

# US3AB-AT THRU US3MB-AT

## Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage – 50V~1000 V      Forward Current – 3.0A

### FEATURES

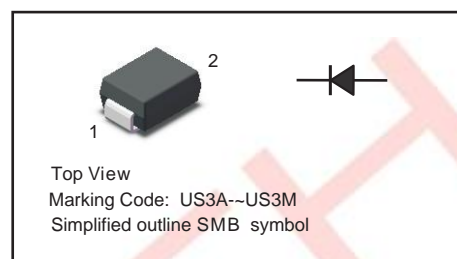
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Easy to pick and place
- ◆ High efficiency
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- ◆ Case: SMB
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 0.095g / 0.003oz

### 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 derate by 20 %.

Parameter	Symbols	US3AB -AT	US3BB -AT	US3DB -AT	US3GB -AT	US3JB -AT	US3KB -AT	US3MB -AT	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	90							A
Maximum Instantaneous Forward Voltage at 3A	$V_F$	1.0			1.3	1.68		V	
Maximum DC Reverse Current $T_a = 25\text{ °C}$ at Rated DC Blocking Voltage $T_a = 125\text{ °C}$	$I_R$	5 100							$\mu\text{A}$
Maximum Reverse Recovery Time <sup>(1)</sup>	$t_{rr}$	50				75			ns
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$ $R_{\theta JC}$	45 15							$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							$^{\circ}\text{C}$

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

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

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## RATINGS AND CHARACTERISTIC CURVES

Fig.1 Maximum Average Forward Current Rating

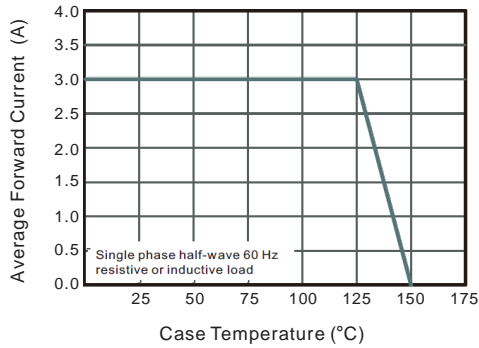


Fig.2 Typical Reverse Characteristics

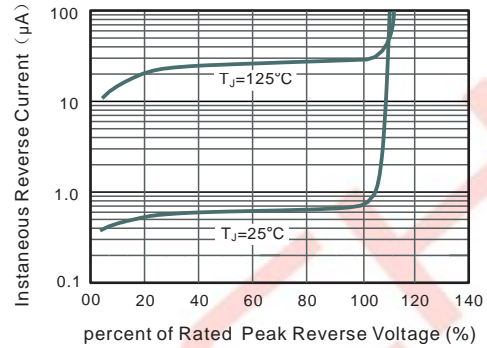


Fig.3 Typical Forward Characteristics

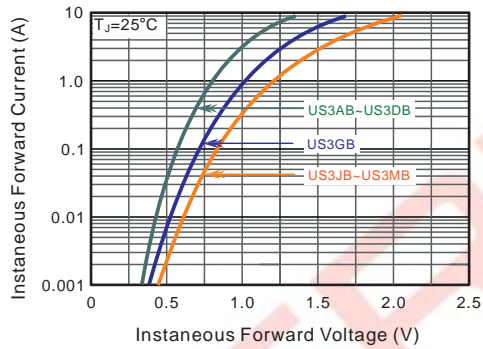
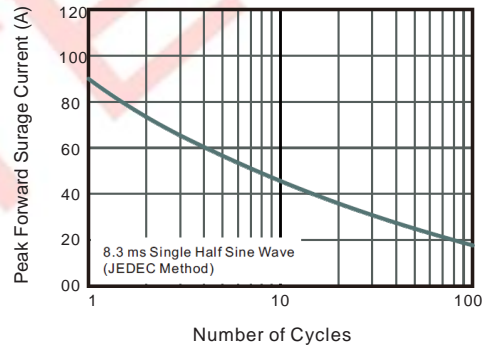


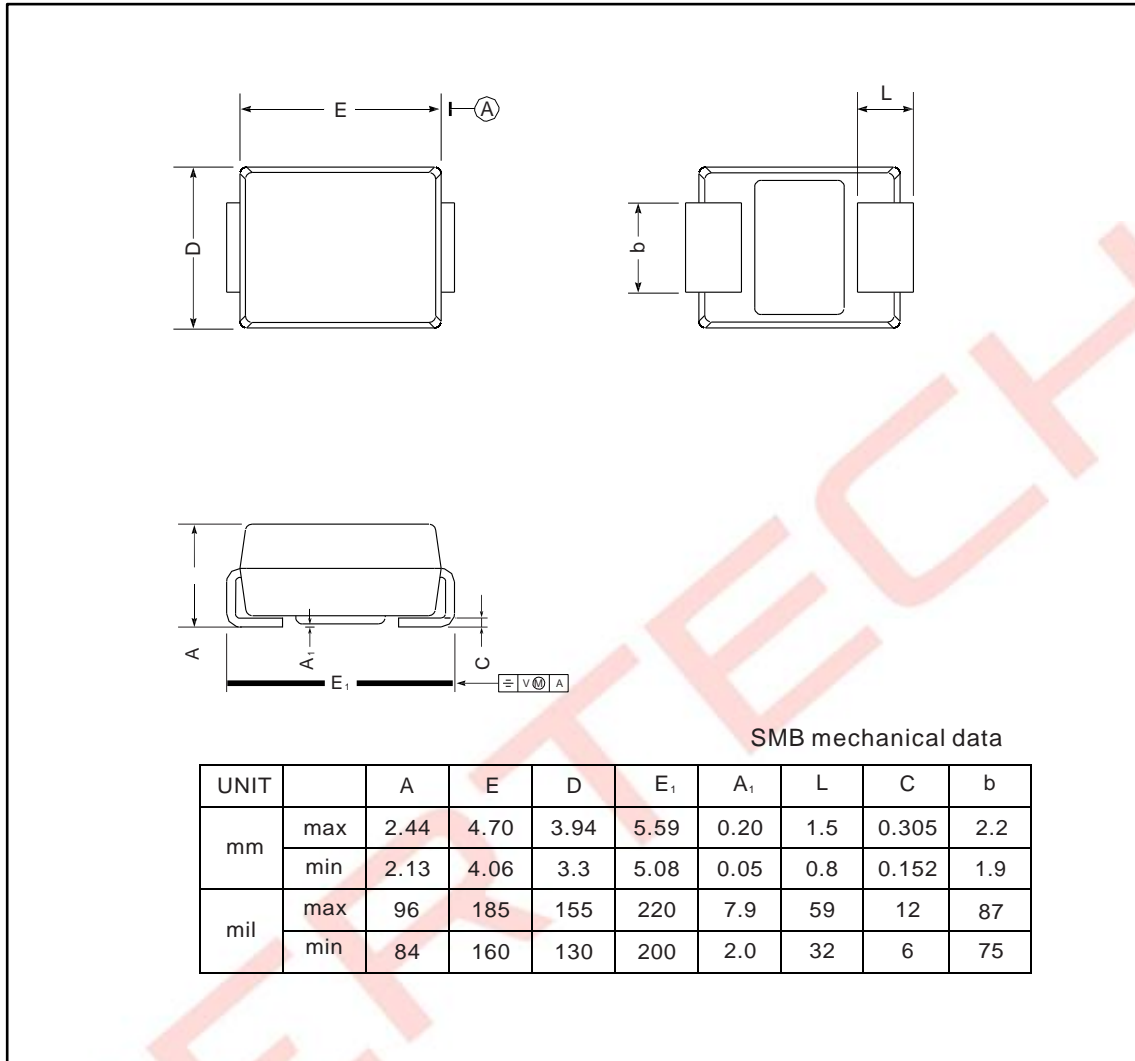
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



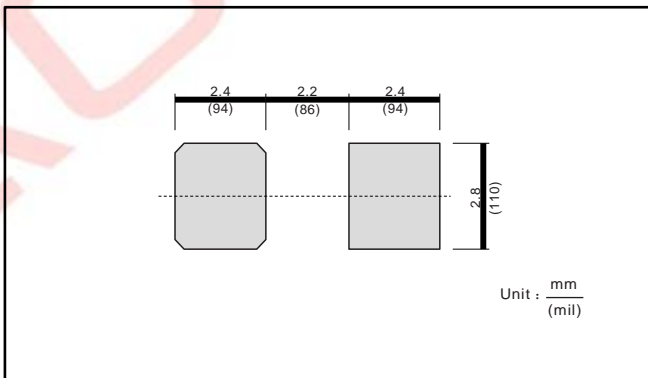
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## PACKAGE OUTLINE

### SMB



### The recommended mounting pad size



### Marking

Type number	Marking code
US3AB-AT	US3A
US3BB-AT	US3B
US3DB-AT	US3D
US3GB-AT	US3G
US3JB-AT	US3J
US3KB-AT	US3K
US3MB-AT	US3M

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