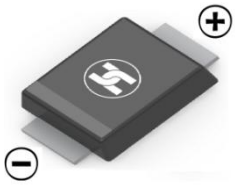
US2ABF - US2MBF

ULTRA FAST RECOVERY RECTIFIER DIODE

FEATURES

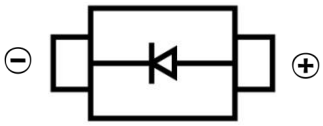
- Surface Mount device
- Low Reverse voltage leakage current
- Glass passivated junction
- High forward surge current capability
- Low forward voltage drop
- Ultra Fast Recovery Time for High Efficiency



SMBF

MECHANICAL DATA

- Case: SMBF
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.057 grams (approximate)



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, derate current by 20%.

Parameter		Symbol	US1ABF	US1BBF	US1DBF	US1GBF	US1JBF	US1KBF	US1MBF	Unit
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_A =75 °C		$I_{F(AV)}$	2.0							A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC)		I_{FSM}	50.0							A
Maximum Instantaneous Forward Voltage at 2 A		V_F	1.0			1.4	1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_A =25 °C T_A=100 °C	I_R	5.0 50.0							μA
Maximum reverse recovery time (NOTE1)		t_{rr}	50				75			nS
Typical Junction Capacitance (NOTE2)		C_J	60.0							pF
Maximum Thermal Resistance (NOTE3)		$R_{\theta JL}$	50.0							°C/W
Operating and Storage Temperature Range		$T_{J, TS}$	-50 to + 150							°C

Note: 1.Reverse recovery condition I_F=0.5A,I_R=1.0A,Irr=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.P.C.B. mounted with 0.2x0.2”(5.0x5.0mm) copper pad areas

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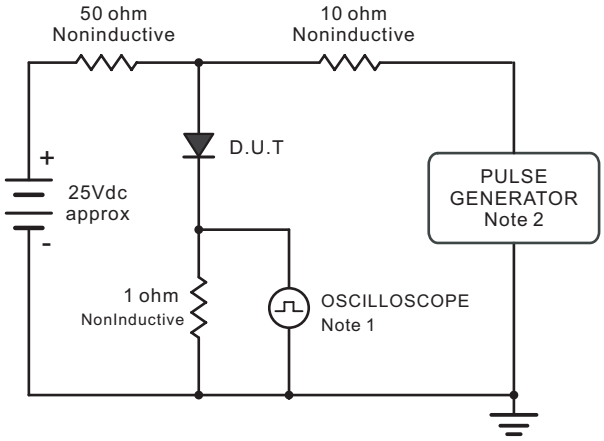
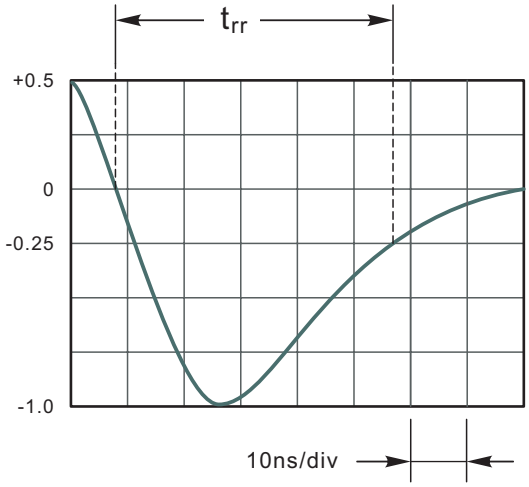
Typical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram





Set time Base for 10ns/div

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

Fig.2 Maximum Average Forward Current Rating

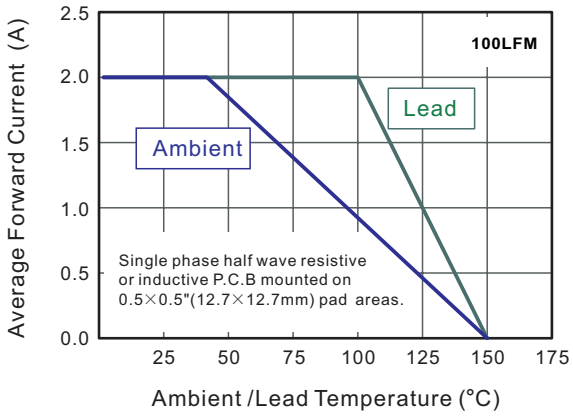


Fig.3 Typical Reverse Characteristics

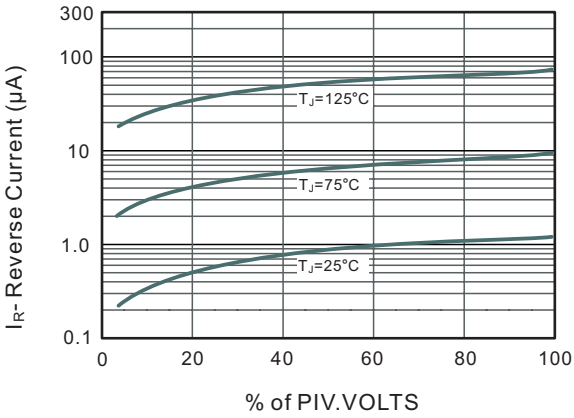


Fig.3 Typical Instaneous Forward Characteristics

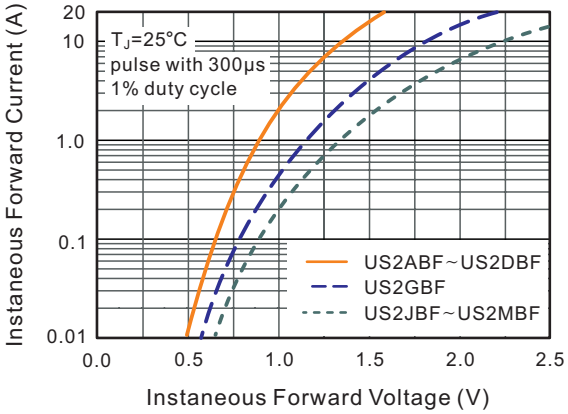
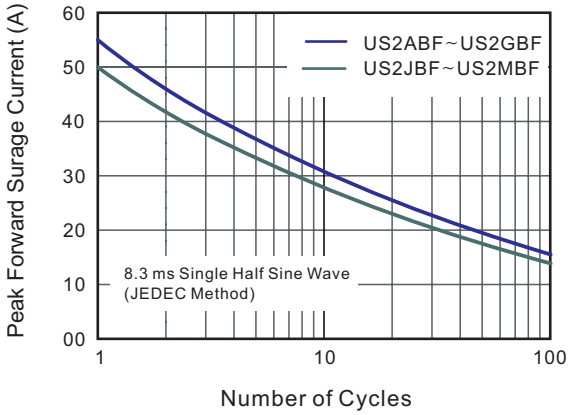
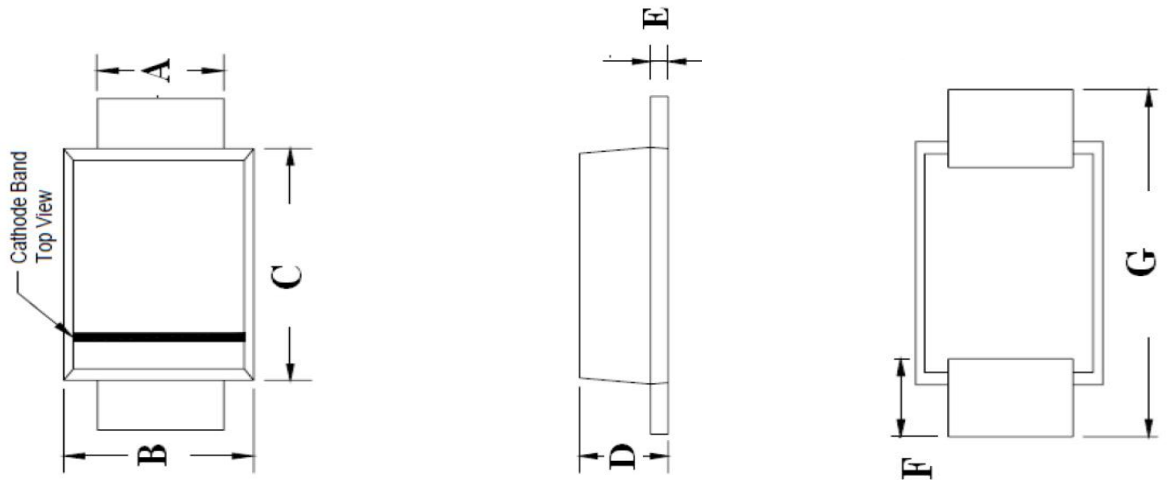


Fig.4 Maximum Non-Repetitive Peak Forward Surage Current



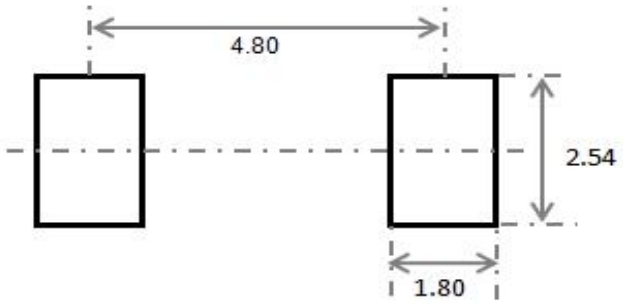
ULTRA FAST RECOVERY RECTIFIER DIODE

SMBF Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.90	2.20	0.075	0.086
B	3.50	3.70	0.094	0.110
C	4.20	4.40	0.165	0.173
D	1.10	1.40	0.043	0.055
E	0.15	0.25	0.006	0.010
F	0.95	1.05	0.038	0.041
G	5.10	5.50	0.200	0.216

SMBF Suggested Pad Layout



Note:

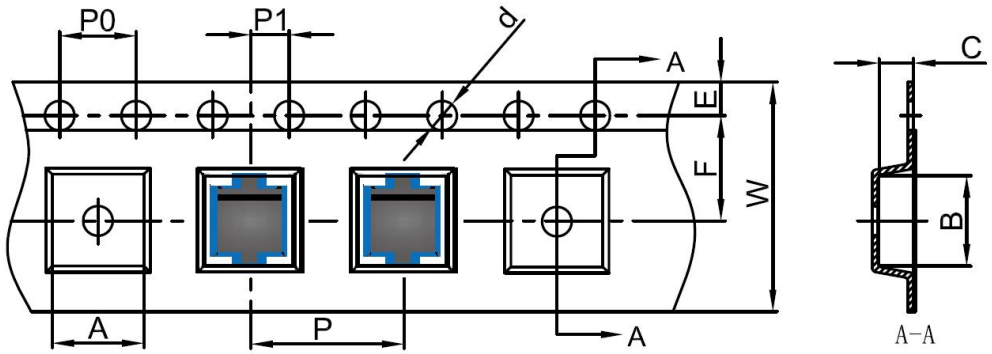
1.Controlling dimension: in millimeters

2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

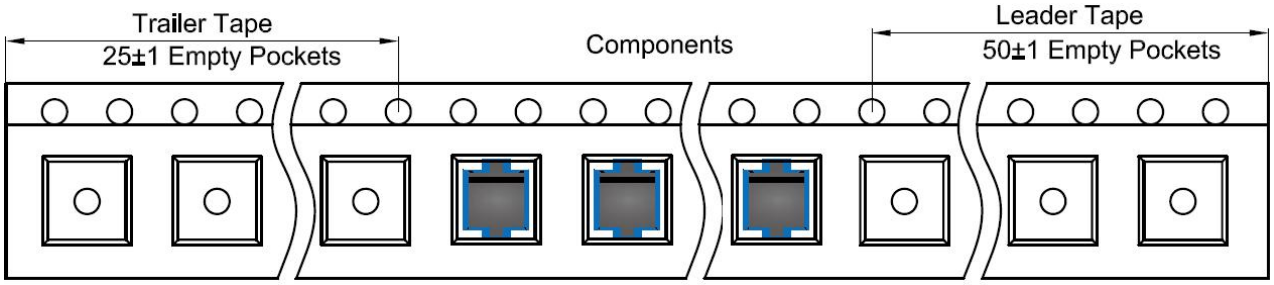
SMBF Tape and Reel

SMBF Embossed Carrier Tape

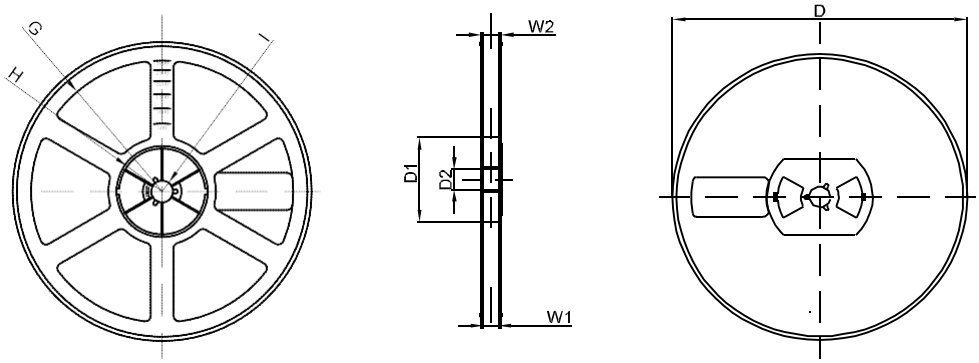


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMBF	3.80	5.65	1.48	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMBF Tape Leader and Trailer



SMBF Reel



	DIMENSIONS ARE IN MILLIMETER							
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13” DIA	Ø330	75.0	13.00	R165	R37.50	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1