

OM SENI

SMA Surface Mount Fast Recovery Rectifier ES1A THRU ES1M

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
1 Ampere

Applications

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

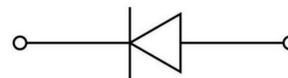
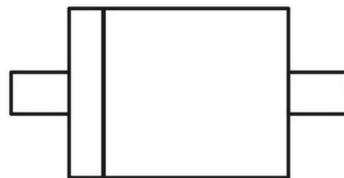
Mechanical Data

- 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



SMA

Function Diagram



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

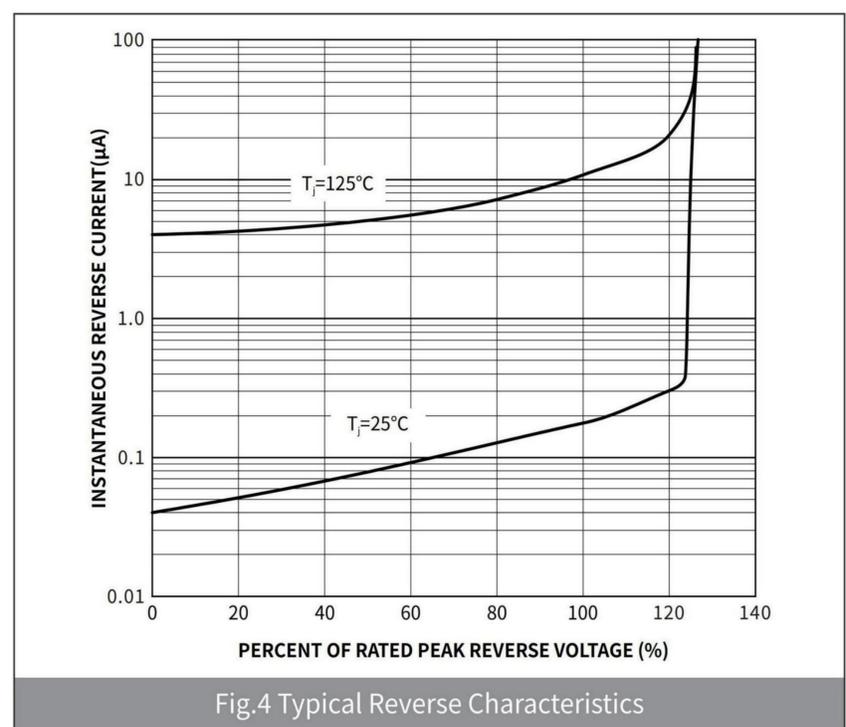
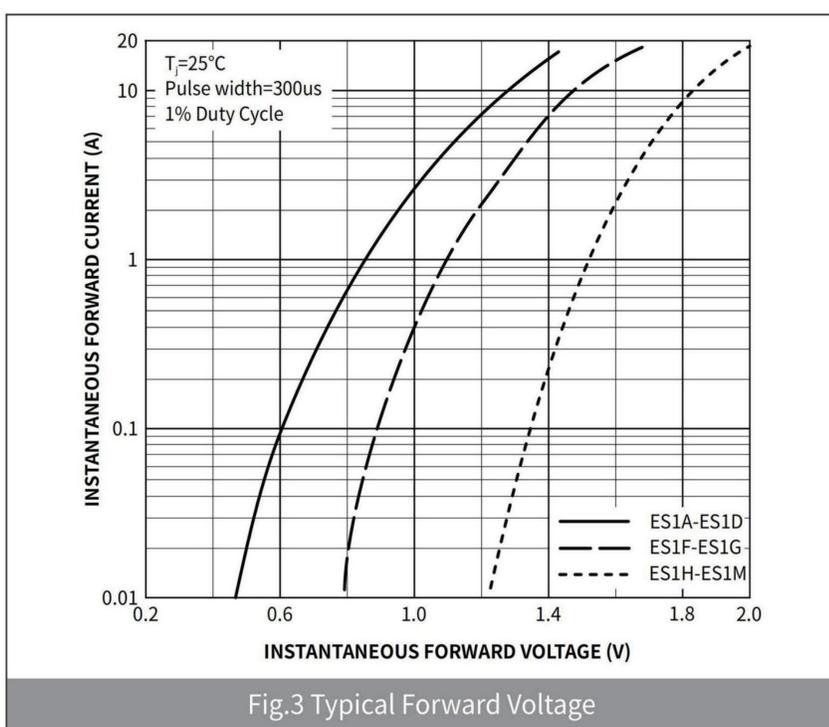
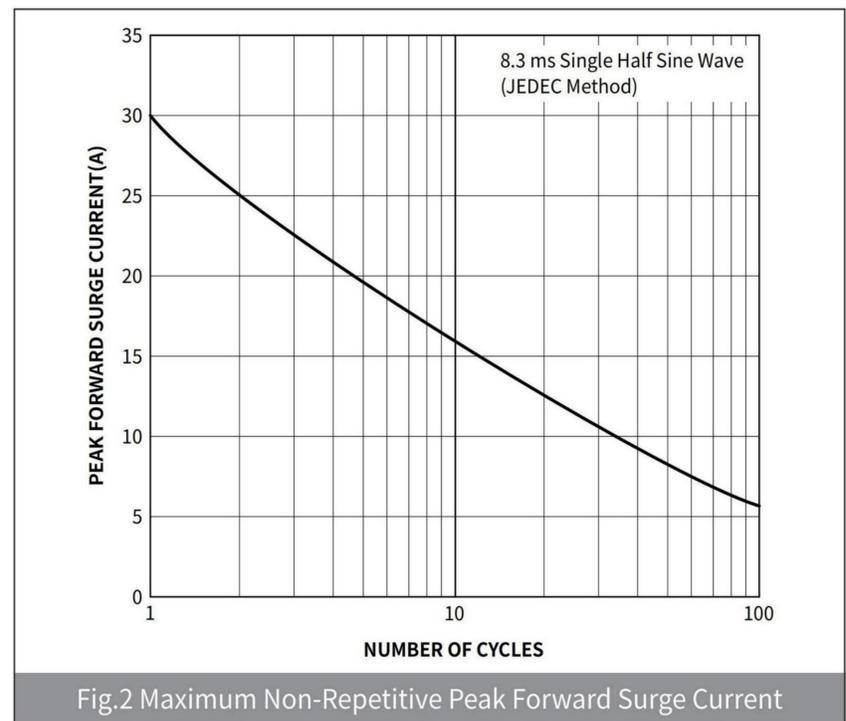
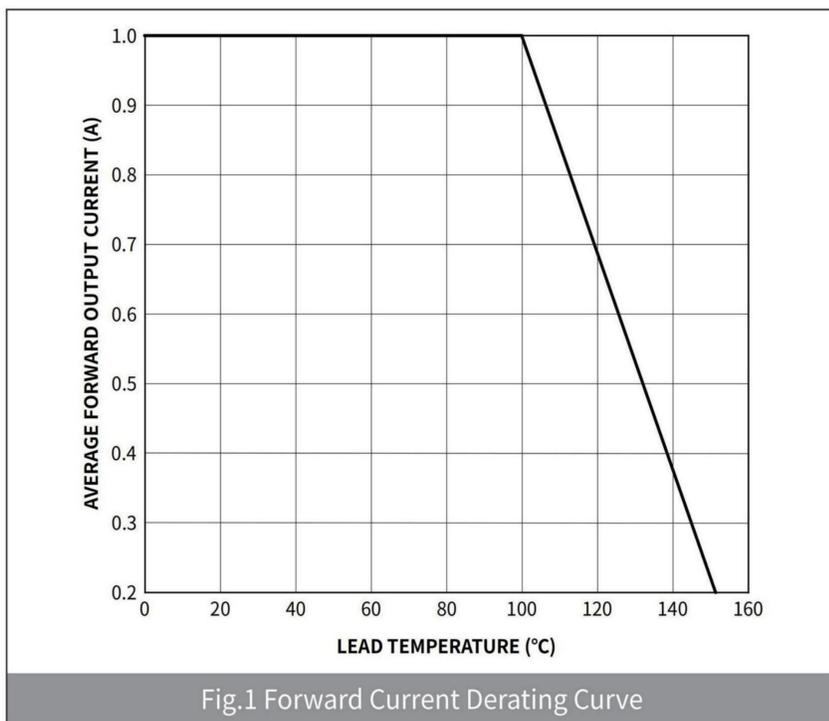
PARAMETER	SYMBOL	UNIT	ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	ES1K	ES1M
Device marking code			ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	ES1K	ES1M
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	150	200	300	400	500	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	105	140	210	280	350	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	150	200	300	400	500	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	35									

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	ES1K	ES1M
Maximum instantaneous forward voltage	$I_F=1.0A$	V_F	V	1.0			1.3			1.7			
Maximum reverse recovery time	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	T_{rr}	ns	35									
Maximum DC reverse current at rated DC blocking voltage	$V_R=V_{DC}, T_A=25^\circ C$	I_{R1}	μA	2.0									
	$V_R=V_{DC}, T_A=125^\circ C$	I_{R2}		200									
Typical junction capacitance	4.0V DC, 1MHz	C_J	pF	18									

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



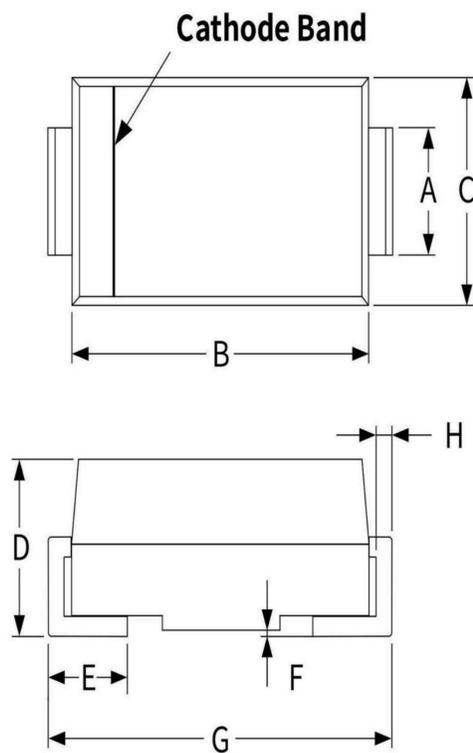
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Ordering Information

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

