

3.0Amp Standard Surface Mount Rectifiers

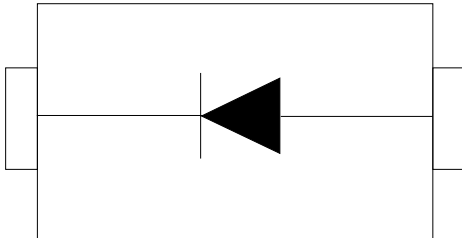
Description

General Application Standard Surface Mounted rectifier, encapsulated in a SMBF Surface-Mounted Device (SMD) plastic package.

Features

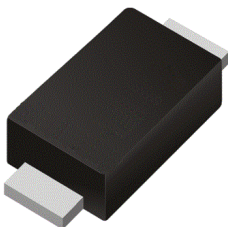
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Idea for printed circuit board
- Glass passivated Junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260℃/10 seconds at terminals

Dimensions and Pin Configuration



Graphic symbol

Package



SMBF (Top View)

Mechanical Characteristics

- Case: SMBF
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbol marking on body
- Case Material: “Green” Molding Compound

Applications

- For use in high frequency rectification of power Supplies, inverters, converters, and freewheeling Diodes for consumer and telecommunication

Ordering Information

Part Number	Shipping	Reel Size
S3ABF	3000/Tape & Reel	11 inch
S3BBF	3000/Tape & Reel	11 inch
S3DBF	3000/Tape & Reel	11 inch
S3GBF	3000/Tape & Reel	11 inch
S3JBF	3000/Tape & Reel	11 inch
S3KBF	3000/Tape & Reel	11 inch
S3MBF	3000/Tape & Reel	11 inch

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

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%

Items	Symbol	S3ABF	S3BBF	S3DBF	S3GBF	S3JBF	S3KBF	S3MBF	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 $T_L=100^{\circ}\text{C}$	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	100.0							A
Typical thermal resistance	R_{QJA}	78.0							$^{\circ}\text{C}/\text{W}$
Operating junction temperature range	T_J	$-55 \sim +150$							$^{\circ}\text{C}$
Storage temperature range	T_{STG}	$-55 \sim +150$							$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Items	Test conditions	Symbol	S3ABF	S3BBF	S3DBF	S3GBF	S3JBF	S3KBF	S3MBF	UNIT
Maximum instantaneous forward voltage	I _F =3.0A	V _F	1.0							V
Maximum DC reverse current	T _A =25℃	I _R	2.0							uA
at rated DC blocking voltage	T _A =125℃		200							
Typical junction capacitance(Note1)		C _J	60							pF

Note:

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

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

FIG.1-DERATING CURVE OUTPUT RECTIFIED CURRENT

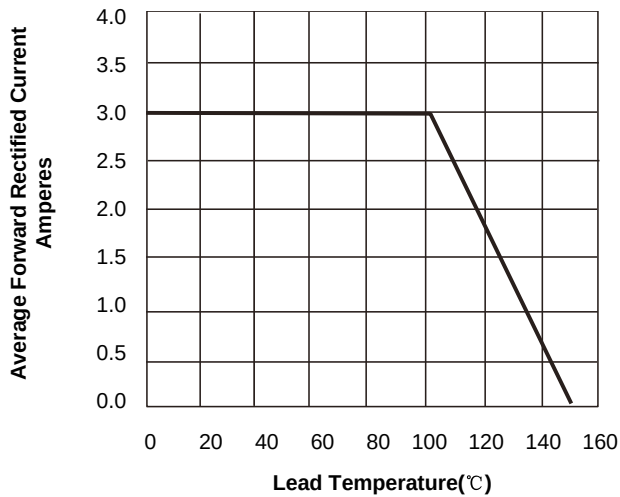


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD

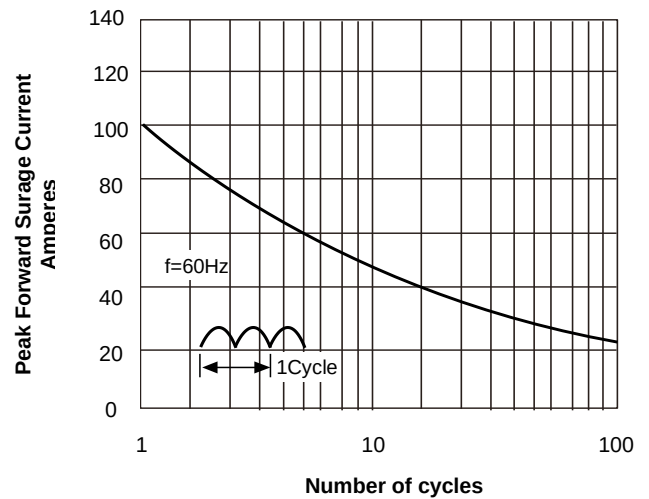


FIG.3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

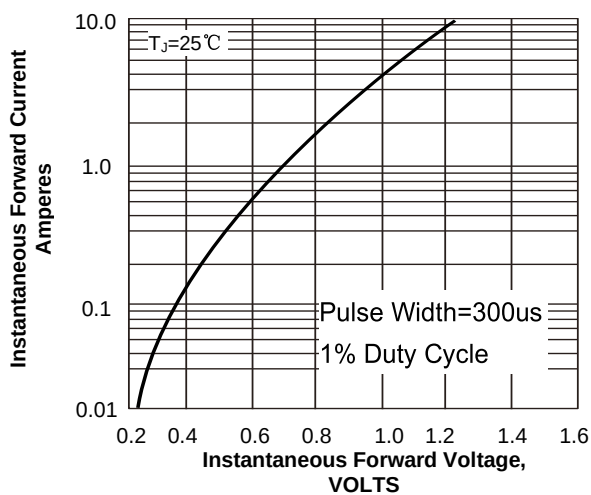
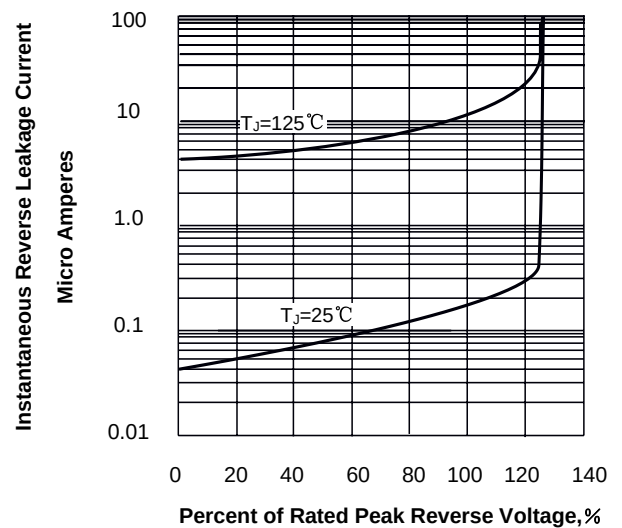
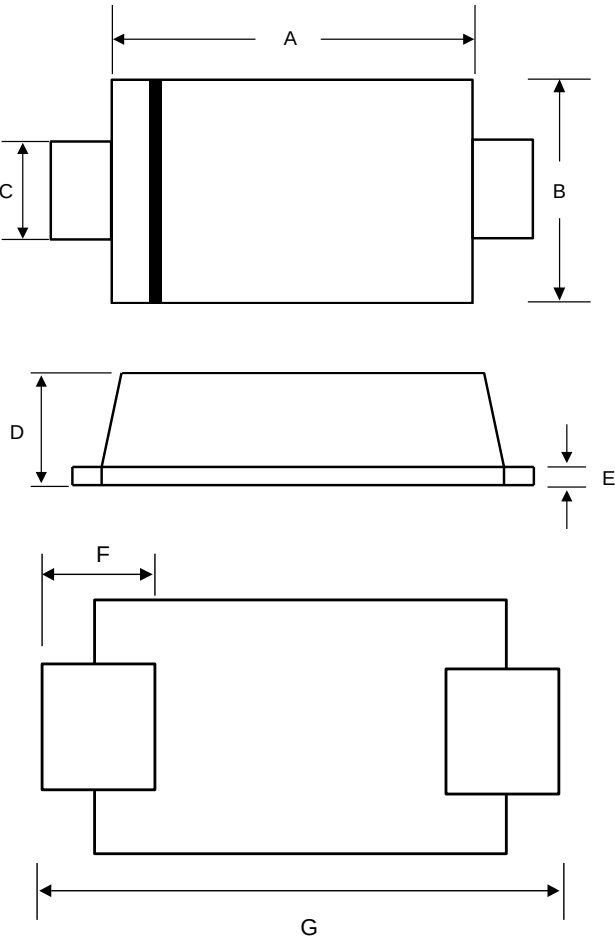


FIG.4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

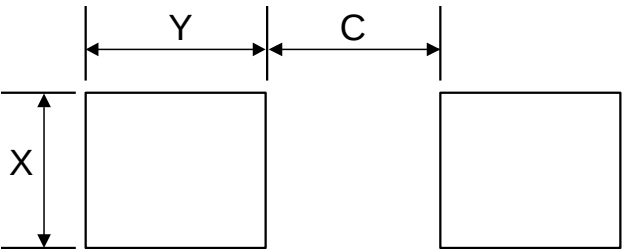


SMBF Package Outline Drawing



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	4.15	4.45	0.163	0.175
B	3.45	3.75	0.135	0.147
C	1.90	2.10	0.074	0.083
D	1.05	1.55	0.041	0.061
E	0.15	0.25	0.006	0.010
F	0.70	1.35	0.028	0.053
G	5.10	5.50	0.200	0.217

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	2.30	0.091
Y	2.00	0.078
C	2.10	0.083

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