BAT1000

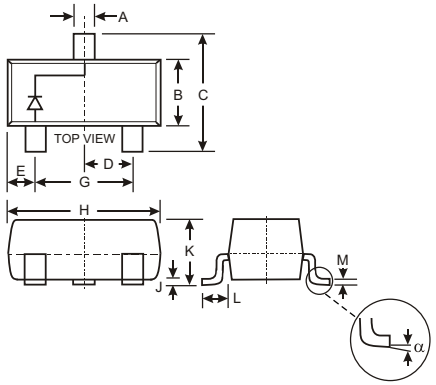
1A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- Very Low Forward Voltage Drop
- High Conductance
- For Use in DC-DC Converter, PCMCIA, and Mobile Telecommunications Applications
- **Lead Free by Design/RoHS Compliant (Note 3)**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking: K79 and Date Code, See Page 3
- Ordering Information: See Page 3
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
	0	8
All Dimensions in mm		

Maximum Ratings @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Current	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load	I_{FSM}	5.5	A
Power Dissipation (Note 1)	P_d	500	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	R_{JA}	200	C/W
Operating Temperature Range	T_j	-40 to +125	C
Storage Temperature Range	T_{STG}	-40 to +150	C

Electrical Characteristics @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40			V	I_R = 300uA
Forward Voltage	V_F		225 235 290 340 390 420 475	270 290 340 400 450 500 600	mV	I_F = 50mA I_F = 100mA I_F = 250mA I_F = 500mA I_F = 750mA I_F = 1000mA I_F = 1500mA
Reverse Current (Note 2)	I_R			100	A	V_R = 30V
Total Capacitance	C_T		175 25		pF pF	V_R = 0V, f = 1.0MHz V_R = 25V, f = 1.0MHz

Notes:
1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration pulse test used to minimize self-heating effect.
3. No purposefully added lead.

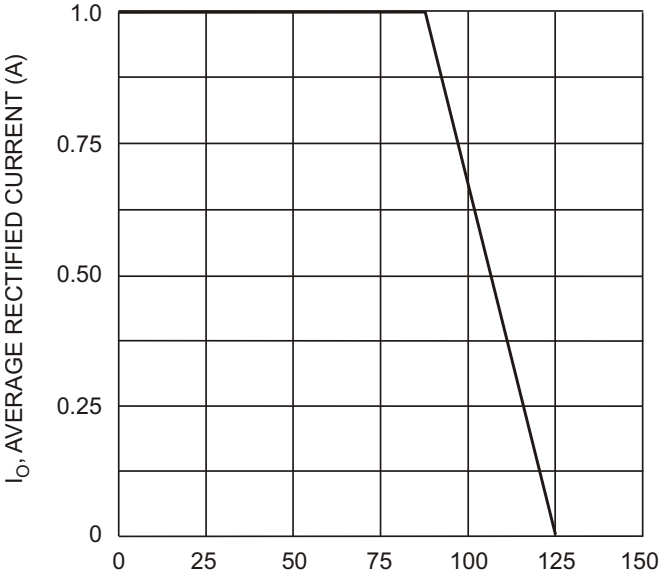


Fig. 1 Forward Current Derating Curve

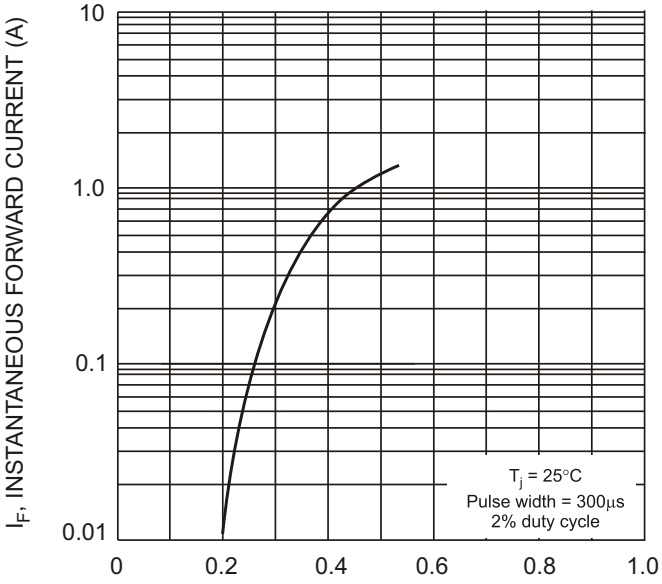


Fig. 2 Typical Forward Characteristics

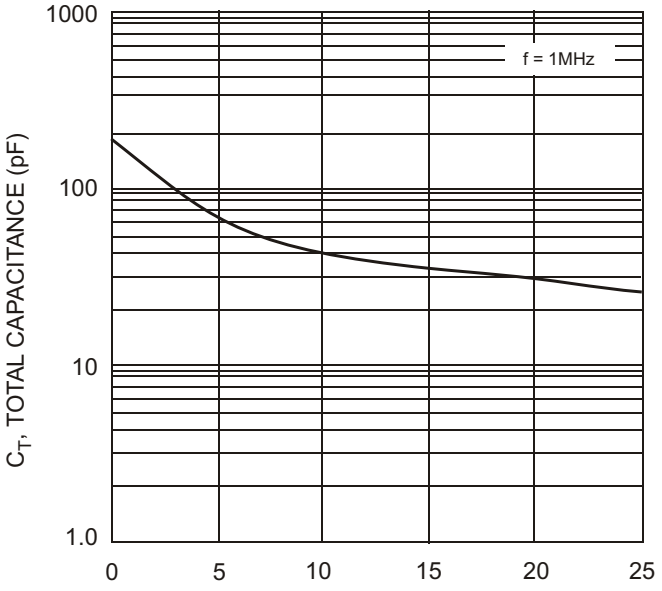


Fig. 3 Typ. Total Capacitance vs Reverse Voltage

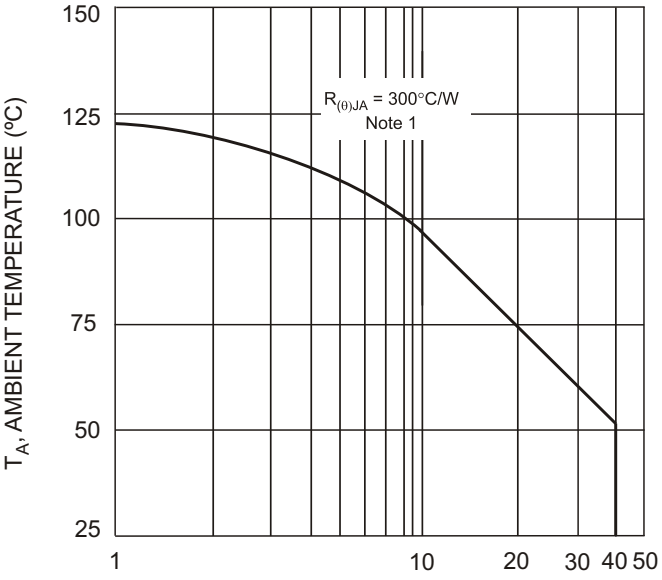


Fig. 4 Typical Safe Operating Area

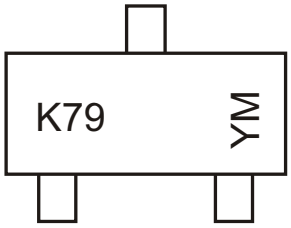
Note: 1. Assumed application thermal conditions.
R_{JA} varies depending on application.

Ordering Information (Note 4)

Device	Packaging	Shipping
BAT1000-7-F	SOT-23	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



K79 = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D