

Schottky Barrier Rectifier

1A High Voltage



RoHS
Compliant



Applications:

- Polarity Protection Diode
- Re-Circulating Diode
- Blocking Diode
- DC-DC
- AC-DC

Features:

- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: +260°C/10 Second at Terminal

Mechanical Data:

Case	: SMB
Case Material	: Molded Plastic. "Green" Molding Compound. UL Flammability Classification Rating 94V-0
Moisture Sensitivity	: Level 1 per J-STD-020
Terminals	: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
Polarity	: Cathode Band
Weight	: 0.093 grams (Approximate)

Product Summary (@ +25°C)

V_{RRM} (V)	I_O (A)	V_F Max (V)	I_R Max (mA)
100	1	0.79	0.5

Maximum Ratings: @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	70	
Average Rectified Output Current @ $T_T = 125^\circ\text{C}$	I_O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30	
Repetitive Peak Reverse Current	I_{RRM}	1	

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Thermal Characteristics:

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal (Note 1)	$R_{\theta JT}$	25	$^{\circ}\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^{\circ}\text{C}$

Electrical Characteristics: @ $T_A = 25^{\circ}\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	-	-	0.79 0.69	V	$I_F = 1\text{A}, T_A = +25^{\circ}\text{C}$ $I_F = 1\text{A}, T_A = +100^{\circ}\text{C}$
Leakage Current (Note 2)	I_R	-	-	0.5 5	mA	@ Rated $V_R, T_A = +25^{\circ}\text{C}$ @ Rated $V_R, T_A = +100^{\circ}\text{C}$
Total Capacitance	C_T	-	-	80	pF	$V_R = 4\text{V}, f = 1\text{MHz}$

- Notes: 1. Valid provided that terminals are kept at ambient temperature.
2. Short duration pulse test used to minimize self-heating effect.

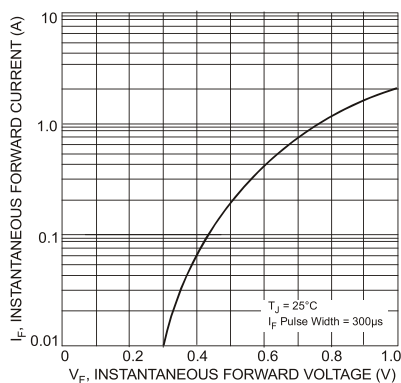


Fig. 1 Typical Forward Characteristics

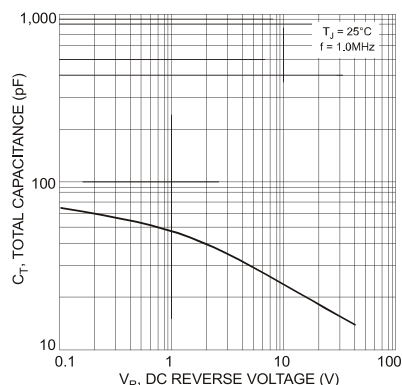


Fig. 2 Total Capacitance vs. Reverse Voltage

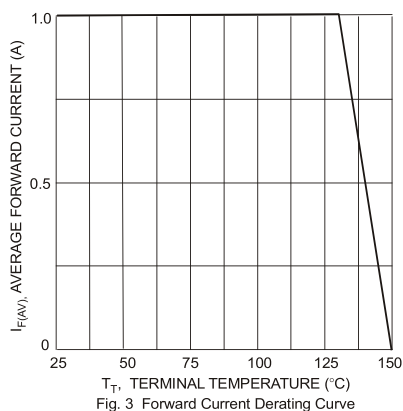


Fig. 3 Forward Current Derating Curve

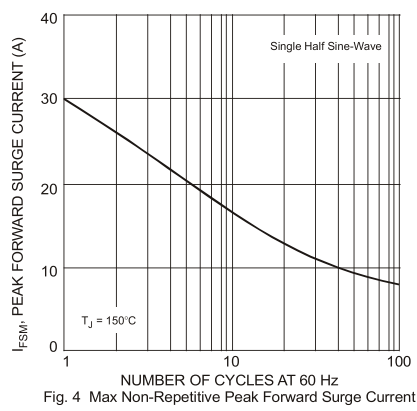


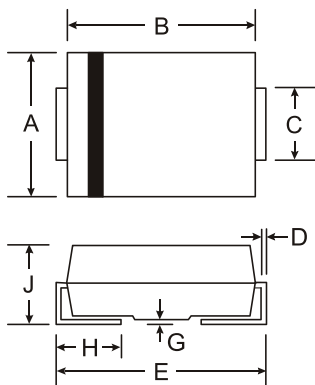
Fig. 4 Max Non-Repetitive Peak Forward Surge Current

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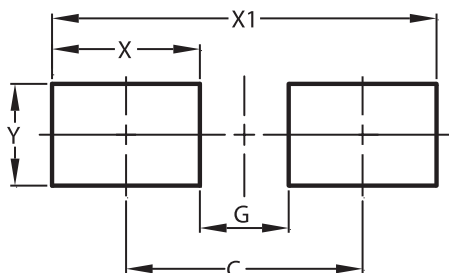
Package Outline Dimensions:



Dimensions	Min	Max
A	3.3	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5	5.59
G	0.5	0.2
H	0.76	1.52
J	2	2.5

Dimensions : Millimetres

Suggested Pad Layout:



Dimensions	Value
C	4.3mm
G	1.8mm
X	2.5mm
X1	6.8mm
Y	2.3mm

Part Number Table

Description	Part Number
1A High Voltage Schottky Barrier Rectifier	B1100-13-F

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