

Reverse Voltage - 50 to 1000 V

Forward Current - 3A

#### 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: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg / 0.002oz

#### 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	US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF	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 @ Fig.1	$I_{F(AV)}$	3							A							
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	80							A							
Peak Forward Surge Current,1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	160							A							
$I^2t$ Rating for fusing (3ms $\leq t \leq$ 8.3ms)	$I^2t$	26.5							$A^2s$							
Max Instantaneous Forward Voltage at 3 A	$V_F$	1.0		1.3	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							$\mu A$							
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	76		46	38	32			pF							
Maximum Reverse Recovery Time <sup>(2)</sup>	$t_{rr}$	50			75				ns							
Typical Thermal Resistance <sup>(3)</sup>	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	42 10 15							°C/W							
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							°C							

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

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

(3) P.C.B. mounted with 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas.

## Typical Characteristics

Fig.1 Forward Current Derating Curve

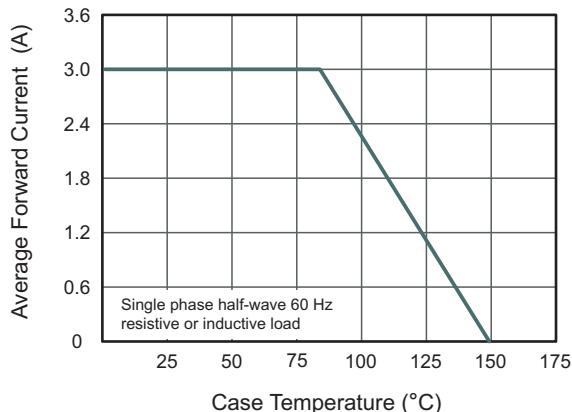


Fig.2 Typical Reverse Characteristics

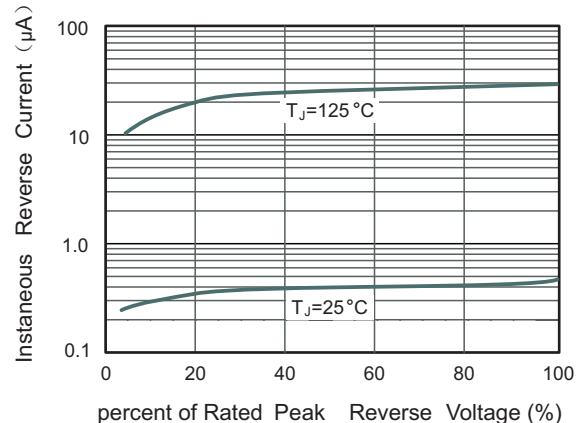


Fig.3 Typical Forward Characteristics

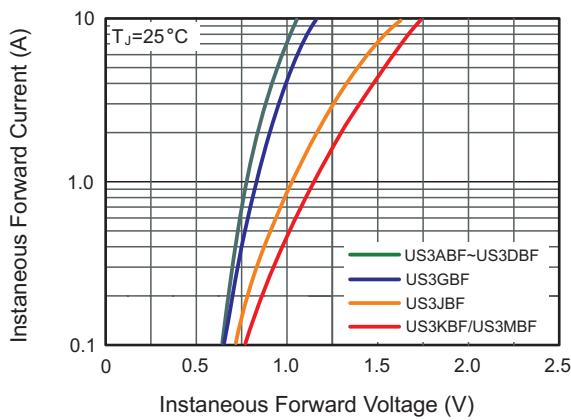


Fig.4 Typical Junction Capacitance

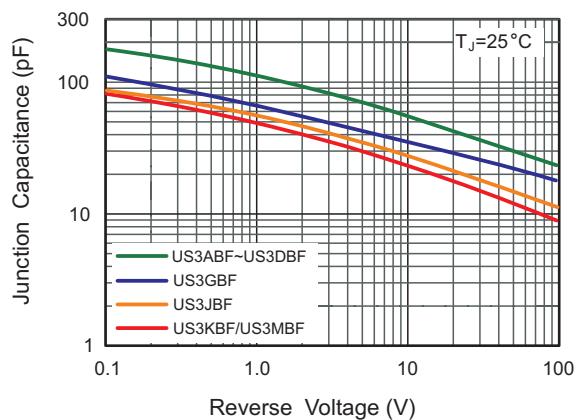
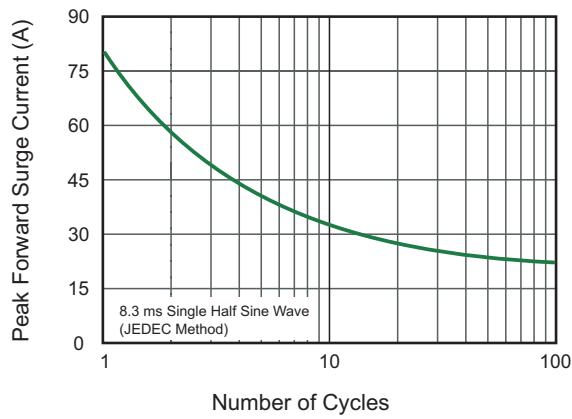


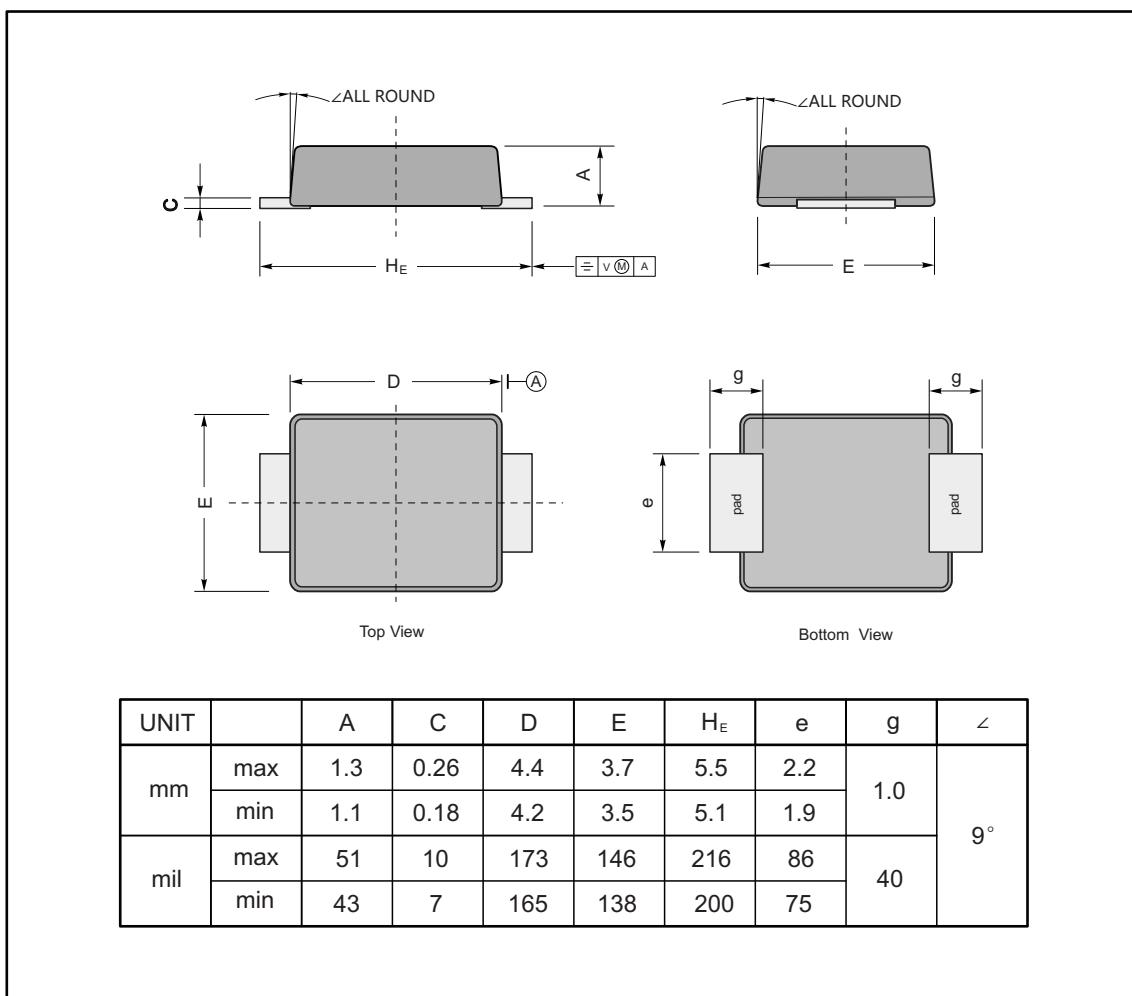
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



## PACKAGE OUTLINE

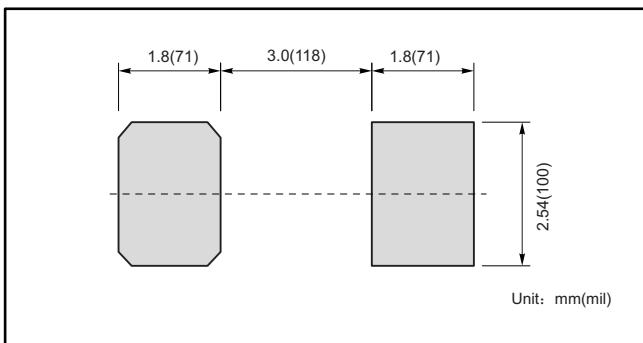
Plastic surface mounted package; 2 leads

**SMBF**



UNIT		A	C	D	E	$H_E$	e	g	$\angle$
mm	max	1.3	0.26	4.4	3.7	5.5	2.2	1.0	$9^\circ$
	min	1.1	0.18	4.2	3.5	5.1	1.9		
mil	max	51	10	173	146	216	86	40	$9^\circ$
	min	43	7	165	138	200	75		

### The recommended mounting pad size



### Marking

Type number	Marking code
US3ABF	U3AB
US3BBF	U3BB
US3DBF	U3DB
US3GBF	U3GB
US3JBF	U3JB
US3KBF	U3KB
US3MBF	U3MB



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