

# OM SENI

## SMBF Surface Mount High Efficient Rectifier

### Features

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

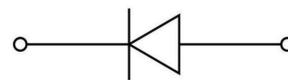
### Applications

For use in fast switching rectification of power supplies, inverters, converters, and free wheeling diodes for consumer, 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

### Function Diagram



## US3ABF THRU US3MBF

Reverse Voltage

50-1000 V

Forward Current

3 Ampere



SMBF

### Maximum Ratings (Ta=25°C Unless otherwise specified)

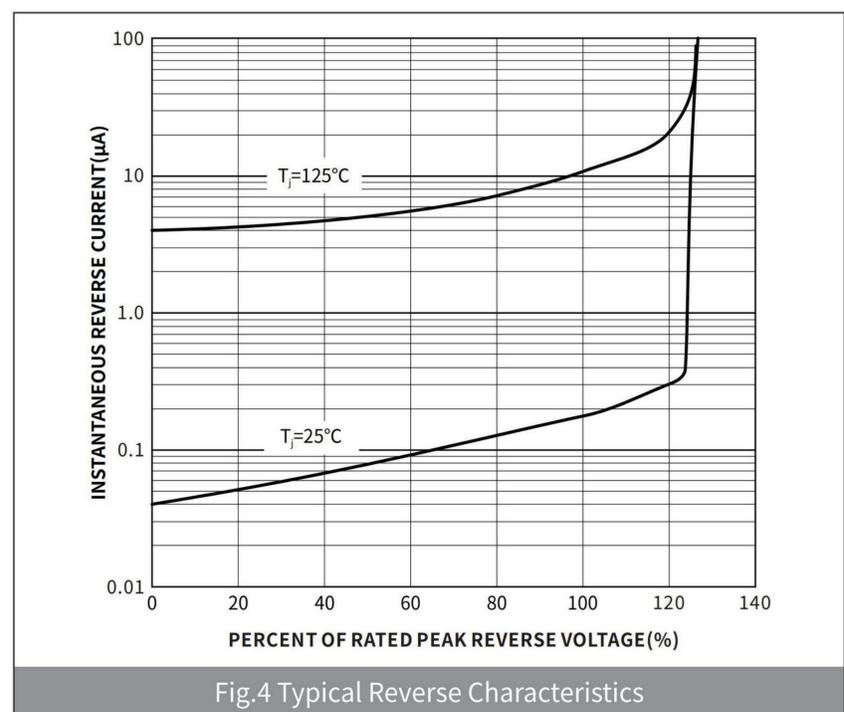
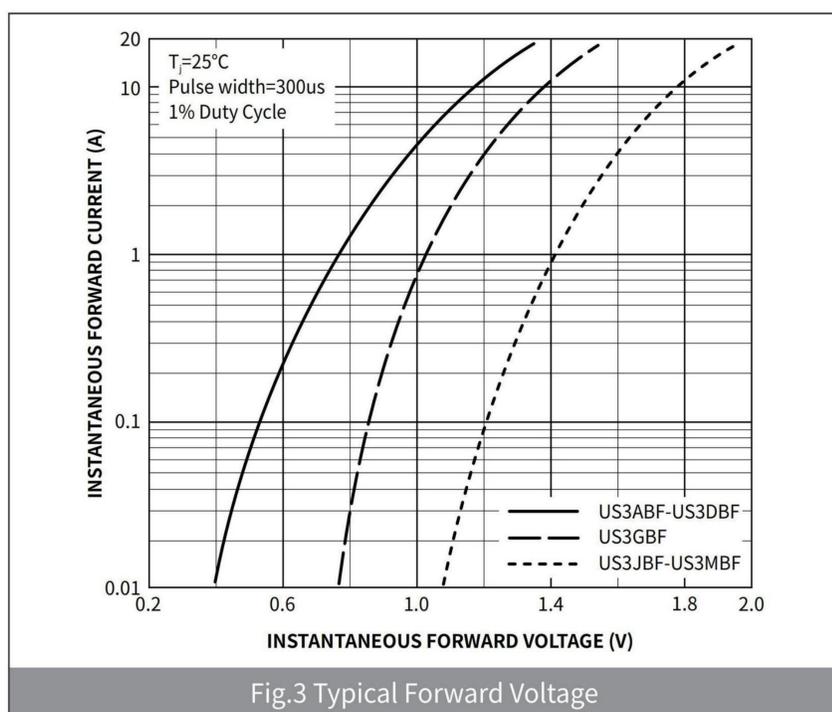
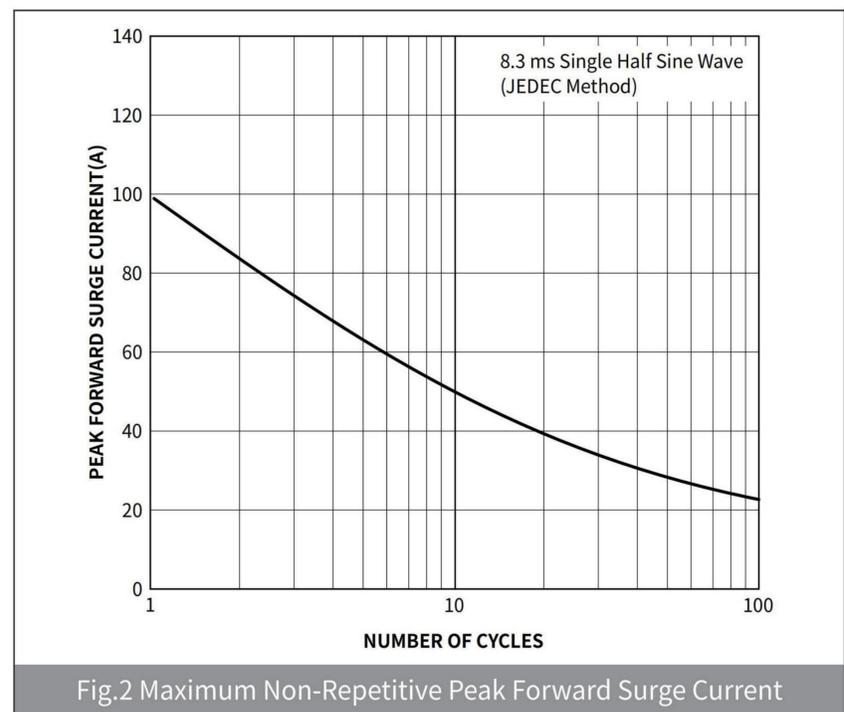
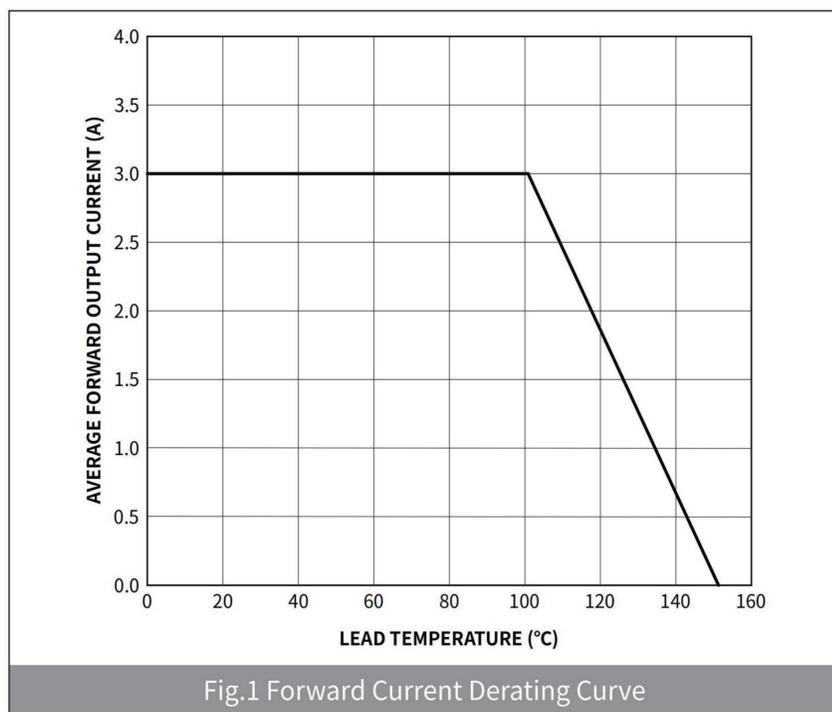
PARAMETER	SYMBOL	UNIT	US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF
Device marking code			US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	$V_{RMS}$	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	$V_{DC}$	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	$T_{stg}$	°C	-55 ~ +150						
Junction temperature	$T_j$	°C	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	75						
	$R_{\theta J-L}$	°C /W	15						

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## 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	$V_R=V_{DC}, T_A=25^\circ C$	$I_{R1}$	$\mu A$	2.0						
	$V_R=V_{DC}, T_A=125^\circ C$	$I_{R2}$		200						
Typical junction capacitance	4.0V DC, 1MHz	$C_J$	pF	58						

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



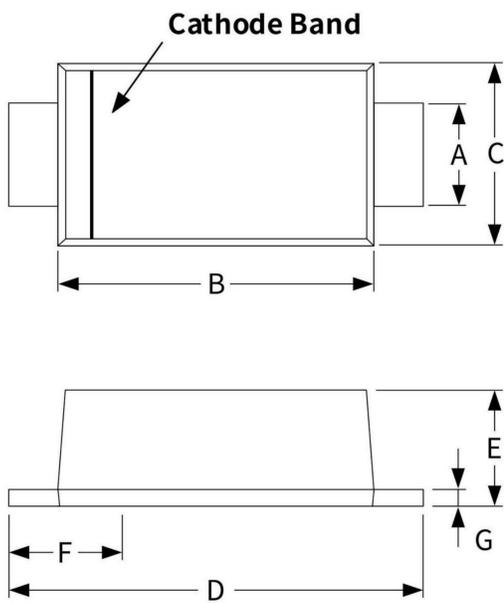
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## Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMBF	R2	0.065	3000	6000	30000	11"
SMBF	R3	0.065	5000	10000	50000	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



## 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

