US2ABF THRU US2MBF

Surface Mount Ultrafast Recovery Rectifier Reverse Voltage – 50V~1000 V Forward Current – 2.0 A

FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Marking Code: U2AB~U2MB
Simplified outline SMBF symbol

MECHANICAL DATA

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

Maximum Ratings and Electrical characteristics

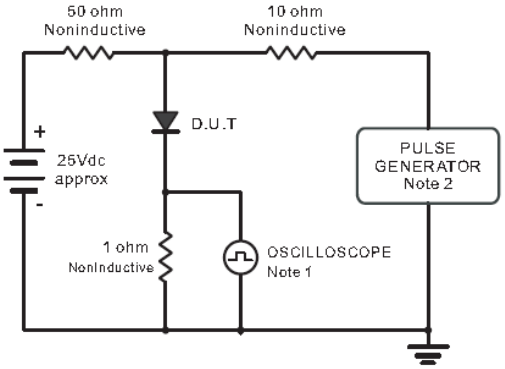
Ratings at 25℃ ambient temperature unless otherwise specified.Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	US2ABF	US2BBF	US2DBF	US2GBF	US2JBF	US2KBF	US2MBF	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 Ta = 65 °C	$I_{F(AV)}$	2							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	55				50			A
Maximum Instantaneous Forward Voltage at 2A	V_F	1.0			1.3	1.6			V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta =125 °C	I_R	5 100							μA
Typical Junction Capacitance 1)	C_j	60							pF
Maximum Reverse Recovery Time 2)	t_{rr}	50				75			ns
Typical Thermal Resistance 3)	$R_{\theta JA}$ $R_{\theta JL}$	60 20							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

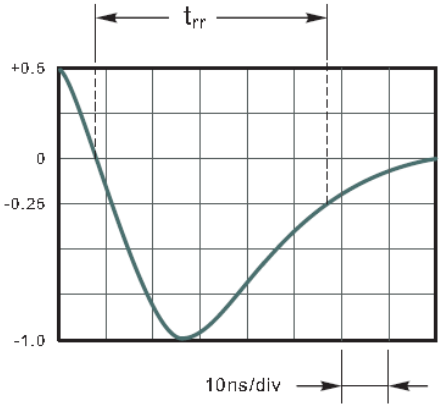
1）Measured at 1 MHz and applied reverse voltage of 4 V D.C 2) Measured with IF = 0.5 A, IR = 1 A, Irr = 0.25 A

3）P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm_2) copper pad areas.

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

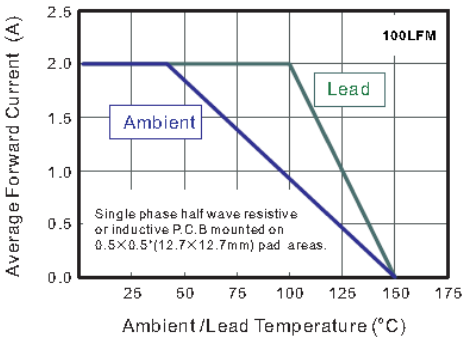


Fig.3 Typical Reverse Characteristics

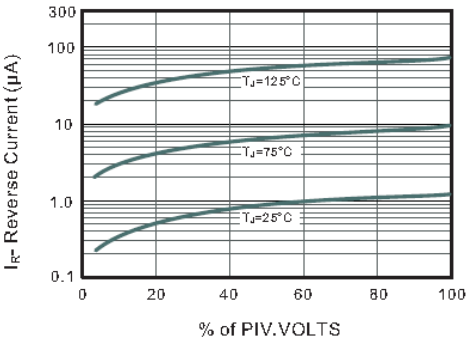


Fig.3 Typical Instaneous Forward Characteristics

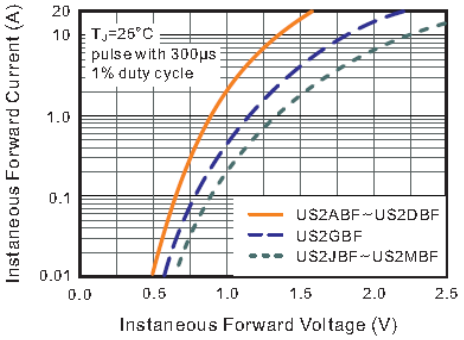
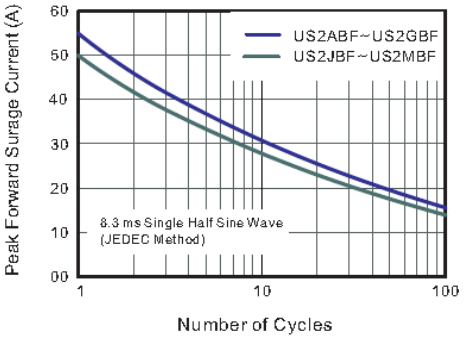
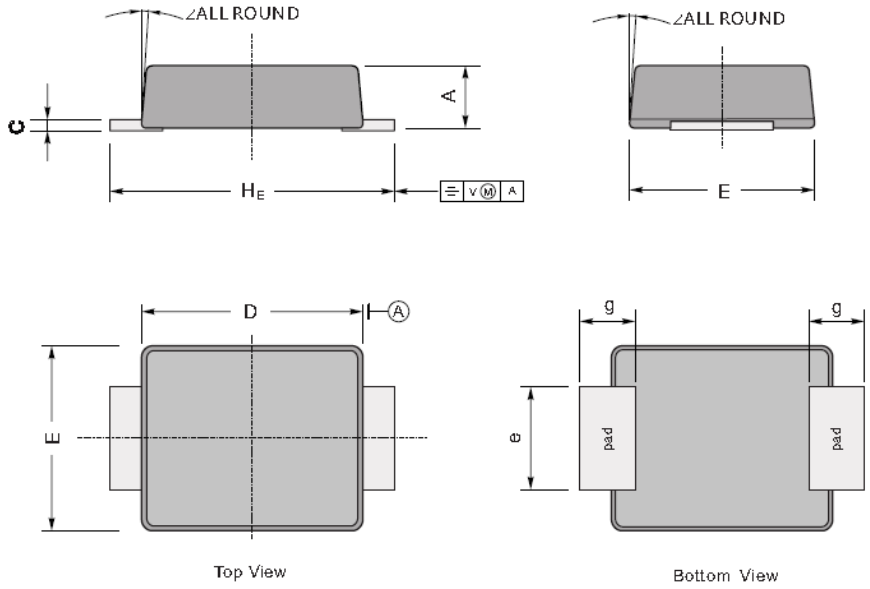


Fig.4 Maximum Non-Repetitive Peak Forward Surage Current



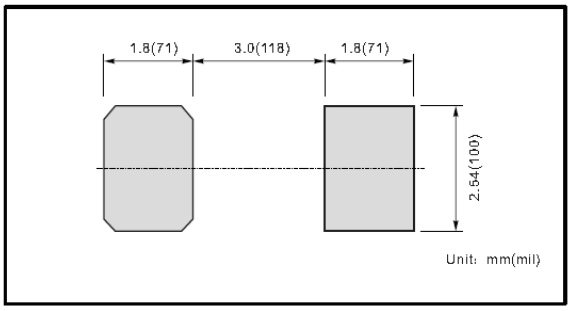
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads SMBF



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

The recommended mounting pad size



Marking

Type number	Marking code
US2ABF	U2AB
US2BBF	U2BB
US2DBF	U2DB
US2GBF	U2GB
US2JBF	U2JB
US2KBF	U2KB
US2MBF	U2MB