



**BAT1000** 

### 1A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

### **Features**

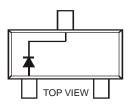
- Very Low Forward Voltage Drop
- High Conductance
- For Use in DC-DC Converter, PCMCIA, and Mobile Telecommunications Applications
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 1 and 2)
- Qualified to AEC-Q101 Standards for High Reliability

## **Mechanical Data**

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



Top View



Schematic and Pin Configuration

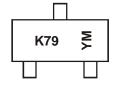
## **Ordering Information** (Note 3)

Ī	Part Number	Case	Packaging
	BAT1000-7-F	SOT-23	3000/Tape & Reel

Notes:

- 1. No purposefully added lead. Halogen and Antimony Free.
- 2. Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb<sub>2</sub>O<sub>3</sub> Fire Retardants.
- 3. For packaging details, go to our website at http://www.diodes.com.

# 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	200	06   20	007	2008	2009	2010	2011	2012
Code	N	Р	R	S	Т	•	U	V	W	Х	Υ	Z
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	g Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



# **Maximum Ratings** @T<sub>A</sub> = 25°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 Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	40	٧
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V
Average Rectified Current	lo	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load	I <sub>FSM</sub>	5.5	А

## **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P <sub>D</sub>	500	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 4)	$R_{ hetaJA}$	200	°C/W
Operating Temperature Range	TJ	-40 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-40 to +150	°C

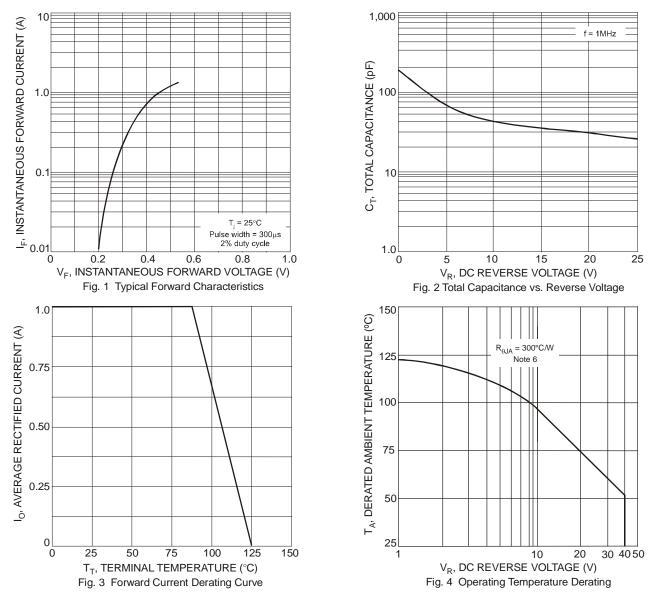
# **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	40	_	_	V	I <sub>R</sub> = 300uA
Forward Voltage	V <sub>F</sub>	_	225 235 290 340 390 420 475	270 290 340 400 450 500 600	mV	I <sub>F</sub> = 50mA I <sub>F</sub> = 100mA I <sub>F</sub> = 250mA I <sub>F</sub> = 500mA I <sub>F</sub> = 750mA I <sub>F</sub> = 1000mA I <sub>F</sub> = 1500mA
Reverse Current (Note 5)	I <sub>R</sub>	_	_	100	μΑ	$V_R = 30V$
Total Capacitance	Ст	_	175 25	_	pF pF	$V_R = 0V, f = 1.0MHz$ $V_R = 25V, f = 1.0MHz$

Notes:

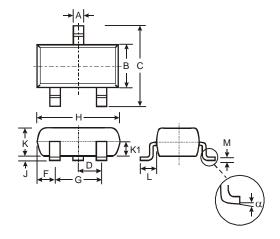
- 4. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com. 5. Short duration pulse test used to minimize self-heating effect.





Notes: 6. Assumed application thermal conditions.  $R_{\theta JA}$  varies depending on application.

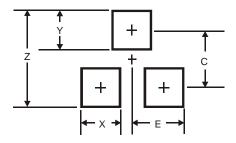
# **Package Outline Dimensions**



SOT-23								
Dim	Min	Max	Тур					
Α	0.37	0.51	0.40					
В	1.20	1.40	1.30					
С	2.30	2.50	2.40					
D	0.89	1.03	0.915					
F	0.45	0.60	0.535					
G	1.78	2.05	1.83					
Н	2.80	3.00	2.90					
J	0.013	0.10	0.05					
K	0.903	1.10	1.00					
K1	-	-	0.400					
L	0.45	0.61	0.55					
М	0.085	0.18	0.11					
α	0°	8°	-					
All Dimensions in mm								



### **Suggested Pad Layout**



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Υ	0.9
С	2.0
E	1.35

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многоканальный

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