

ES3ABF-AT THRU ES3JBF-AT

SURFACE MOUNT SUPERFAST RECOVERY RECTIFIERS

Forward Current-3.0A

Reverse Voltage-50V to 600V

FEATURES

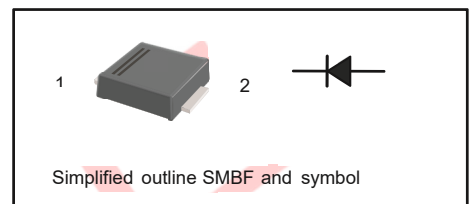
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ Superfast reverse recovery time
- ◆ Lead free in comply with EU RoHS2011/65/EU directives

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

MECHANICAL DATA

- ◆ Case: SMBF molded plastic body
- ◆ Terminals: Solderable per MIL-STD-750 , Method2026
- ◆ Weight: Approximated 0.057 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	ES3ABF -AT	ES3BBF -AT	ES3CBF -AT	ES3DBF -AT	ES3EBF -AT	ES3GBF -AT	ES3JBF -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 $T_C=125^\circ\text{C}$	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current (Note1)	I_{FSM}	100							A
Maximum Forward Voltage at 3.0 A	V_F	1				1.25		1.68	V
Maximum DC Reverse Current at Rated DC Blocking Voltage at $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	5 100							μA
Typical Junction Capacitance at $V_R=4\text{V}, f=1\text{MHz}$	C_J	35							pF
Maximum Reverse Recovery Time (Note2)	T_{rr}	35							nS
Typical Thermal Resistance(Note3)	$R_{\theta JA}$ $R_{\theta JC}$	45 15							$^\circ\text{C/W}$
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 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.

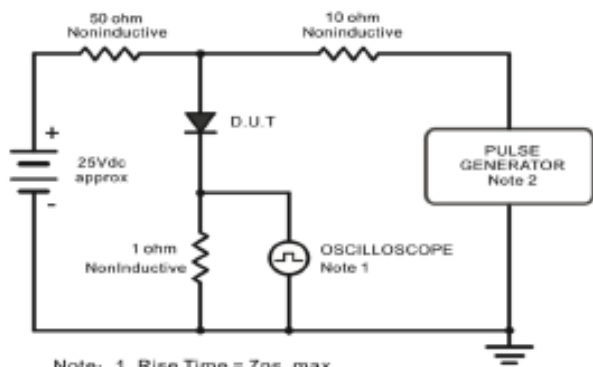
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Rev:1.0

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RATINGS AND CHARACTERISTIC CURVES

Fig.1 Test Circuit Diagram And Reverse Recovery Time Characteristic



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

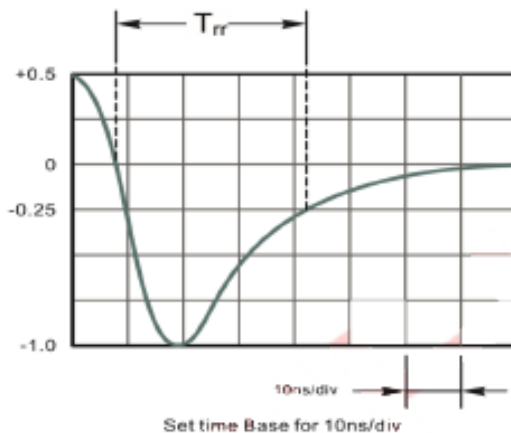
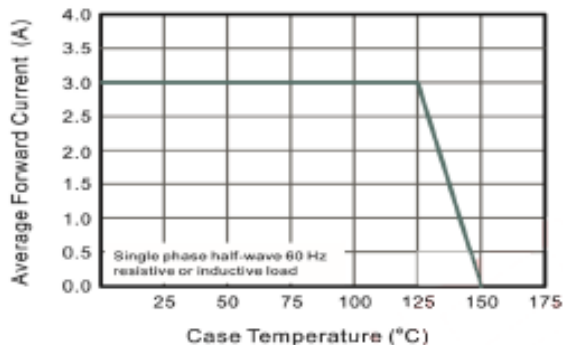


Fig.2 Maximum Average Forward Current Rating



Single phase half-wave 60 Hz resistive or inductive load

Fig.3 Typical Reverse Characteristics

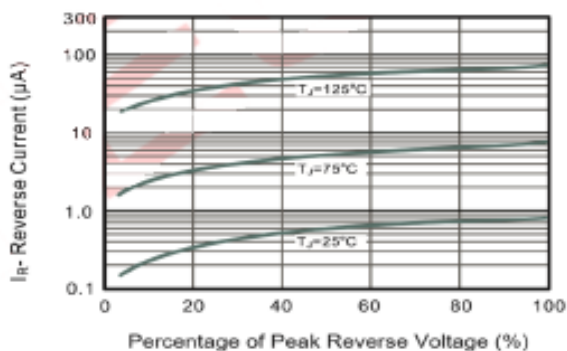


Fig.4 Typical Forward Characteristics

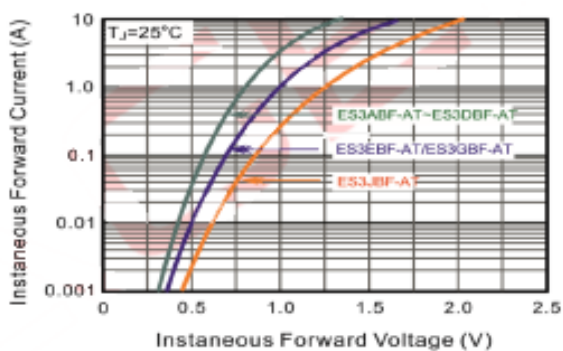


Fig.5 Typical Junction Capacitance

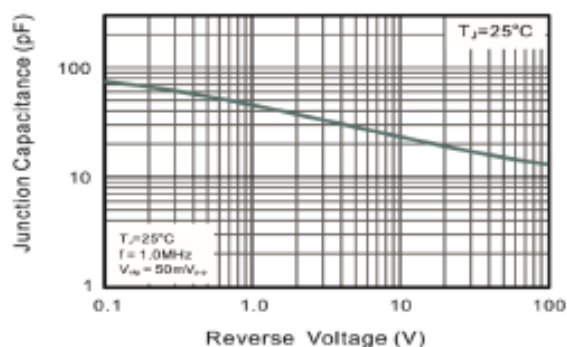
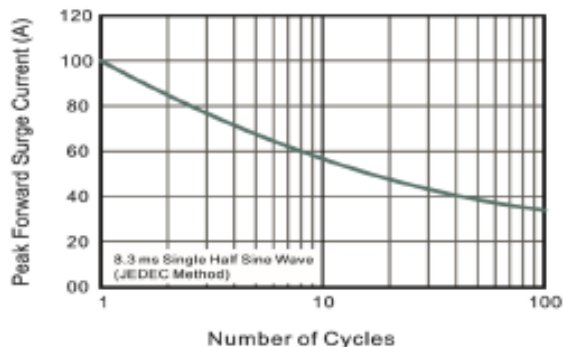


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

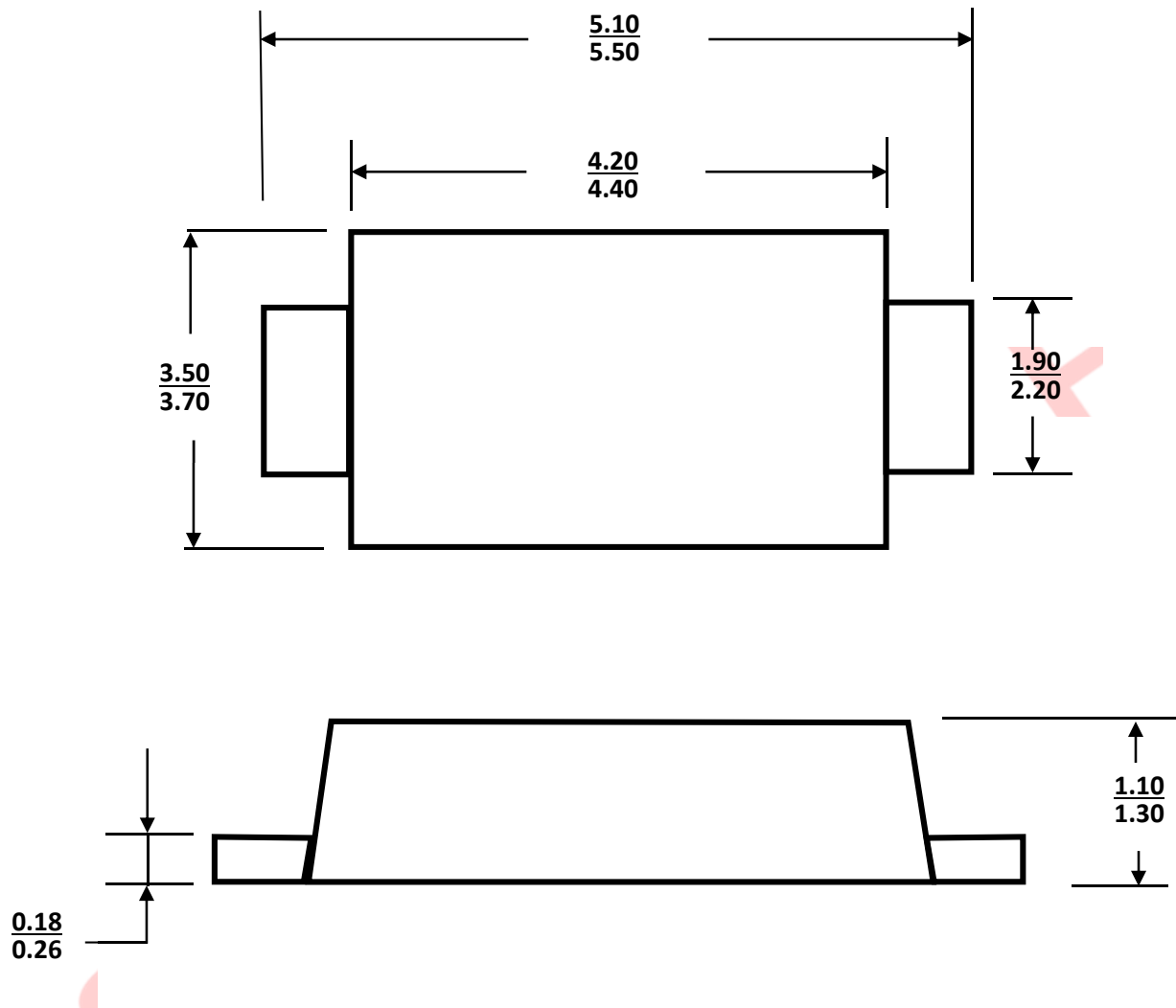


8.3 ms Single Half Sine Wave (JEDEC Method)

ES3ABF-AT THRU ES3JBF-AT

PACKAGE OUTLINE

SMBF



Dimensions in millimeters

ORDERING INFORMATION

Device	Package	Shipping
ES3ABF-AT thru ES3JBF-AT	SMBF	5,000/Tape & Reel (13 inches)

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