

# OM SENI

## SMA Surface Mount High Efficient Rectifier US1A THRU US1M

### 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

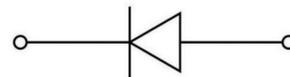
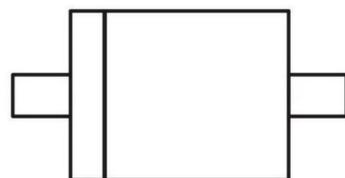
### Applications

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

### Mechanical Data

- Case: DO-214AC(SMA)  
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



**Reverse Voltage**  
50-1000 V  
**Forward Current**  
1 Ampere



**SMA**

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

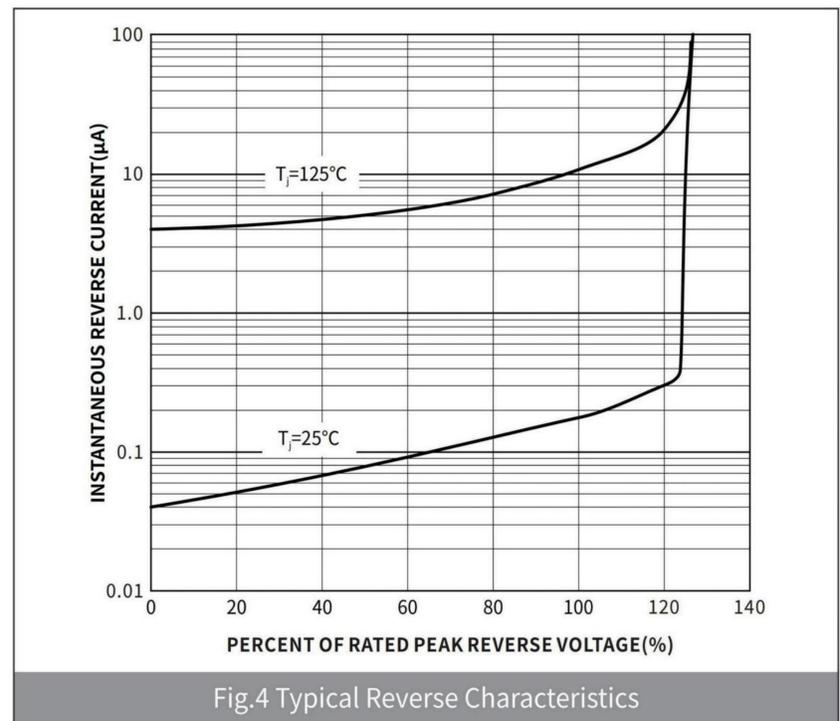
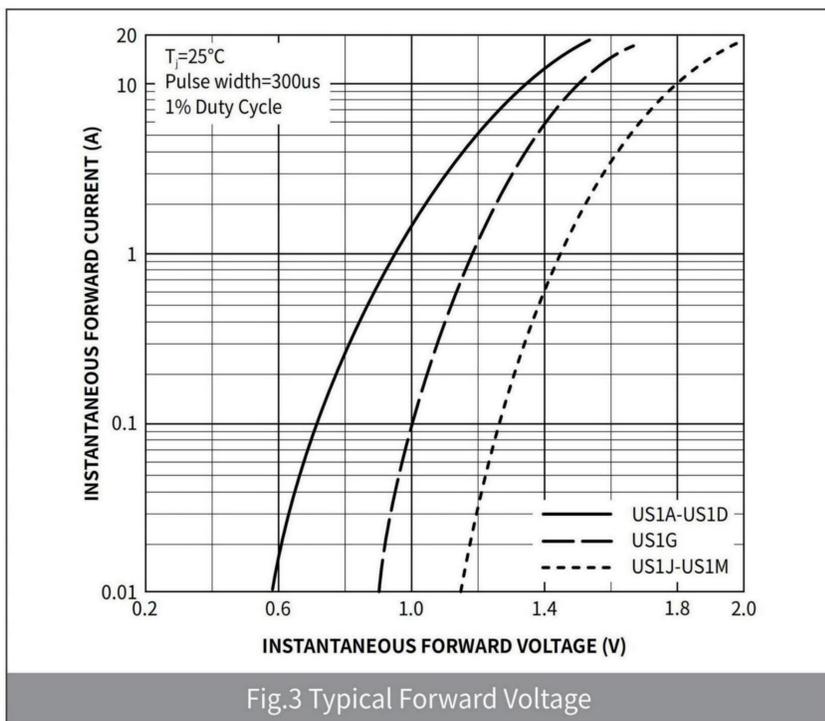
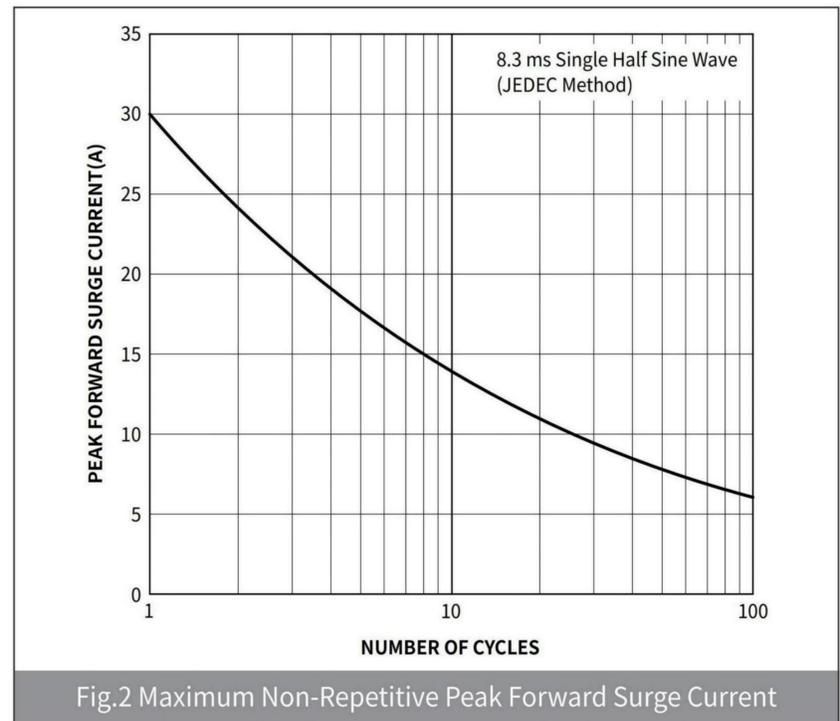
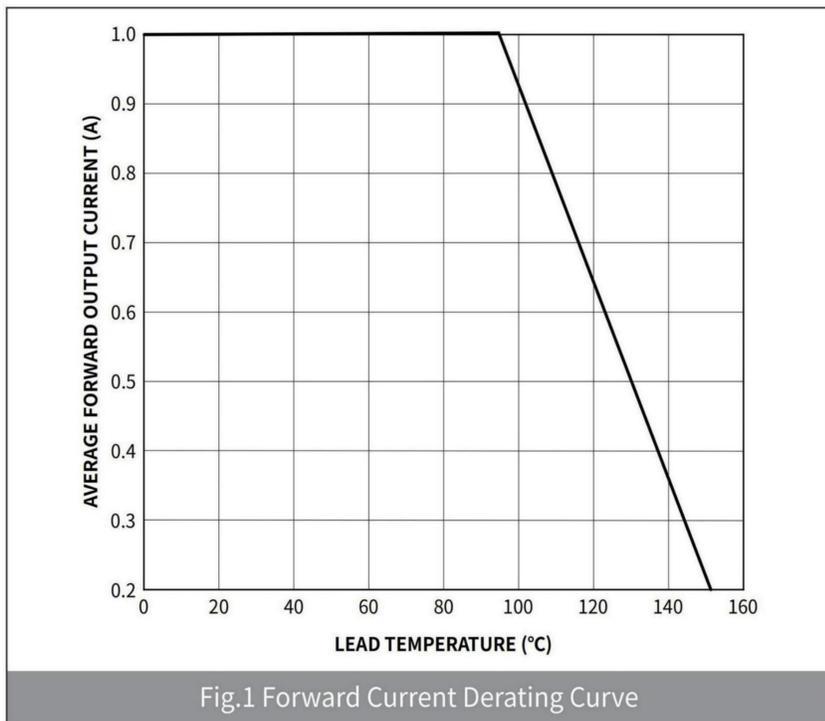
PARAMETER	SYMBOL	UNIT	US1A	US1B	US1D	US1G	US1J	US1K	US1M
Device marking code			US1A	US1B	US1D	US1G	US1J	US1K	US1M
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	$V_{RMS}$	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	$V_{DC}$	V	50	100	200	400	600	800	1000
Maximum Average Forward Rectified Current @ 60Hz sinewave, Resistance load, TL (Fig.1)	$I_{F(AV)}$	A	1.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	$I_{FSM}$	A	30.0						
Storage temperature	$T_{stg}$	°C	-55 ~+150						
Junction temperature	$T_j$	°C	-55 ~+150						
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	80						
	$R_{\theta J-L}$	°C /W	30						

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	US1A	US1B	US1D	US1G	US1J	US1K	US1M	
Maximum instantaneous forward voltage	$I_F=1.0A$	$V_F$	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	$V_R=V_{DC}, T_A=25^\circ C$	$I_{R1}$	$\mu A$	5.0							
	$V_R=V_{DC}, T_A=100^\circ C$	$I_{R2}$		500							
Typical junction capacitance	4.0V DC, 1MHz	$C_J$	pF	20							

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



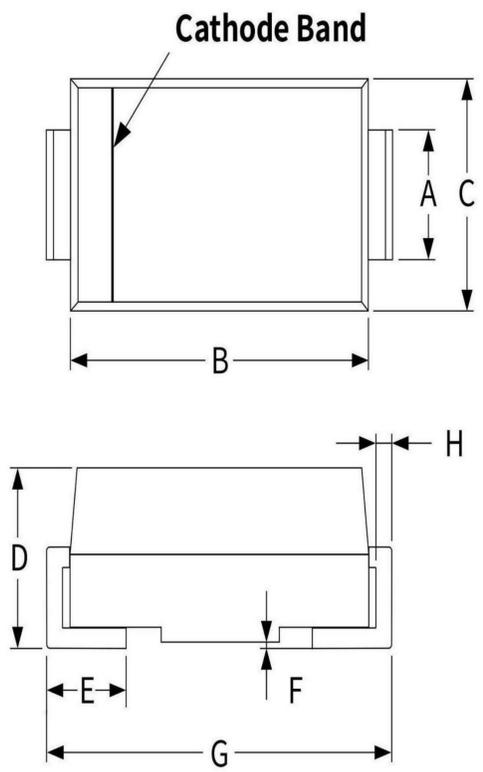
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## Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMA	R2	0.07	5000	10000	50000	11"
SMA	R3	0.07	7500	15000	75000	13"

## Package Outline Dimensions (SMA/DO-214AC)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.25	1.65	0.049	0.065
B	3.95	4.65	0.156	0.183
C	2.35	2.85	0.093	0.112
D	1.98	2.41	0.078	0.095
E	0.76	1.52	0.030	0.060
F	-	0.203	-	0.008
G	4.70	5.30	0.185	0.209
H	0.15	0.31	0.006	0.012



## Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	1.70	-	0.067	-
J	2.10	-	0.082	-
K	-	2.30	-	0.090

