

US3AB-AT THRU US3MB-AT

Surface Mount Ultrafast Recovery Rectifier

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

FEATURES

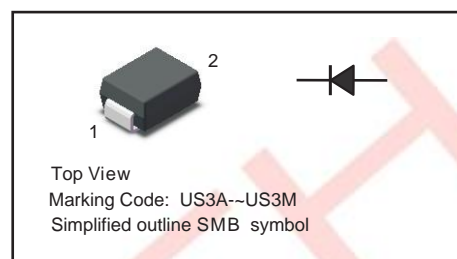
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Easy to pick and place
- ◆ High efficiency
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

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							μA
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	50				75			ns
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$ $R_{\theta JC}$	45 15							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°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

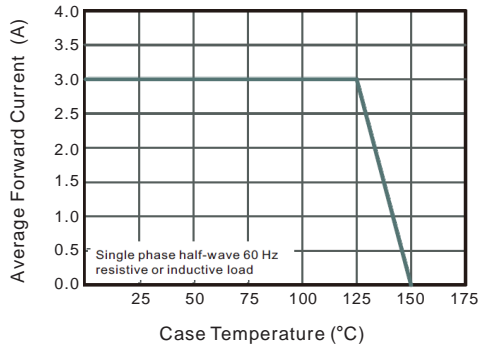


Fig.2 Typical Reverse Characteristics

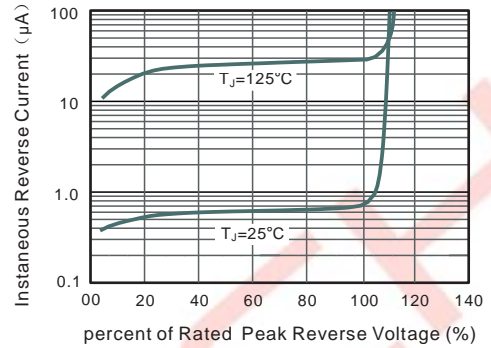


Fig.3 Typical Forward Characteristics

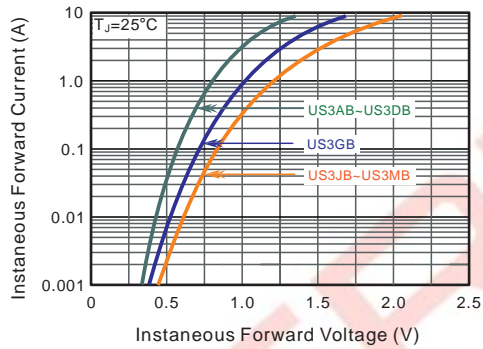
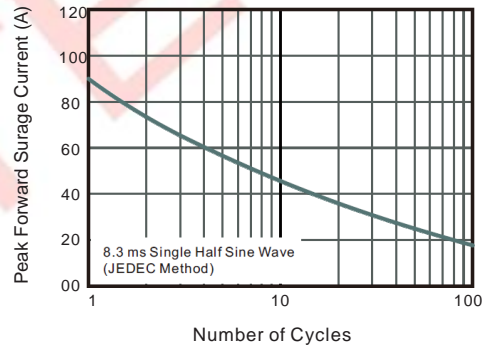


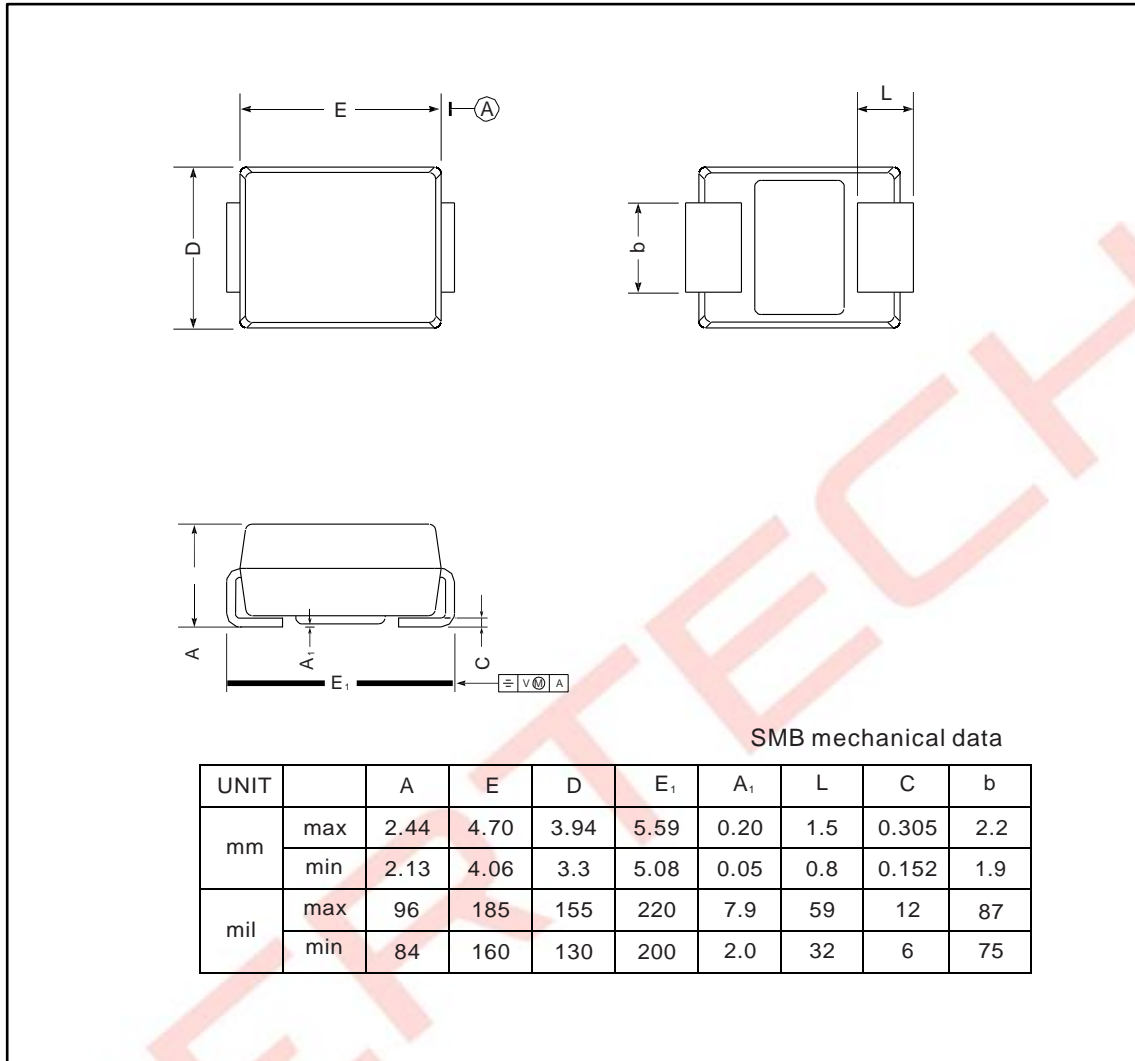
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



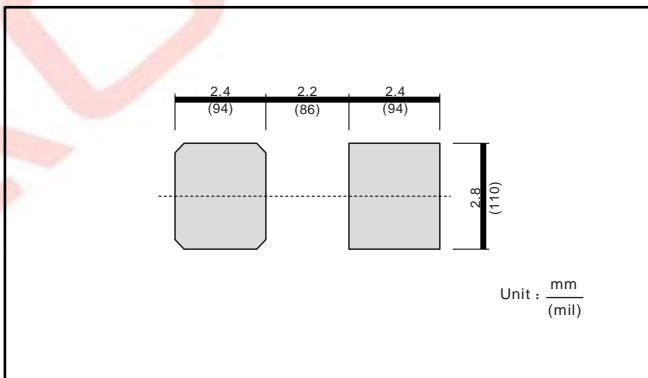
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PACKAGE OUTLINE

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