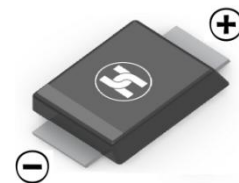


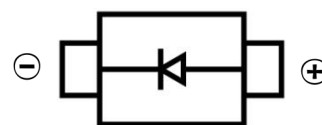
ULTRA FAST RECOVERY RECTIFIER DIODE

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 _{θJL}	50.0							°C/W
Operating and Storage Temperature Range		T _{J, TS}	-50 to + 150							°C

Note: 1.Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$

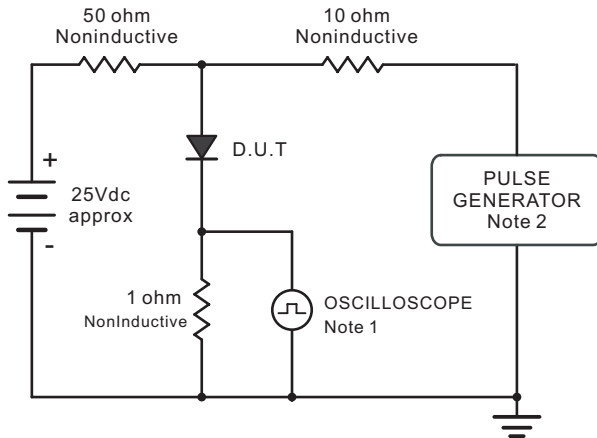
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

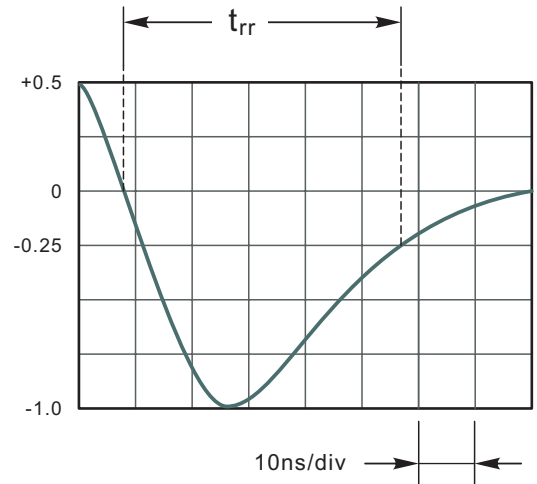
ULTRA FAST RECOVERY RECTIFIER DIODE

Typical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

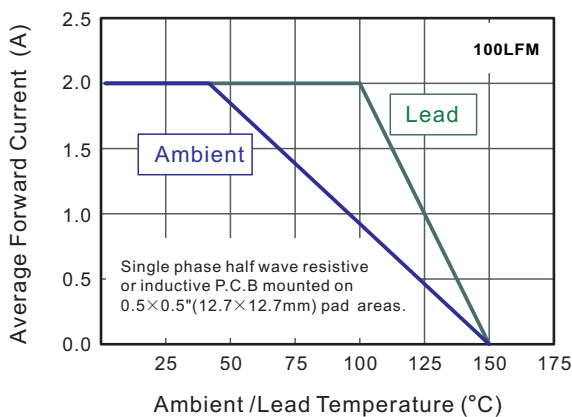


Fig.3 Typical Reverse Characteristics

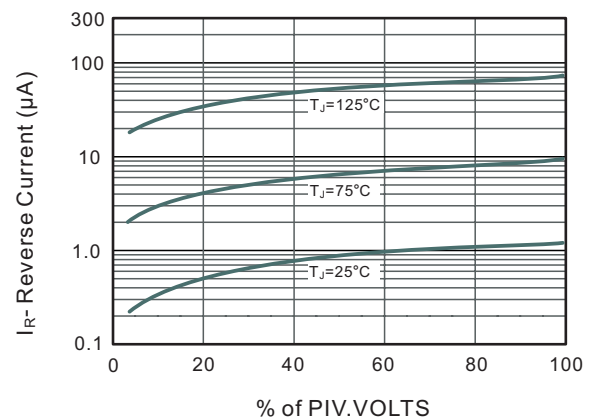


Fig.3 Typical Instantaneous Forward Characteristics

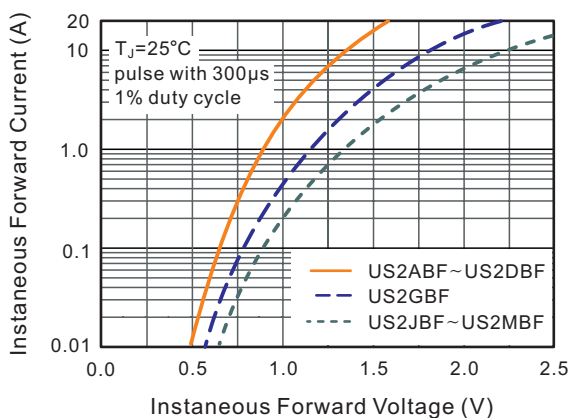
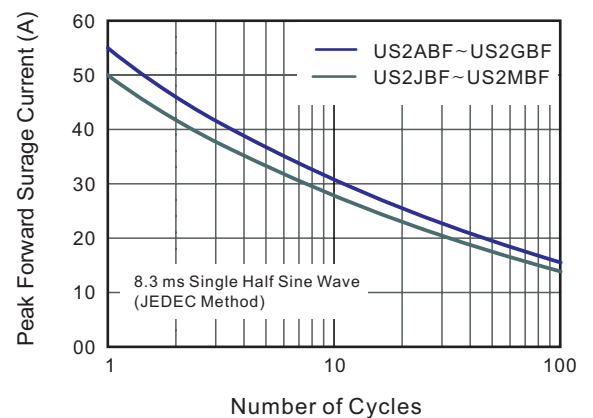
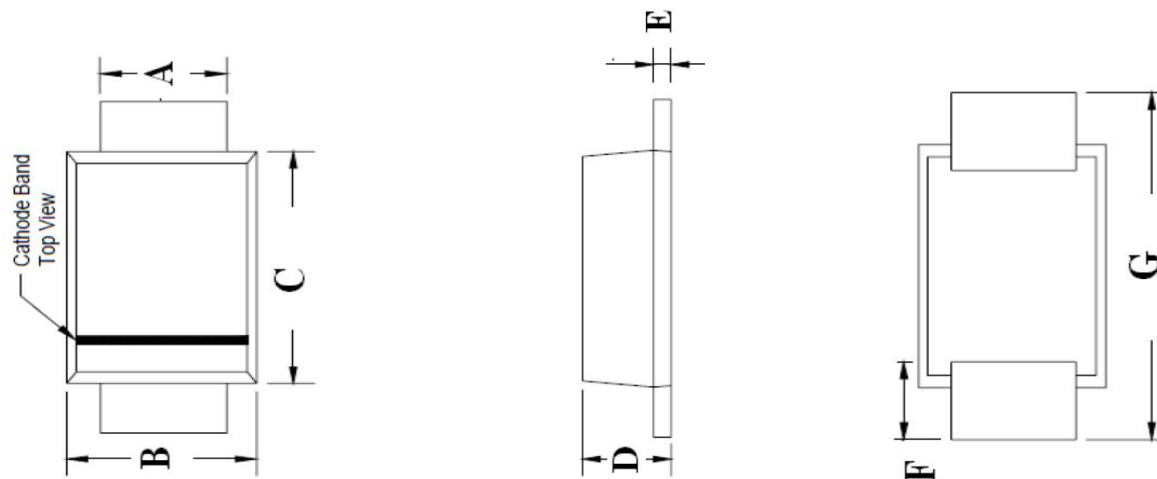


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



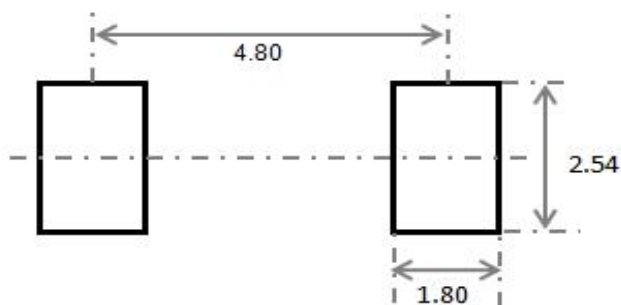
ULTRA FAST RECOVERY RECTIFIER DIODE

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



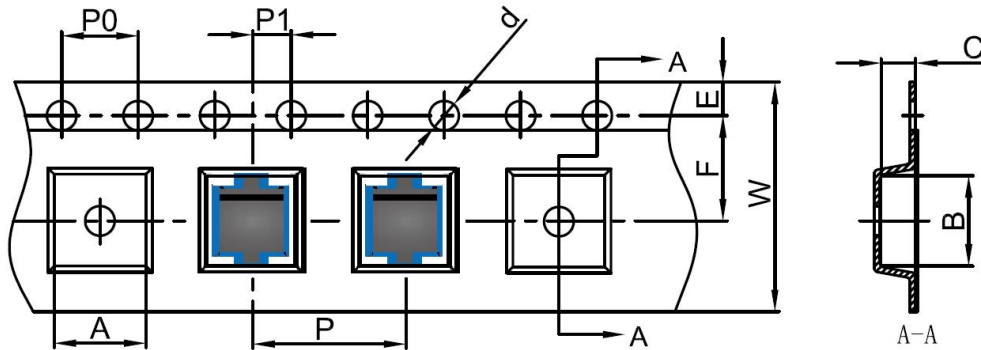
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

ULTRA FAST RECOVERY RECTIFIER DIODE

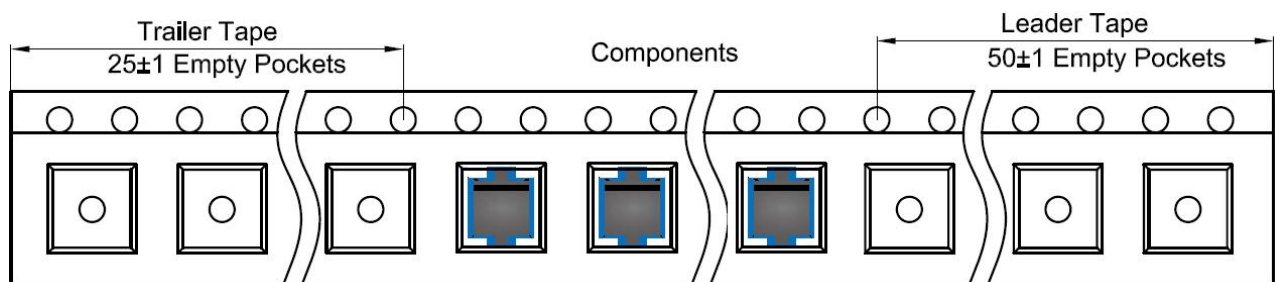
SMBF Tape and Reel

SMBF Embossed Carrier Tape

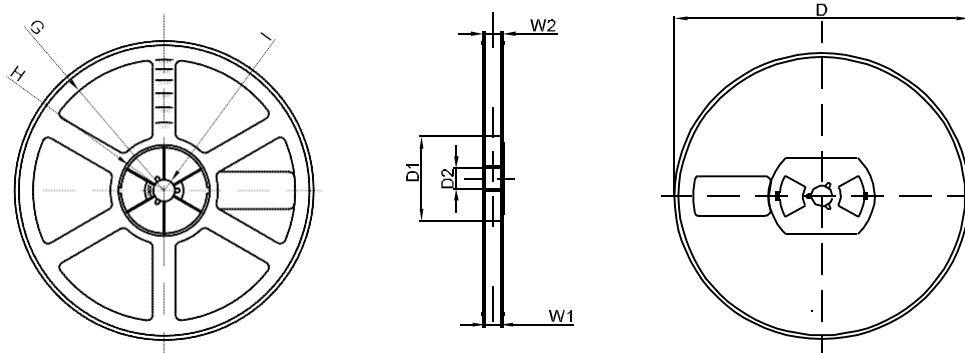


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMBF	3.80	5.65	1.48	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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