

ES2AF-AT thru ES2JF-AT

SURFACE MOUNT SUPERFAST RECOVERY RECTIFIERS

Reverse Voltage:50 to 600 V Forward Current:2.0A

FEATURES

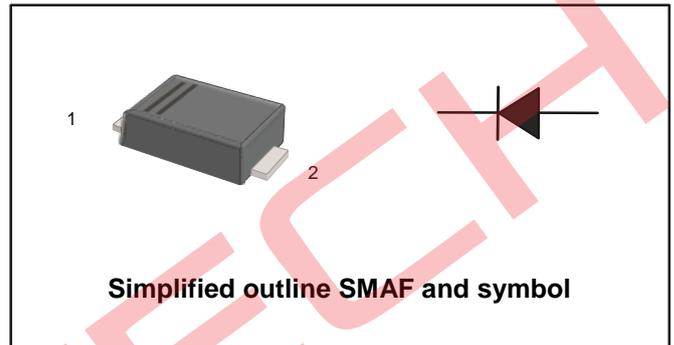
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ Superfast reverse recovery time
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SMAF mold 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, 60Hz resistive or inductive load, for capacitive load, derated by 20 %.

PARAMETER	SYMBOLS	ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF	UNITS
		-AT	-AT	-AT	-AT	-AT	-AT	-AT	
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 $T_C=125^{\circ}C$	$I_{F(AV)}$	2.0							A
Peak Forward Surge Current ^{Note 1}	I_{FSM}	50							A
Max Instantaneous Forward Voltage at 2 A	V_F	1				1.25		1.68	V
Maximum DC Reverse Current $T_A = 25^{\circ}C$ at Rated DC Reverse Voltage $T_A = 125^{\circ}C$	I_R	5 100							μA
Typical Junction Capacitance ^{Note 2}	C_J	30							pF
Maximum Reverse Recovery Time ^{Note 3}	T_{rr}	35							ns
Typical Thermal Resistance ^{Note 4}	$R_{\theta JA}$	65							$^{\circ}C/W$
	$R_{\theta JC}$	20							
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150							$^{\circ}C$

Note: 1. 8.3ms Single half sine-wave superimposed on rated load (JEDEC method).

2. Measured at 1MHz and applied reverse voltage of 4 V D.C.

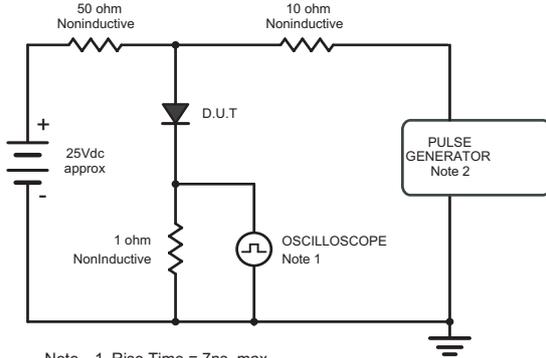
3. Measured at with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$

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

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RATING AND CHARACTERISTIC CURVES

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

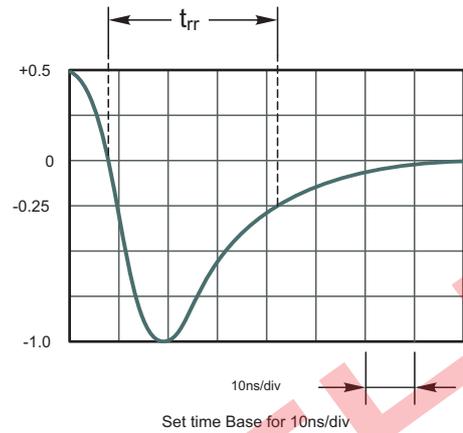


Fig.2 Maximum Average Forward Current Rating

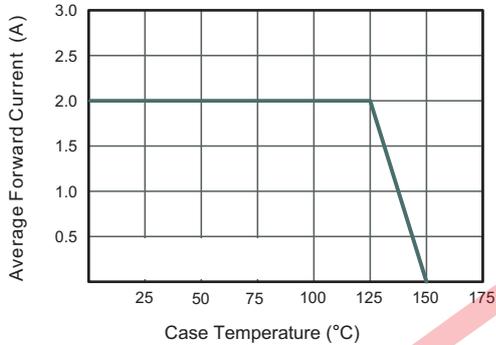


Fig.3 Typical Reverse Characteristics

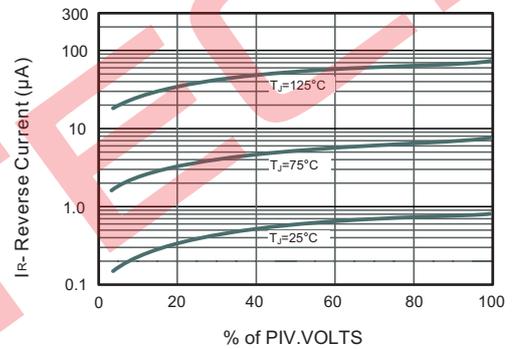


Fig.4 Typical Forward Characteristics

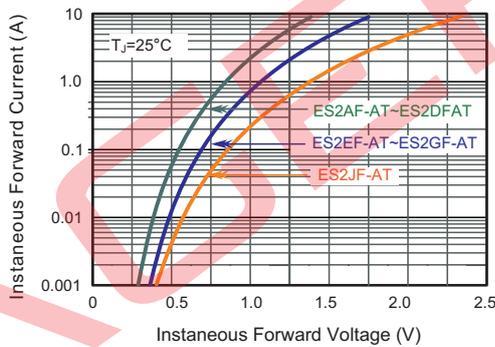


Fig.5 Typical Junction Capacitance

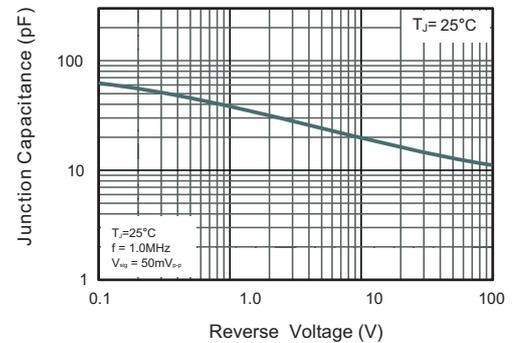
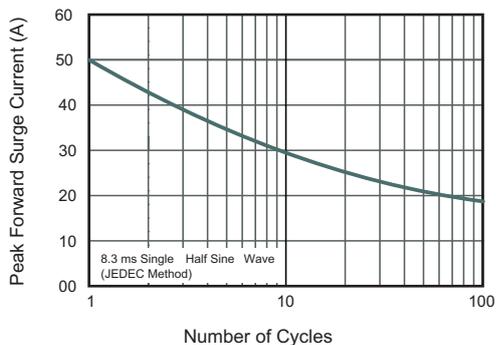


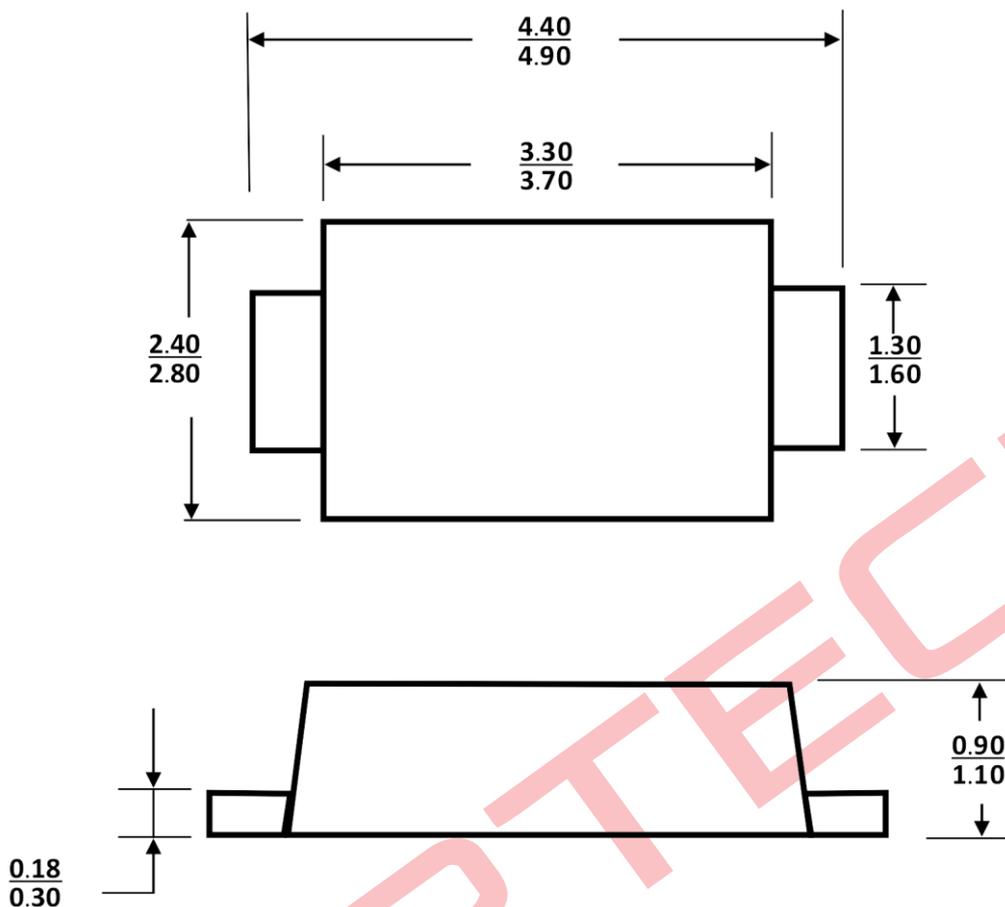
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



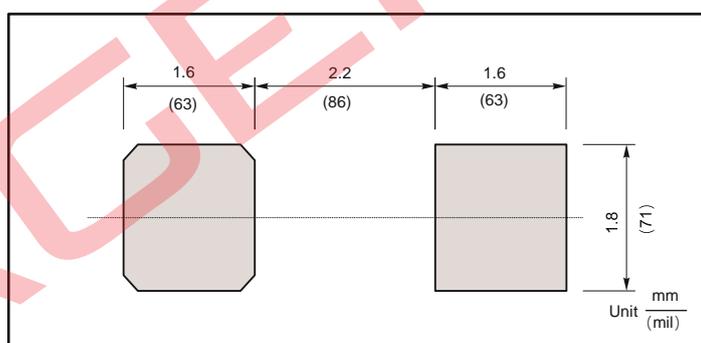
ES2AF-AT thru ES2JF-AT

PACKAGE OUTLINE

SMAF



RECOMMEND MOUNTING PAD SIZE



ORDERING INFORMATION

Device	Package	Shipping
ES2AF-AT thru ES2JF-AT	SMAF	3,000/ Tape & Reel (7 inches)
		10,000/ Tape & Reel (13 inches)

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