

ES1AF-AT THRU ES1JF-AT

SURFACE MOUNT SUPERFAST RECOVERY RECTIFIERS

Forward Current-1A

Reverse Voltage-50V to 600V

FEATURES

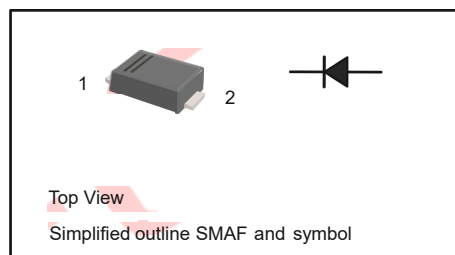
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ Superfast reverse recovery time
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SMAF molded plastic body
- ◆ Terminals: Solderable per MIL-STD- 750, Method 2026
- ◆ Weight: Approximated 0.027 grams

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derating by 20 %.

PARAMETER	SYMBOL	ES1AF -AT	ES1BF -AT	ES1CF -AT	ES1DF -AT	ES1EF -AT	ES1GF -AT	ES1JF -AT	UNIT
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _C =125°C	I _{F(AV)}	1							A
Peak Forward Surge Current (Note1)	I _{FSM}	30							A
Maximum Forward Voltage at 1.0 A	V _F	1				1.25		1.68	V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A =25°C T _A =125°C	I _R	5 100							uA
Typical Junction Capacitance at V _R =4V,f=1MHz	C _J	15							pF
Maximum Reverse Recovery Time (Note2)	T _{rr}	35							nS
Typical Thermal Resistance (Note3)	R _{θJA}	80							°C/W
Operating and Storage Temperature Range	T _J ,T _{STG}	-55 to +150							°C

Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method).

2. Measured at with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

3. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Dated: 03/2016

Rev:1.0

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RATINGS AND CHARACTERISTIC CURVES

Fig.1 Test Circuit Diagram And Reverse Recovery Time Curve

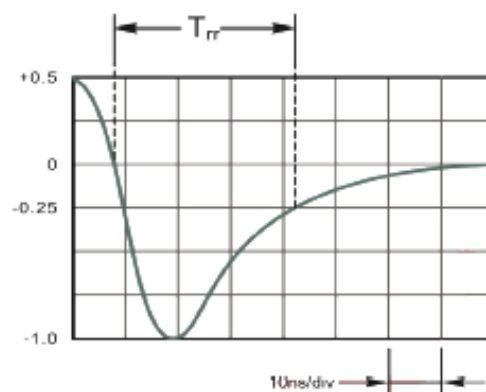
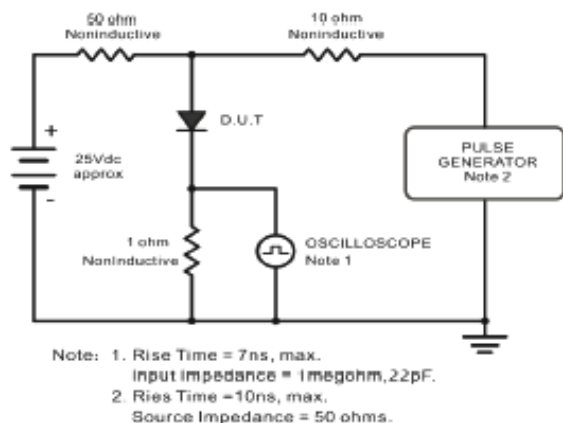


Fig.2 Maximum Average Forward Current Rating

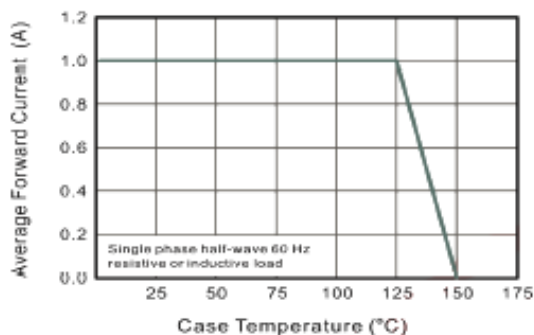


Fig.3 Typical Reverse Characteristics

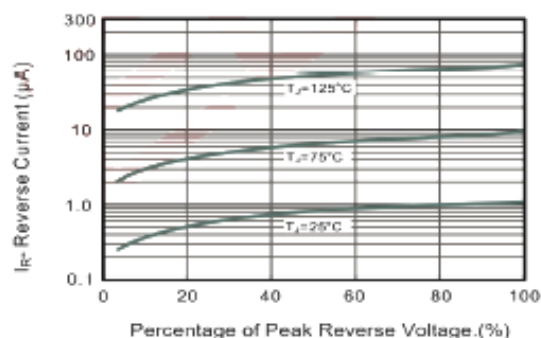


Fig.4 Typical Forward Characteristics

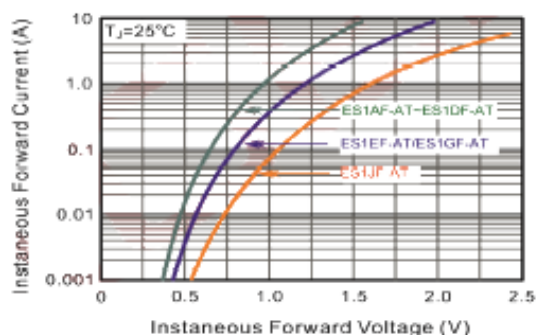


Fig.5 Typical Junction Capacitance

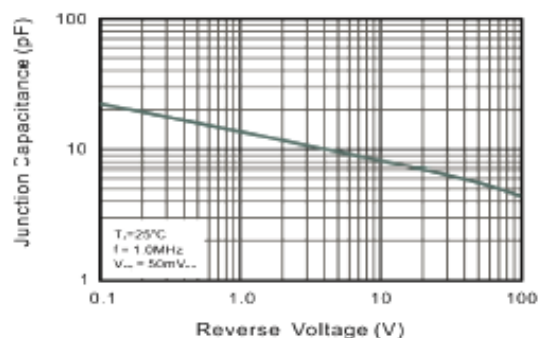
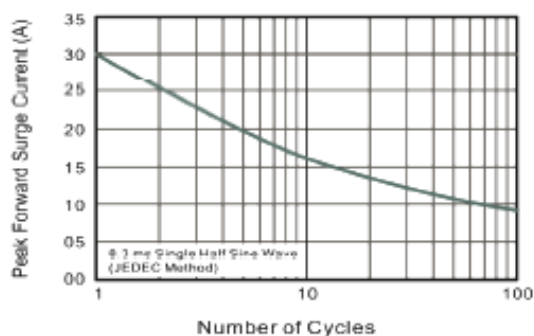


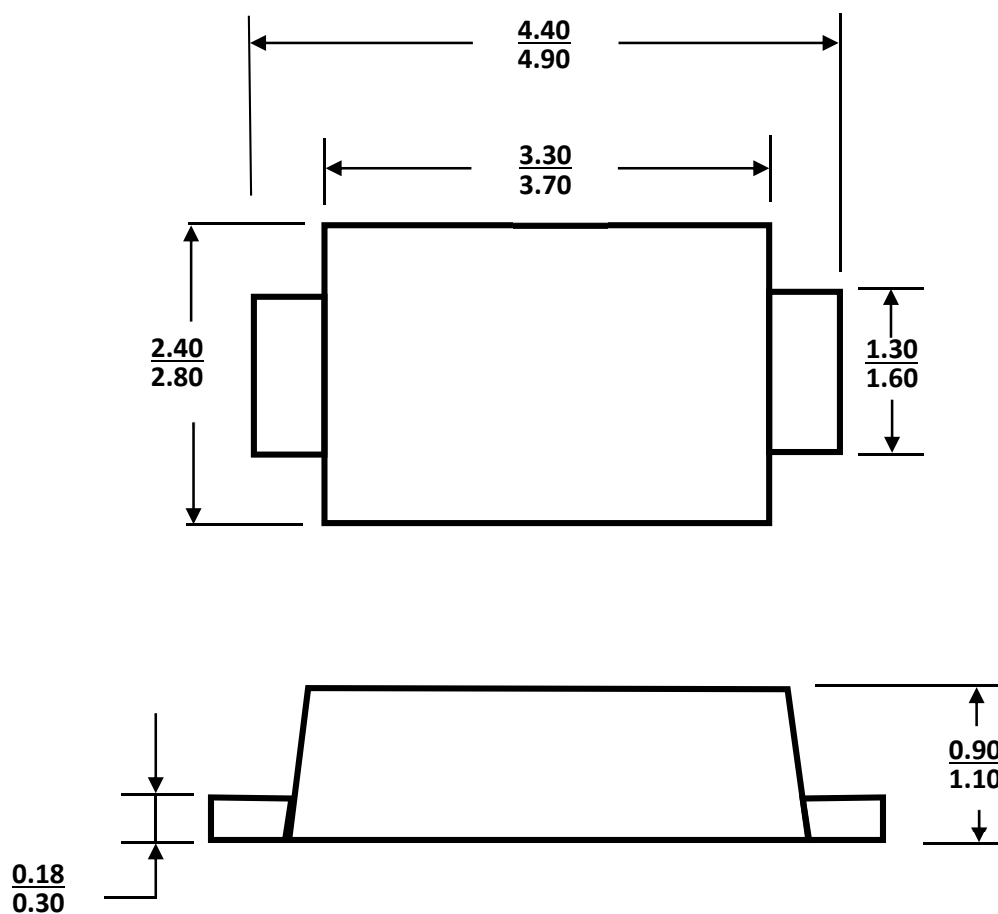
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



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PACKAGE OUTLINE

SMAF



Dimensions in millimeters

ORDERING INFORMATION

Device	Package	Shipping
ES1AF-AT thru ES1JF-AT	SMAF	3,000/Tape & Reel (7 inches)
		10,000/ Tape & Reel (13 inches)

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