SMB Surface Mount General Purpose Rectifier

Features

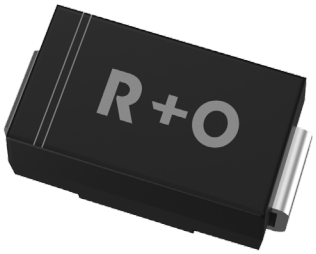
- For surface mounted applications
- Low reverse leakage
- High forward surge current capability
- Glass passivated Standard rectifiers
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Reverse Voltage
50-1000 V
Forward Current
3 Ampere

Applications

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

DO-214AA(SMB)



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

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

PARAMETER	SYMBOL	UNIT	S3AB	S3BB	S3DB	S3GB	S3JB	S3KB	S3MB
Device marking code			S3AB	S3BB	S3DB	S3GB	S3JB	S3KB	S3MB
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	$R_{\theta J-A}$ (1)	°C /W	60						
	$R_{\theta J-L}$ (1)	°C /W	25						

Note : (1)Thermal resistance from junction to ambient and from junction tolead mounted on P.C.B.with 0.2"× 0.2"(5.0mm x5.0 mm) copper pad areas

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	S3AB	S3BB	S3DB	S3GB	S3JB	S3KB	S3MB
Maximum instantaneous forward voltage	I_F=3.0A	V_F	V	1.0						
Maximum DC reverse currentat 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	40						

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

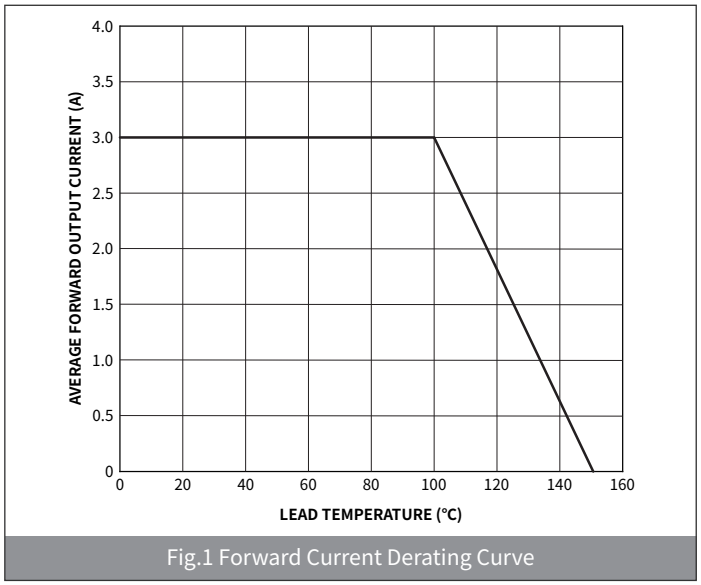


Fig.1 Forward Current Derating Curve

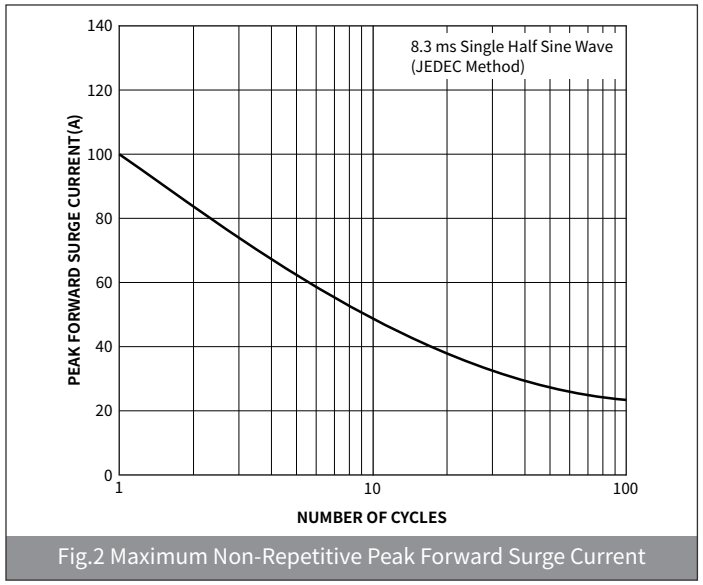


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

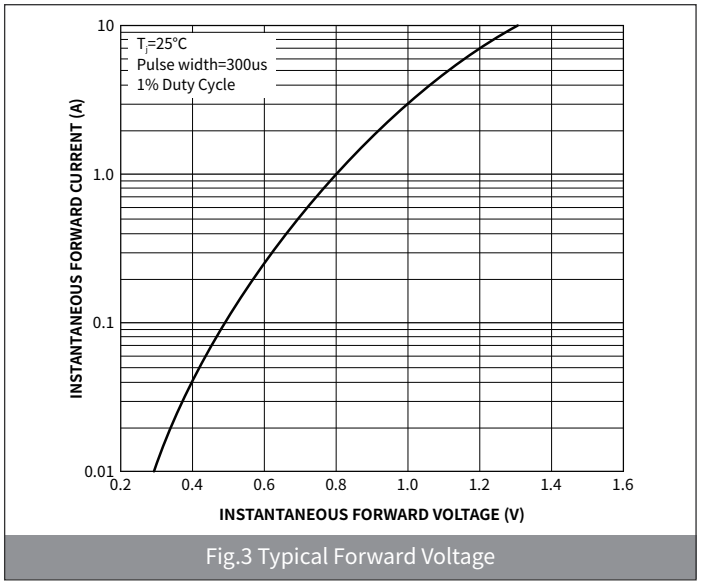


Fig.3 Typical Forward Voltage

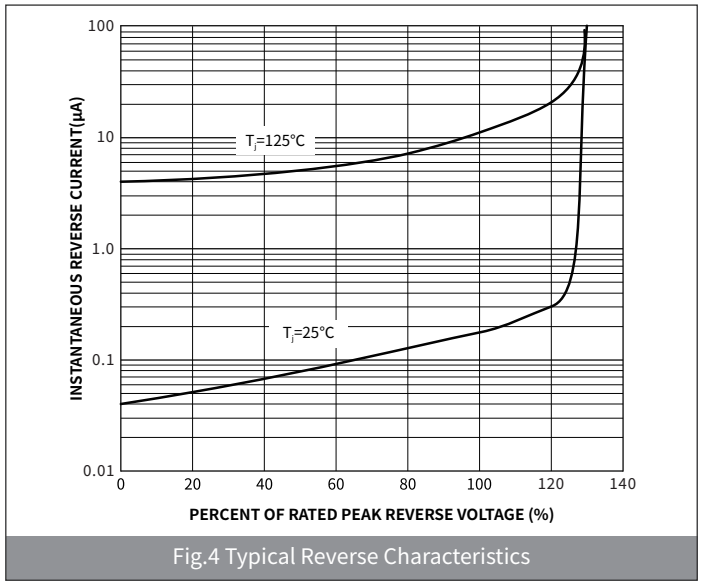
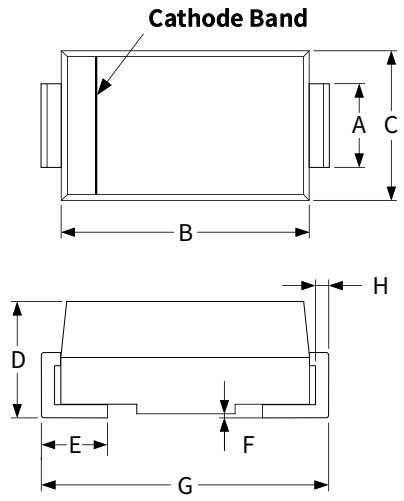


Fig.4 Typical Reverse Characteristics

Ordering Information

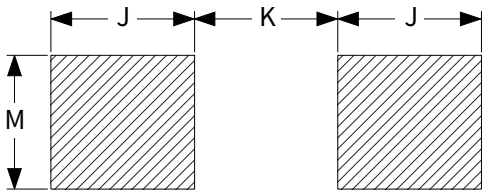
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMB	R3	0.098	3000	6000	48000	13''

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

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