

S5AB THRU S5MB

SURFACE MOUNT GENERAL PURPOSE RECTIFIER

SMB Surface Mount General Purpose Rectifier

Features

- For surface mounted applications
- Low reverse leakage
- High forward surge current capability
- Glass passivated Standard rectifiers
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication

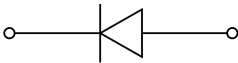
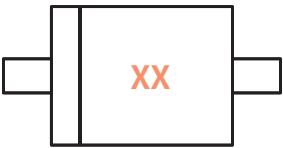
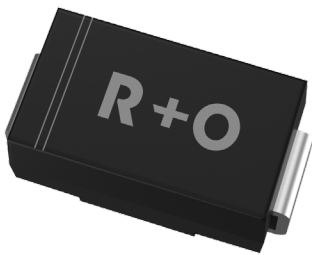
Mechanical Data

- Case: DO-214AA(SMB)
- 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
5 Ampere

DO-214AA(SMB)



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

PARAMETER	SYMBOL	UNIT	S5AB	S5BB	S5DB	S5GB	S5JB	S5KB	S5MB
Device marking code			S5AB	S5BB	S5DB	S5GB	S5JB	S5KB	S5MB
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	5.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	150						
Storage temperature	T_{stg}	°C	-55 ~ +150						
Junction temperature	T_j	°C	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}^{(1)}$	°C / W	60						
	$R_{\theta J-L}^{(1)}$	°C / W	20						

Note : (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0mm x 5.0mm) copper pad areas

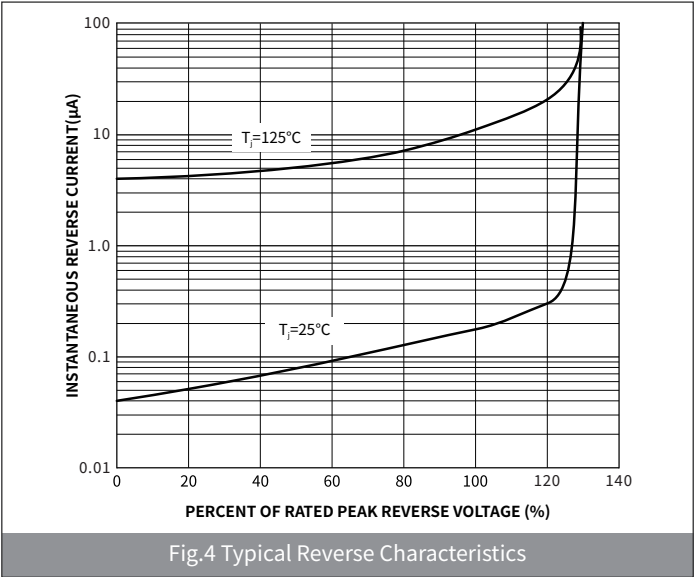
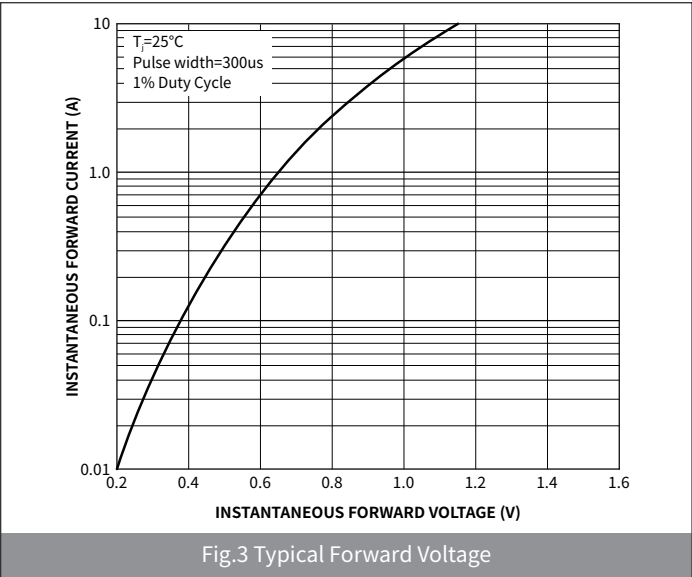
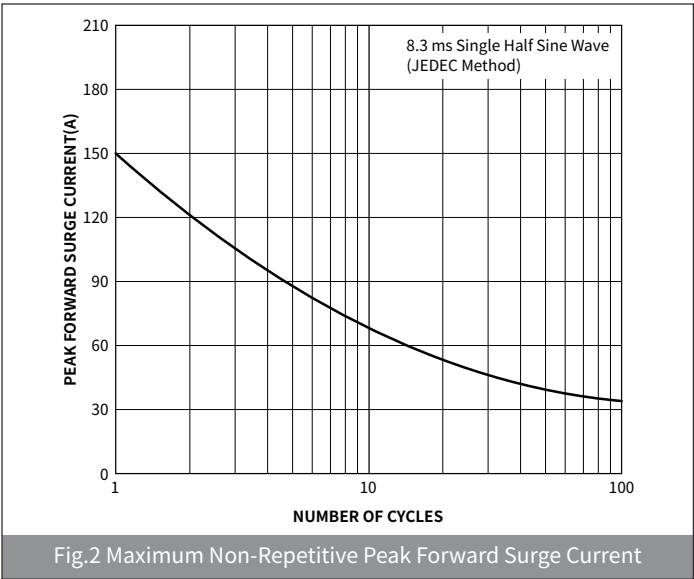
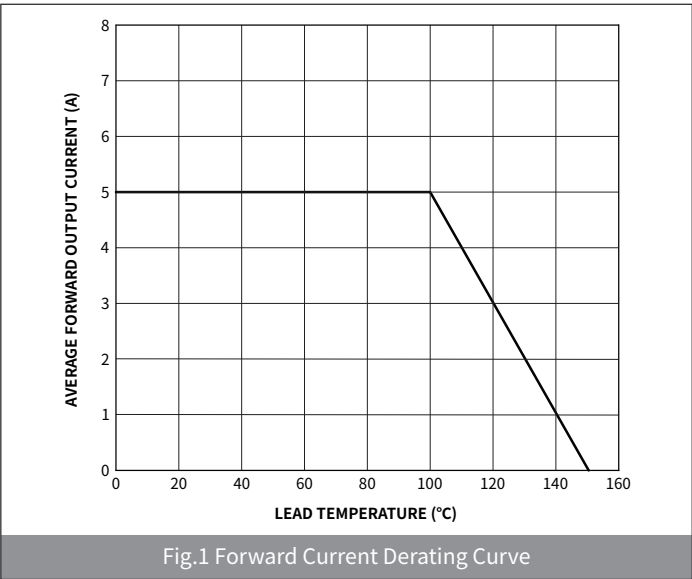
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● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	S5AB	S5BB	S5DB	S5GB	S5JB	S5KB	S5MB
Maximum instantaneous forward voltage	$I_F=5.0A$	V_F	V	1.0						
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	50						

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



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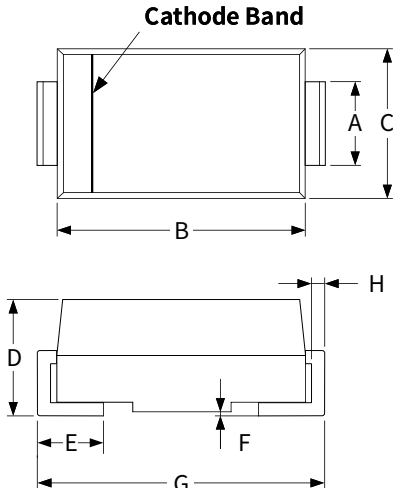
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● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMB	R3	0.098	3000	6000	48000	13"

● Package Outline Dimensions (SMB/DO-214AA)

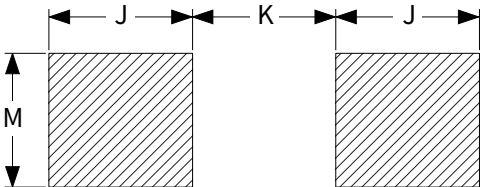
Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.85	2.21	0.073	0.087
B	4.25	4.85	0.167	0.191
C	3.30	3.94	0.130	0.155
D	2.15	2.65	0.085	0.104
E	0.75	1.52	0.030	0.060
F	-	0.203	-	0.008
G	5.08	5.59	0.200	0.220
H	0.15	0.31	0.006	0.012



The diagram shows two views of the SMB package. The top view is a rectangle with dimensions A (height of the cathode band), B (width), and C (total height). A label 'Cathode Band' points to the top edge. The bottom view is a side profile showing dimensions D (height of the main body), E (height of the base), F (height of the base), G (total width), and H (height of the base).

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	2.26	-	0.089	-
J	2.10	-	0.085	-
K	-	2.74	-	0.107



The diagram shows a suggested pad layout for the SMB package. It consists of two 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.