



# S3ABF THRU S3MBF

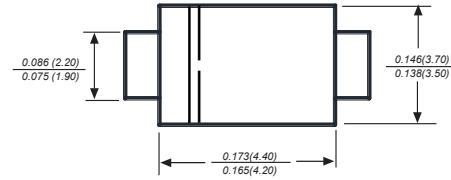
Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Ampere

## SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIER

### Features

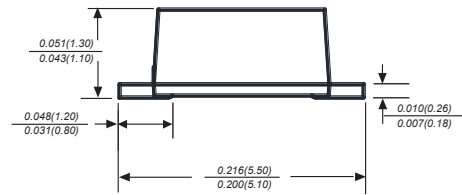
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Easy to pick and place
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

SMBF



### Mechanical Data

Case: JEDEC  $\dot{U}T B\dot{O}$  molded plastic body  
 Terminals: Solderable per MIL-STD-750, Method 2026A  
 Polarity: Polarity symbol marking on body  
 Mounting Position: Any  
 Weight: 0.002 ounce, 0.057 grams



Dimensions in inches and (millimeters)

### 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	S3ABF	S3BBF	S3DBF	S3GBF	S3JBF	S3KBF	S3MBF	UNITS
		MDD S3AB	MDD S3BB	MDD S3DB	MDD S3GB	MDD S3JB	MDD S3KB	MDD S3MB	
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 $T_L=115^\circ C$	$I_{(AV)}$	3							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	80							A
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.1							V
Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=125^\circ C$	$I_R$	5 150							$\mu A$
Typical junction capacitance (NOTE 1)	$C_J$	35							pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$ $R_{\theta JC}$	45 15							$^\circ C/W$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ C$

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. P.C.B. mounted with 2.0"x2.0" (5.0x5.0cm) copper pad areas



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## Typical Characteristics

Fig.1 Forward Current Derating Curve

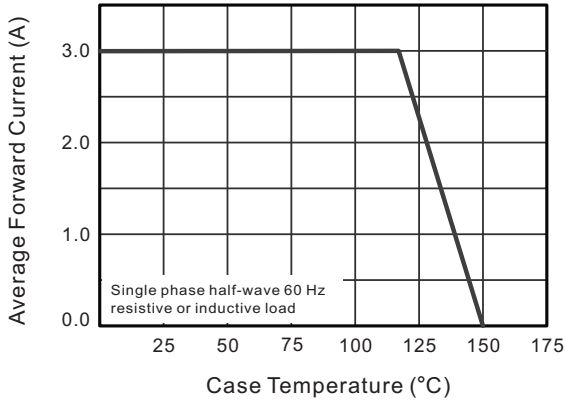


Fig.2 Typical Reverse Characteristics

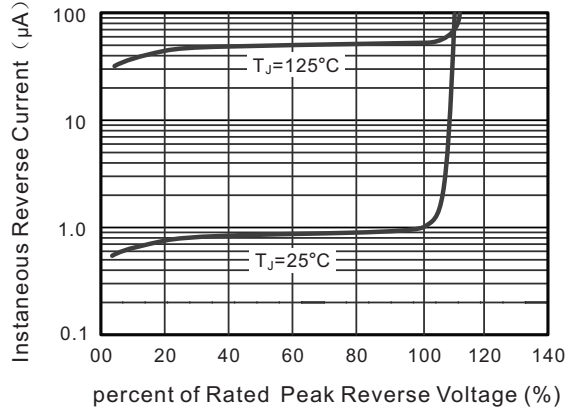


Fig.3 Typical Forward Characteristic

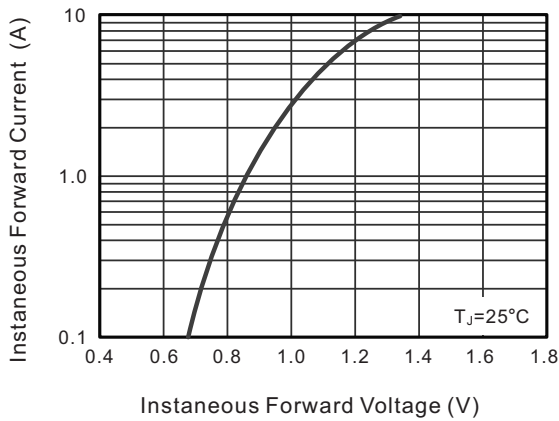


Fig.4 Typical Junction Capacitance

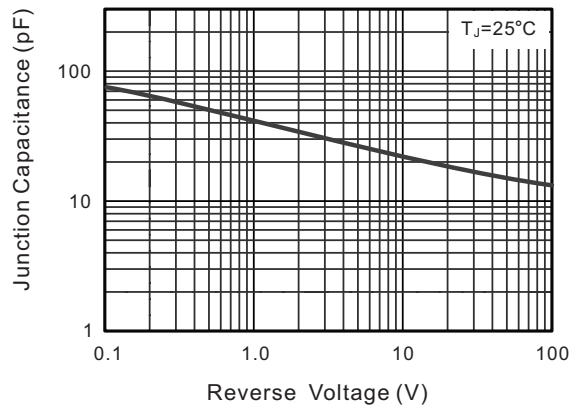
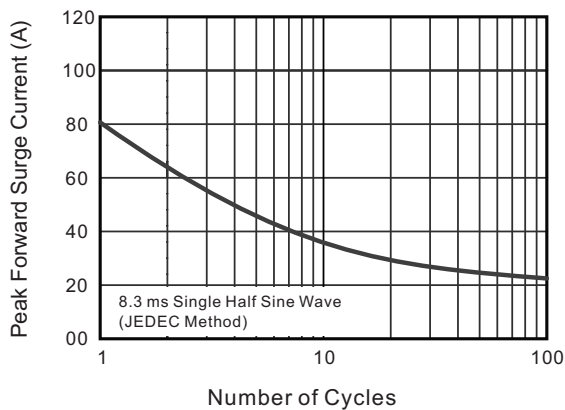


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



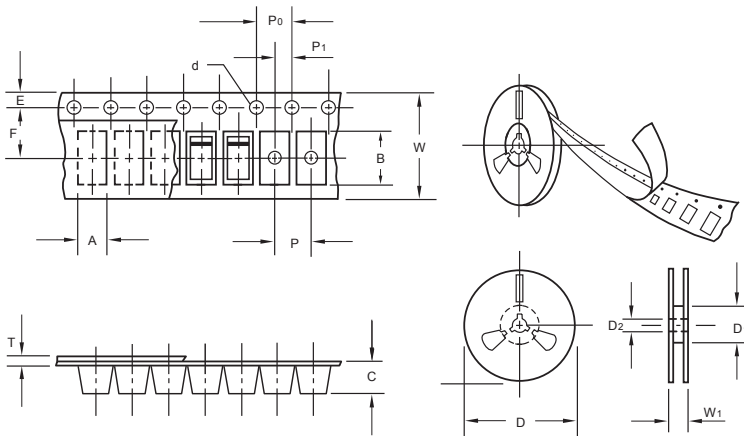
The curve above is for reference only.



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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 <sub>1</sub>	min	50.00
Feed hole diameter	D <sub>2</sub>	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 <sub>0</sub>	0.1	4.00
Embossment center	P <sub>1</sub>	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	12.00
Reel width	W <sub>1</sub>	1.0	12.30

Note: Devices are packed in accordance with EIA standard 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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