

**SURFACE MOUNT SUPERFAST RECOVERY RECTIFIERS***Forward Current-1A**Reverse Voltage-50V to 600V***FEATURES**

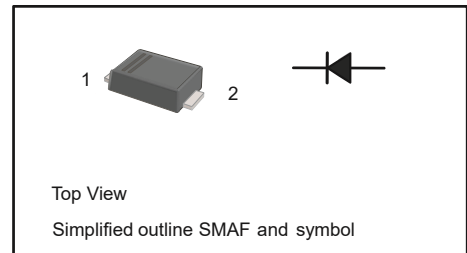
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ Superfast reverse recovery time
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

**PINNING**

PIN	DESCRIPTION
1	Cathode
2	Anode

**MECHANICAL DATA**

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

**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 -PJ	ES1BF -PJ	ES1CF -PJ	ES1DF -PJ	ES1EF -PJ	ES1GF -PJ	ES1JF -PJ	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 $T_C=125^\circ\text{C}$	$I_{F(AV)}$	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 $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$
Typical Junction Capacitance at $V_R=4\text{V}, f=1\text{MHz}$	$C_J$	15							pF
Maximum Reverse Recovery Time (Note2)	$T_{rr}$	35							nS
Typical Thermal Resistance (Note3)	$R_{\theta JA}$	80							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

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

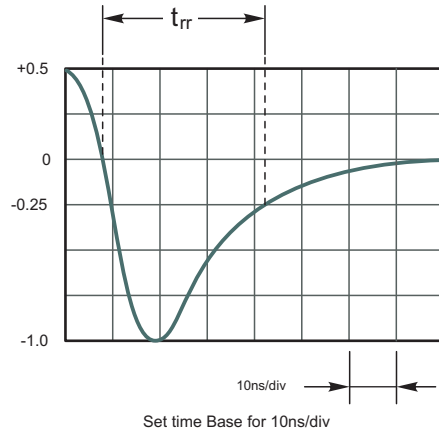
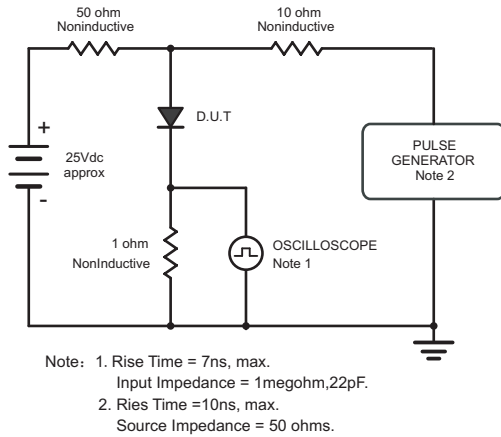
2. Measured at with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

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

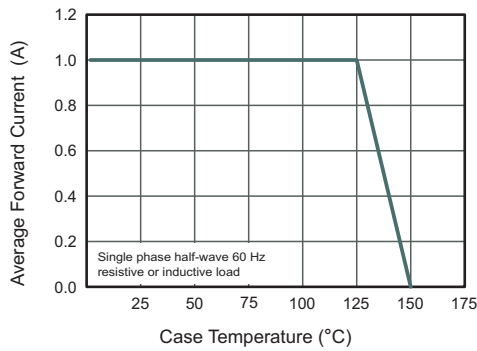


## RATINGS AND CHARACTERISTIC CURVES

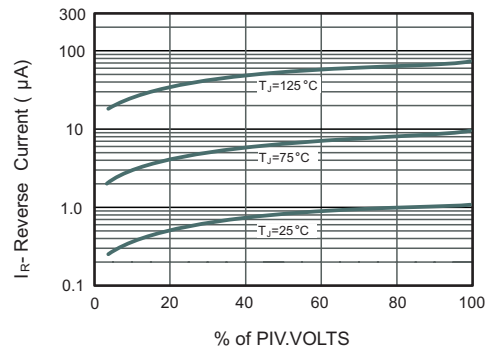
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



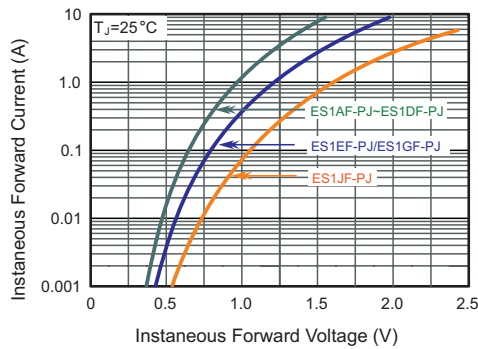
**Fig.2 Maximum Average Forward Current Rating**



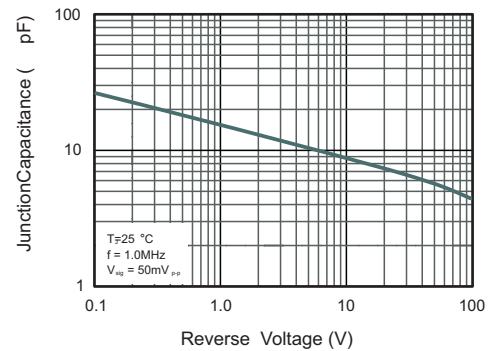
**Fig.3 Typical Reverse Characteristics**



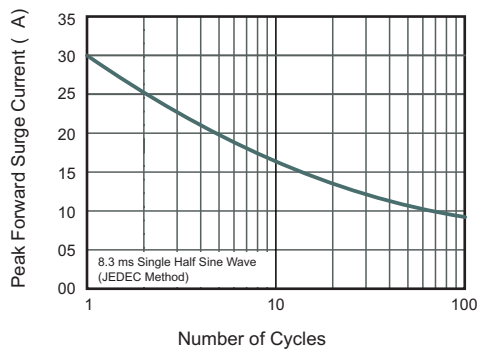
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**



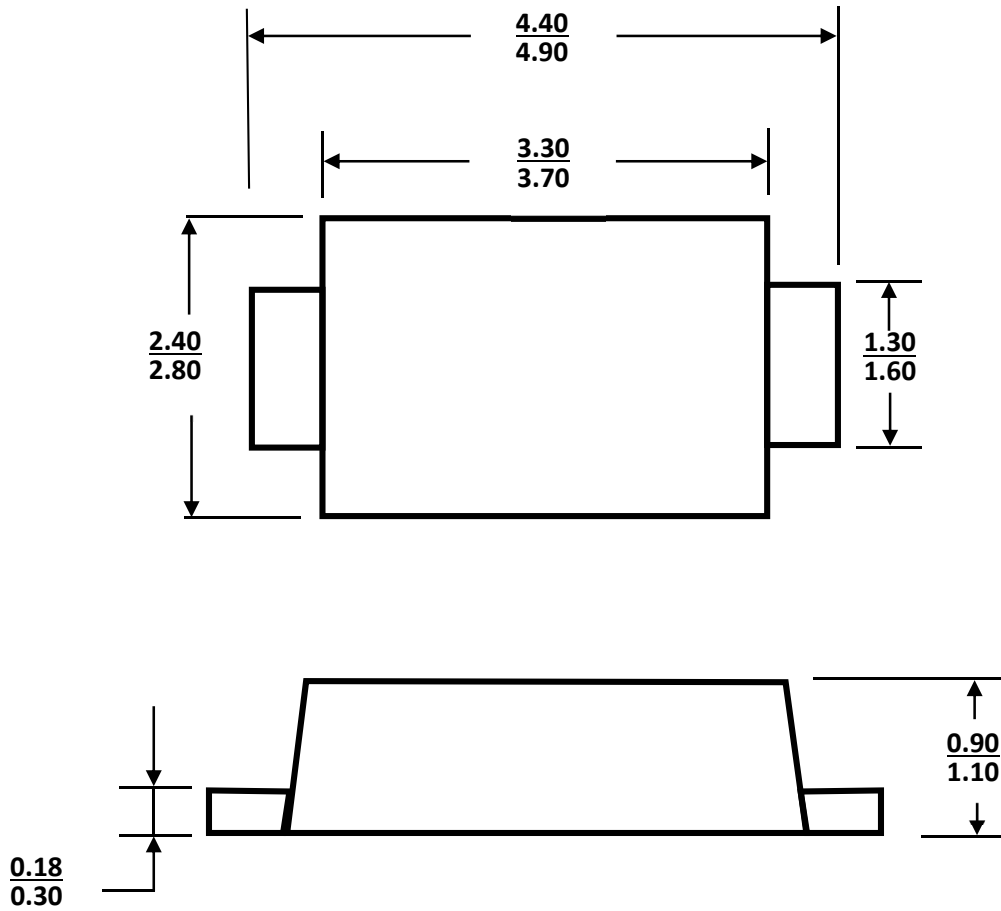
**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**





PACKAGE OUTLINE

SMAF



Dimensions in millimeters

ORDERING INFORMATION

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