

SMA Surface Mount Fast Recovery 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.

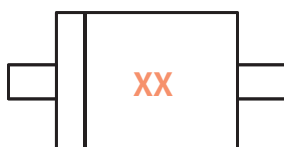
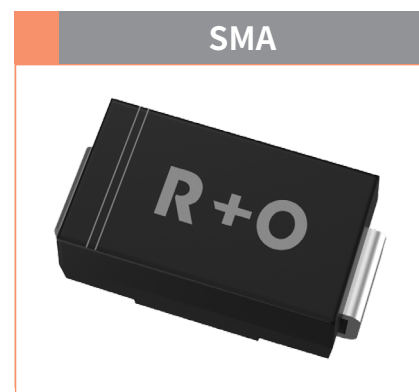
- **Mechanical Data**

- Case: 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



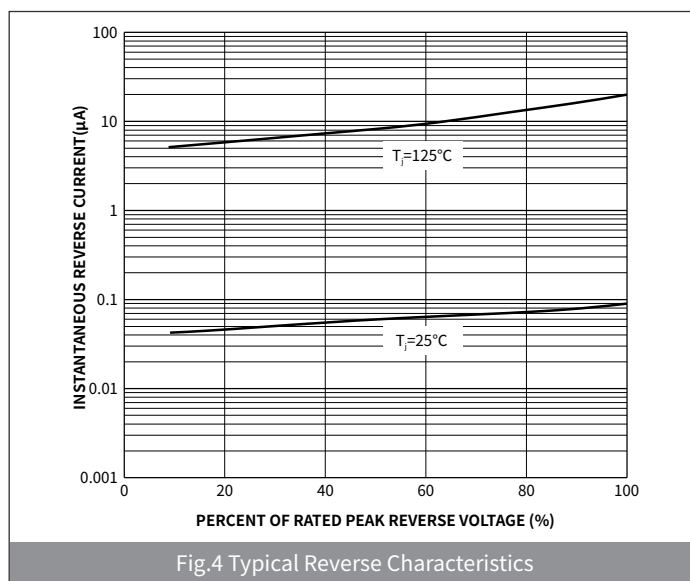
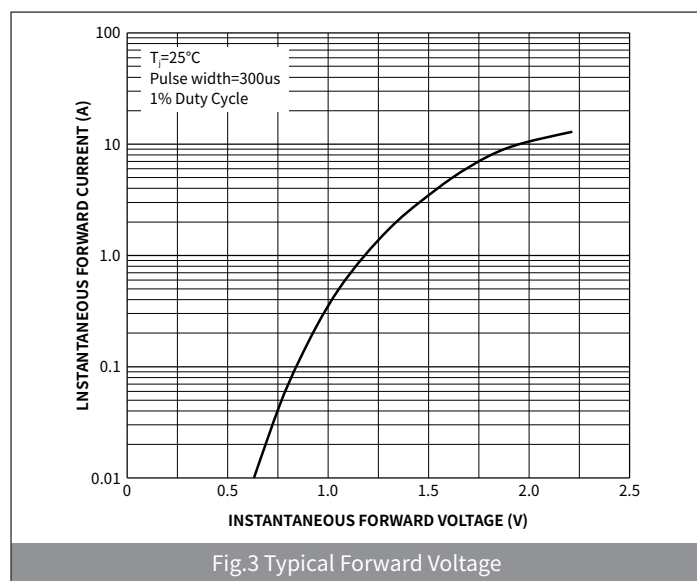
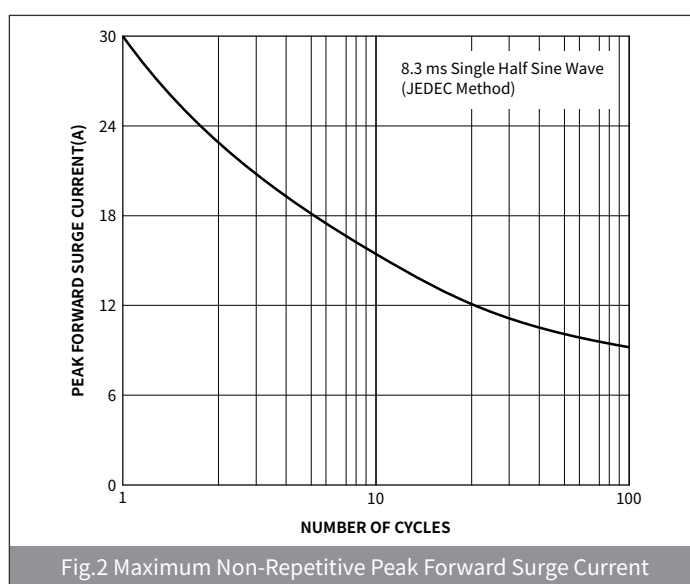
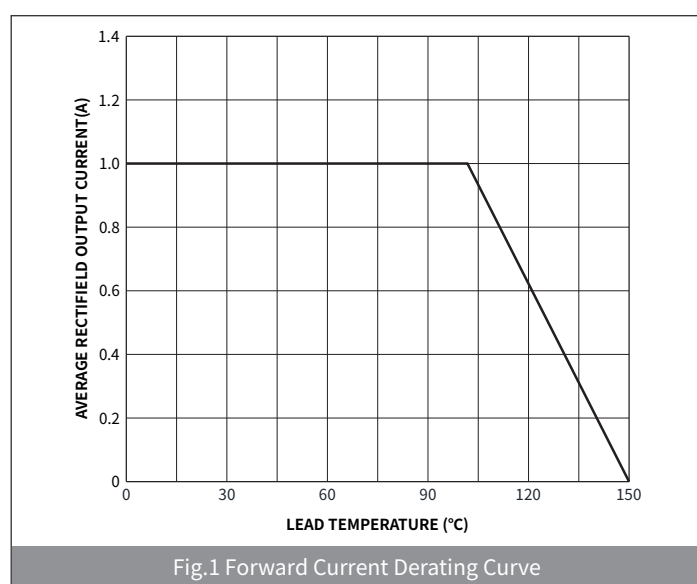
● **Maximum Ratings** (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
Device marking code			RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
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 _{θJ-A}	°C /W	75						
	R _{θJ-L}	°C /W	35						

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
Maximum instantaneous forward voltage	I _F =1.0A	V _F	V	1.3						
Maximum reverse recovery time	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	T _{rr}	ns	150				250	500	
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	11				6		

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



RS1A THRU RS1M

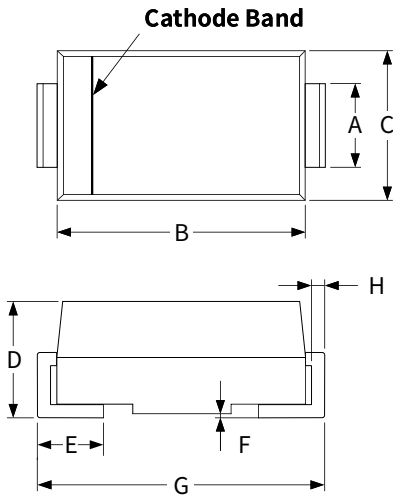
SURFACE MOUNT FAST RECOVERY RECTIFIER

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMA	R2	0.07	5000	10000	80000	11"
SMA	R3	0.07	7500	15000	120000	13"

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

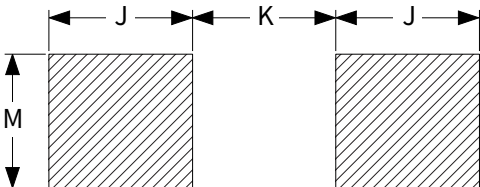
Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.25	1.65	0.049	0.065
B	3.95	4.65	0.156	0.183
C	2.35	2.85	0.093	0.112
D	1.98	2.41	0.078	0.095
E	0.76	1.52	0.030	0.060
F	-	0.203	-	0.008
G	4.70	5.30	0.185	0.209
H	0.15	0.31	0.006	0.012



The diagram shows two views of the SMA 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 cross-section showing the package body with dimensions D (height), E (width of the base), F (width of the base), and G (total width). A small dimension H is shown at the bottom right corner.

● 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



The diagram shows two shaded rectangular pads. The left pad has a width of J and a height of M. The right pad has a width of J and a height of M. The distance between the two pads is K.