

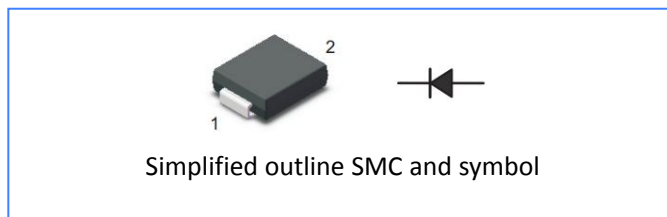
## US3AC THRU US3MC

### 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: SMC
- Terminals: Solderable per MIL-STD-750, Method 20
- Approx. Weight: 0.22g / 0.0077oz



### Pinning

PIN	DESCRIPTION
1	Cathode
2	Anode

### Absolute Maximum Ratings And Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	US3AC	US3BC	US3DC	US3GC	US3JC	US3KC	US3MC	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 at $T_c = 125^\circ\text{C}$	$I_{F(AV)}$	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 1 A	$V_F$	1.0			1.3	1.65			V	
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$	
Maximum Reverse Recovery Time <sup>(1)</sup>	$t_{rr}$	50				75				ns
Typical Thermal Resistance <sup>(3)</sup>	$R_{\theta JA}$	45							$^\circ\text{C}/\text{W}$	
	$R_{\theta JC}$	15								
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

**Rating And Characteristic Curves**

Fig.1 Maximum Average Forward Current Rating

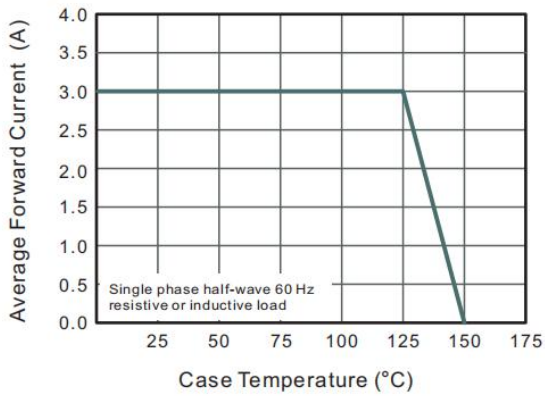


Fig.2 Typical Reverse Characteristics

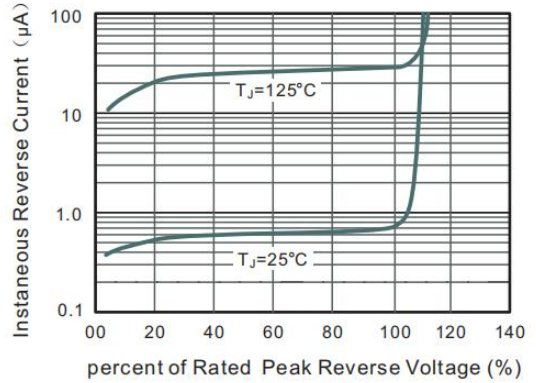


Fig.3 Typical Forward Characteristics

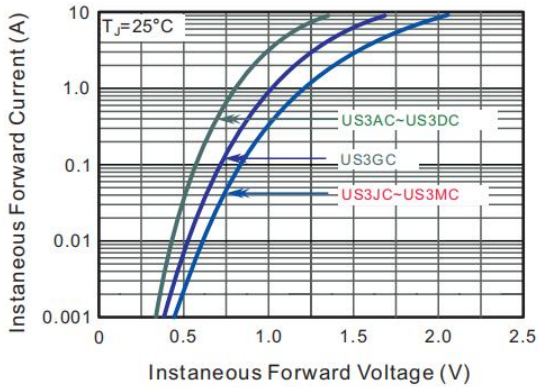
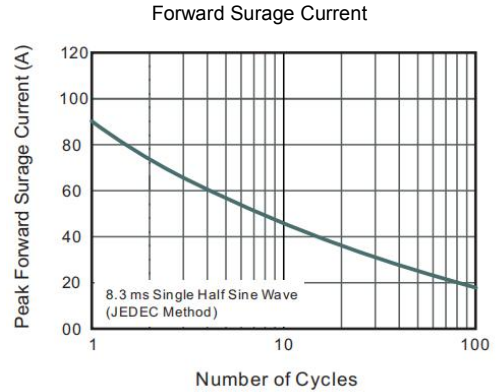


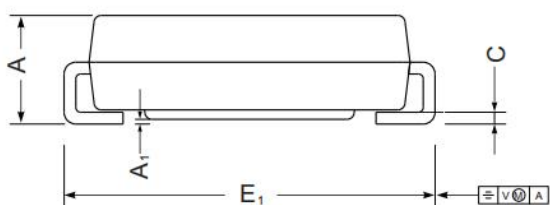
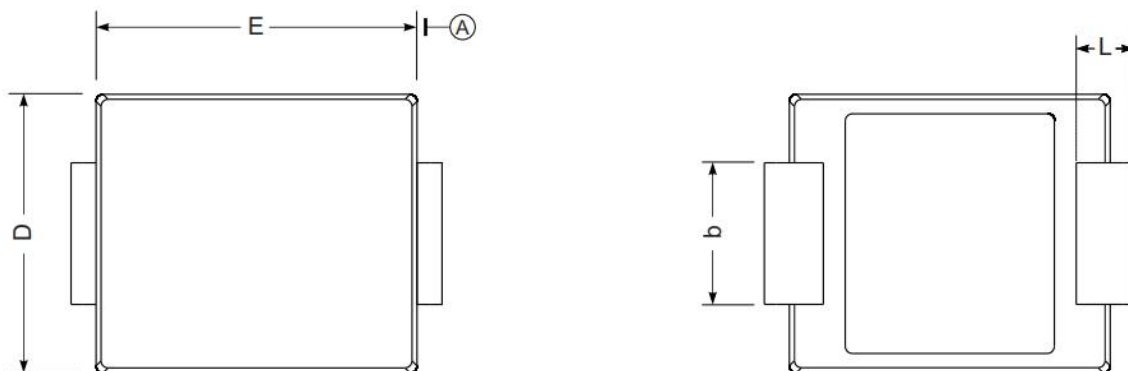
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

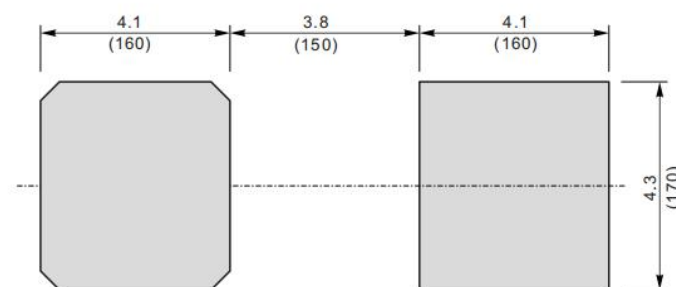
Plastic surface mounted package; 2 leads

SMC



UNIT		A	C	D	E	E <sub>1</sub>	A <sub>1</sub>	L	b
mm	max	2.62	0.31	6.2	7.0	8.0	0.21	1.6	3.25
	min	2.00	0.15	5.6	6.5	7.6	0.05	0.9	2.75
mil	max	103	12	244	276	315	8.3	63	128
	min	79	5.9	220	256	299	2.0	35	108

The recommended mounting pad size



Unit:  $\frac{\text{mm}}{\text{mil}}$