US3ABF THRU US3MBF

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Ampere

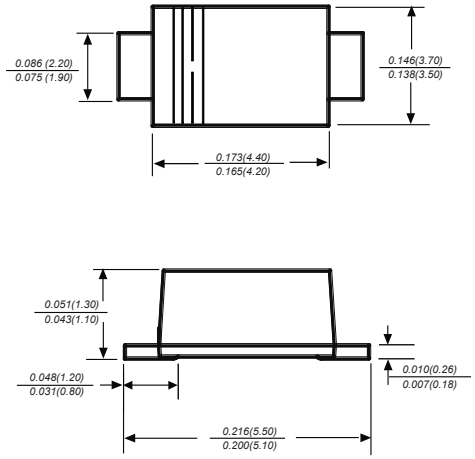
SURFACE MOUNT ULTRA FAST RECTIFIER

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Ultra fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed 250 °C/10 seconds at terminals

SMBF

RoHS COMPLIANT



Dimensions in inches and (millimeters)

Mechanical Data

Case : JEDEC SMBF Molded plastic body
Terminals : Solder plated, solderable per MIL-STD-750,Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.002 ounce, 0.055 grams

Maximum Ratings And Electrical Characteristics

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

Parameter	SYMBOLS	US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF	UNITS
Marking Code		MDD US3ABF	MDD US3BBF	MDD US3DBF	MDD US3GBF	MDD US3JBF	MDD US3KBF	MDD US3MBF	
Maximum repetitive peak reverse voltage	V_{RMM}	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 TL=55℃	$I_{(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed onrated load (JEDEC Method)	I_{FSM}	80							A
Maximum instantaneous forward voltage at 3.0A	V_F	1.0			1.30	1.65			V
Maximum DC reverse current TA=25℃ at rated DC blocking voltage TA=125℃	I_R	5.0 100.0							μA
Maximum reverse recovery time	trr	50				75			ns
Typical thermal resistance	$R_{\theta JA}$	45.0							℃/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150							℃

Note:1.Reverse recovery condition IF=0.5A,IR=1.0A,Irr=0.25A
2.P.C.B. mounted with 2.0x2.0"(5.0x5.0cm) copper pad areas.
3.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
4.The typical data above is for reference only.

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Ratings And Characteristic Curves

Fig.1 Maximum Average Forward Current Rating

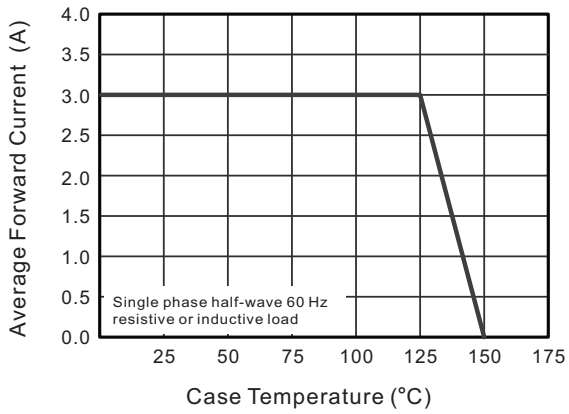


Fig.2 Typical Reverse Characteristics

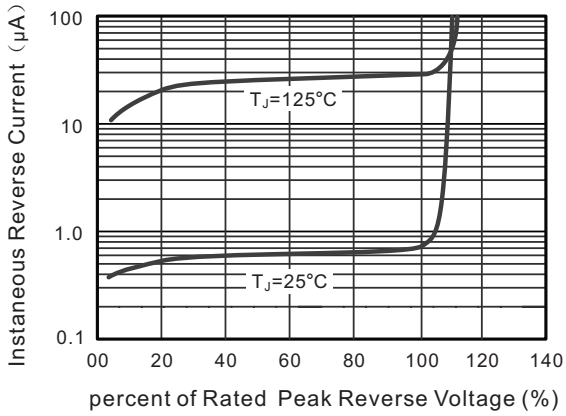


Fig.3 Typical Forward Characteristics

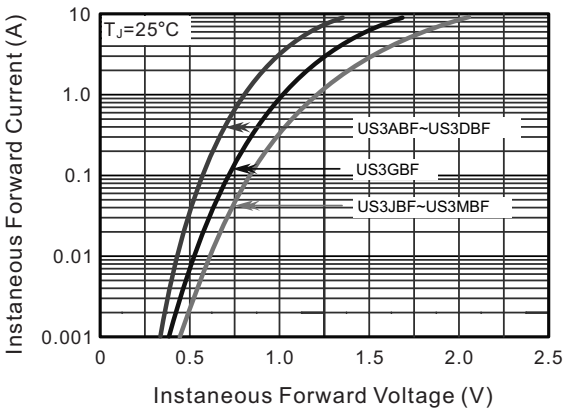
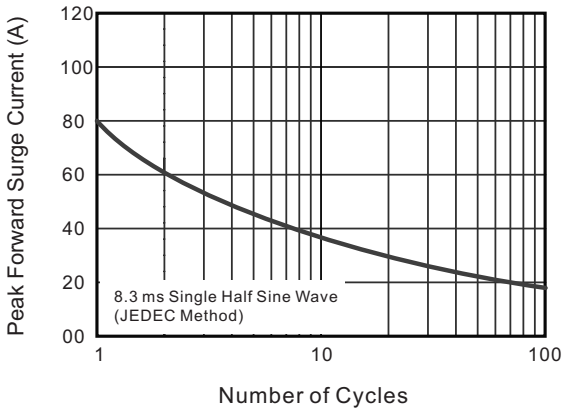


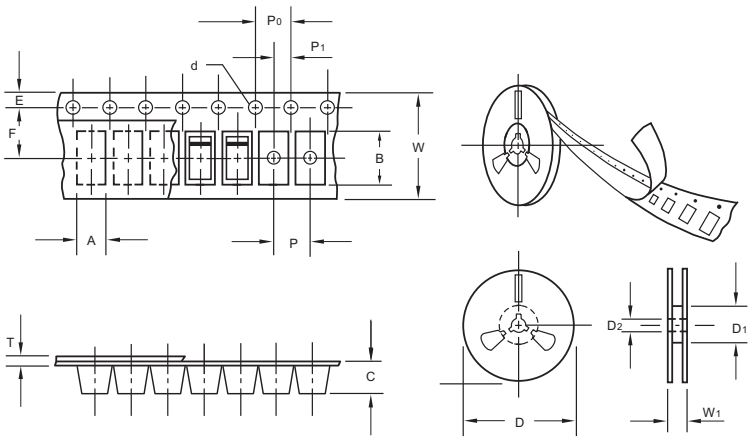
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.

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Packing information



unit:mm

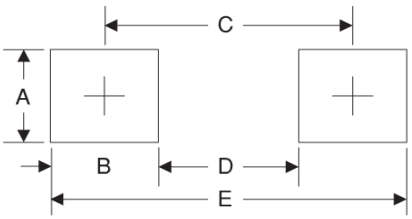
Item	Symbol	Tolerance	SMBF
Carrier width	A	0.1	3.81
Carrier length	B	0.1	5.61
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1 50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D_1	min	50.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	12.00
Reel width	W_1	1.0	12.30

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (mm)	BOX (pcs)	INNER BOX (mm)	REEL DIA, (mm)	CARTON SIZE (mm)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMBF	13"	5,000	4.0	10,000	190*190*41	330	365*365*360	80,000	14.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	2.54	0.100
B	1.8	0.071
C	4.8	0.189
D	3.0	0.118
E	6.6	0.260

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