

Features

- Low profile package
- Ideal for automated placement
- Glass passivated pallet chip junction
- Super fast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability

Reverse Voltage

50-1000 V

Forward Current

3 Ampere

SMBF

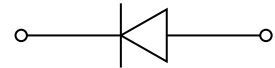
Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, automotive, and telecommunication.



Mechanical Data

- Case: SMBF
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end



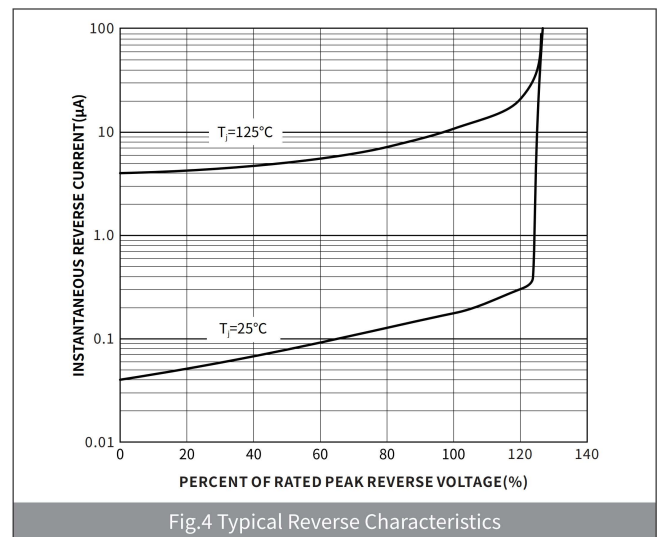
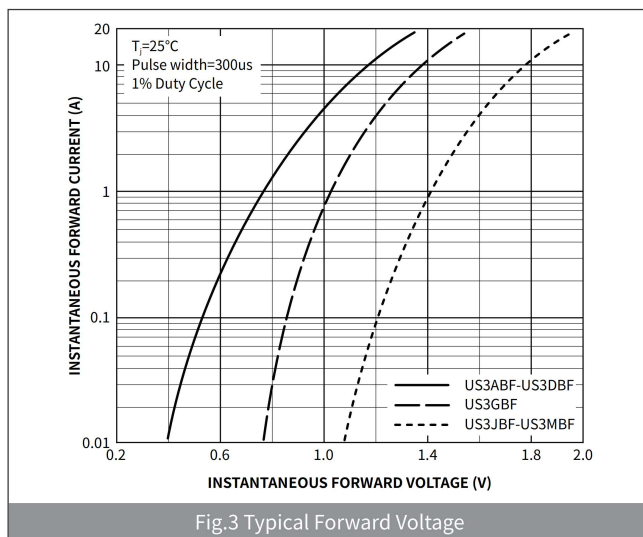
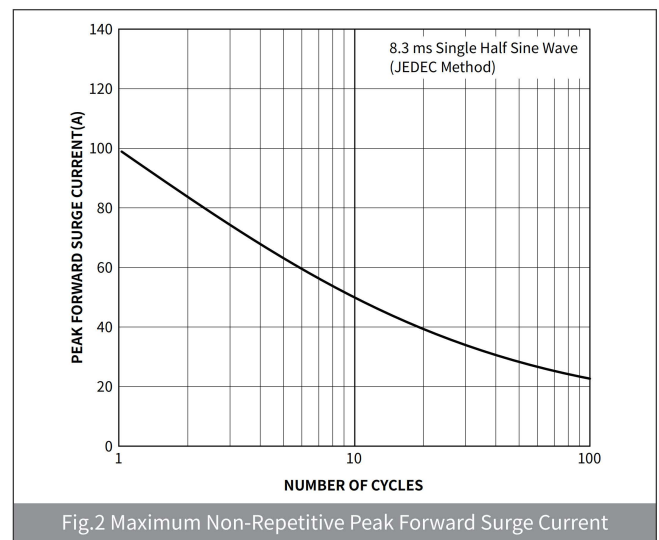
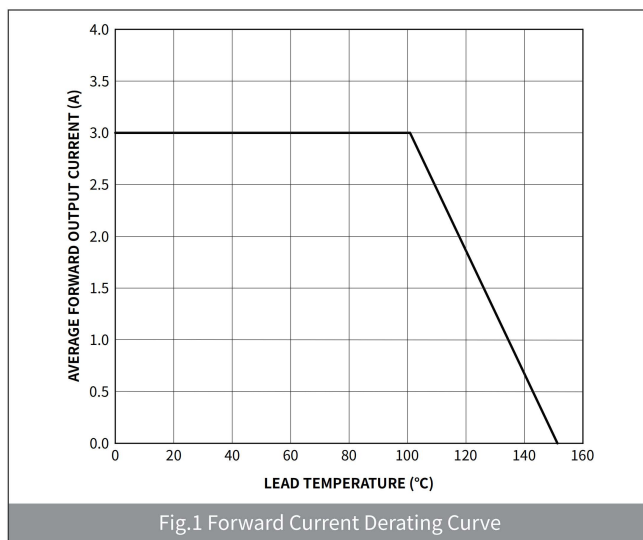
Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF
Device marking code			US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Maximum Average Forward Rectified Current @ 60Hz sinewave, Resistance load, TL (Fig.1)	$I_{F(AV)}$	A	3.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	100						
Storage temperature	T_{stg}	℃	-55 ~ +150						
Junction temperature	T_j	℃	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}$	℃ /W	75						
	$R_{\theta J-L}$	℃ /W	15						

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF
Maximum instantaneous forward voltage	I _F =3.0A	V _F	V	1.0			1.4	1.7		
Maximum reverse recovery time	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	T _{rr}	ns	50				75		
Maximum DC reverse current at rated DC blocking voltage	V _R =V _{DC} , T _A =25°C	I _{R1}	μA	2.0						
	V _R =V _{DC} , T _A =125°C	I _{R2}		200						
Typical junction capacitance	4.0V DC, 1MHz	C _J	pF	58						

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

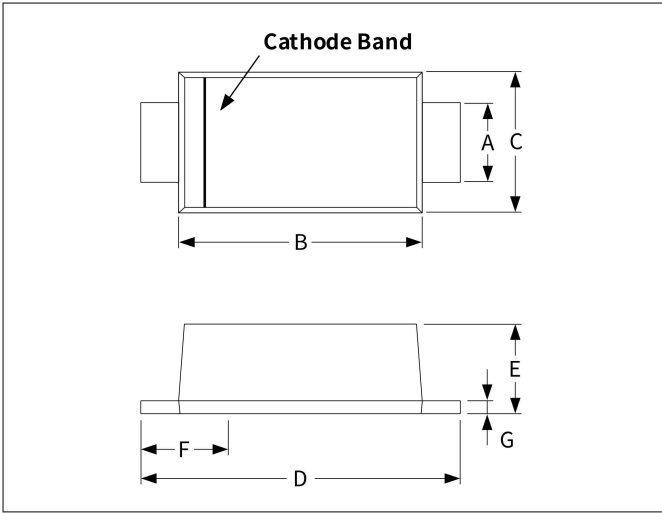


Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMBF	R2	0.065	3000	6000	48000	11"
SMBF	R3	0.065	5000	10000	80000	13"

Package Outline Dimensions (SMBF)

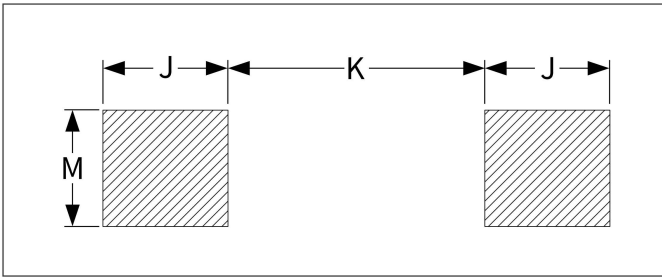
Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.90	2.10	0.074	0.083
B	4.15	4.45	0.163	0.175
C	3.40	3.80	0.133	0.150
D	5.10	5.60	0.200	0.220
E	1.05	1.55	0.041	0.061
F	0.70	1.35	0.027	0.053
G	0.15	0.25	0.006	0.010



The diagram shows two views of the SMBF package. The top view is a rectangle with dimensions B (width) and C (height). A vertical line on the left side is labeled 'Cathode Band'. The bottom view is a trapezoid with dimensions D (width), E (height), F (width of the base), and G (height of the base). Dimension A is the height of the package from the base to the top surface.

Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	2.20	-	0.086	-
J	1.90	-	0.075	-
K	-	2.40	-	0.094



The diagram shows a suggested pad layout for the SMBF package. It consists of two rectangular pads. The width of each pad is labeled J, and the height is labeled M. The distance between the centers of the two pads is labeled K.