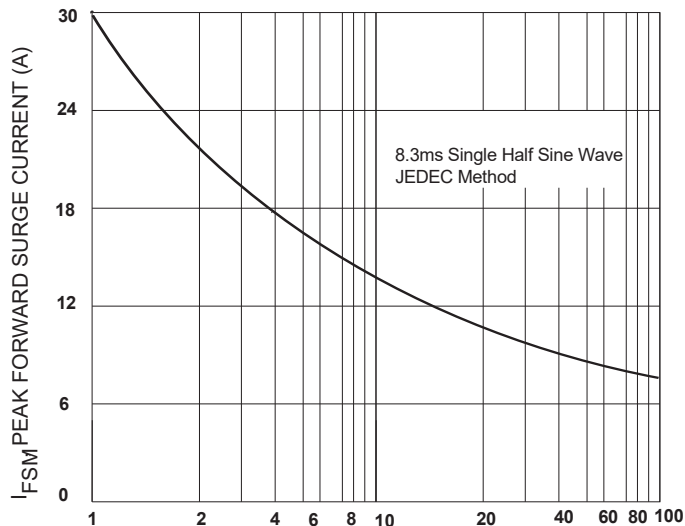


Fig. 3 Peak Forward Surge Current

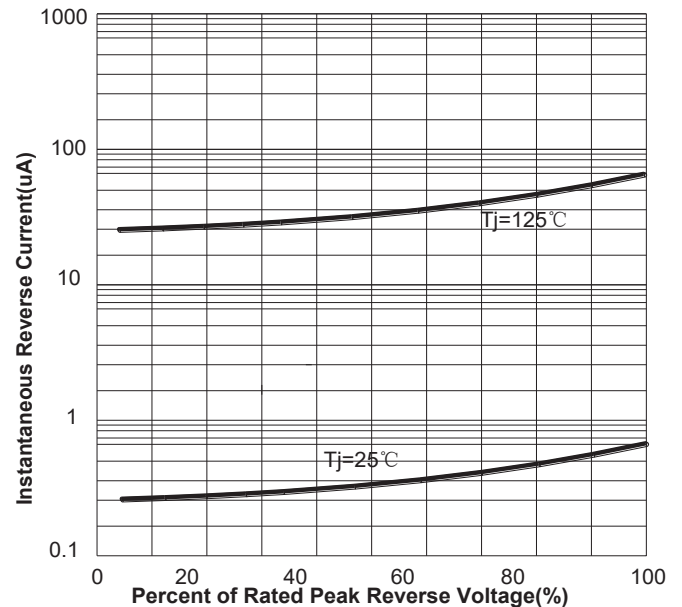
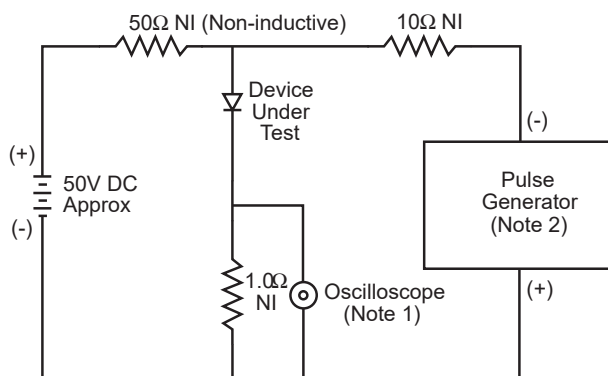


FIG4: Typical Reverse Characteristics



Notes:

1. Rise Time = 7ns max. Input Impedance = 1MΩ 22pf
2. Rise Time = 10ns max. Source Impedance = 50Ω

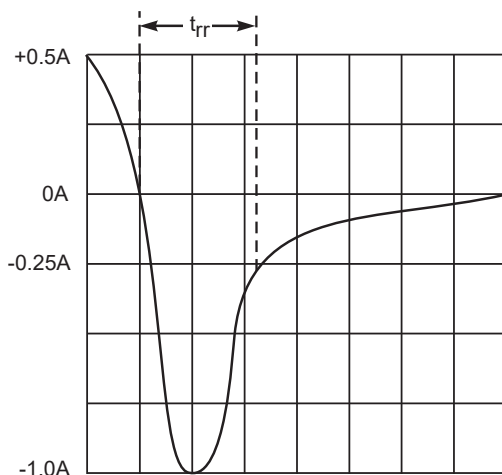


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit