



#### SURFACE MOUNT SCHOTTKY BARRIER DIODE

#### **Features**

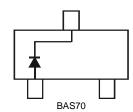
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 4)
- Qualified to AEC-Q101 Standards for High Reliability

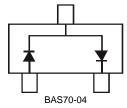
### **Mechanical Data**

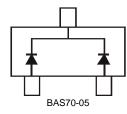
- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)

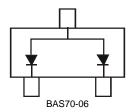


Top View









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

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>	70	٧
RMS Reverse Voltage	$V_{R(RMS)}$	49	V
Maximum Forward Continuous Current (Note 1)	I <sub>FM</sub>	70	mA
Non-Repetitive Peak Forward Surge Current @ t ≤ 1.0s	I <sub>FSM</sub>	100	mA

#### **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P <sub>D</sub>	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ heta JA}$	625	°C/W
Operating Junction Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

## Electrical Characteristics @TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	70	_	V	$I_R = 10\mu A$
Forward Voltage	V <sub>F</sub>	_	410 1000	mV	$t_p < 300 \mu s$ , $I_F = 1.0 mA$ $t_p < 300 \mu s$ , $I_F = 15 mA$
Reverse Current (Note 2)	I <sub>R</sub>	_	100	nA	$t_p < 300 \mu s, V_R = 50 V$
Total Capacitance	Ст	_	2.0	pF	$V_R = 0V, f = 1.0MHz$
Reverse Recovery Time	t <sub>rr</sub>	_	5.0	ns	$I_F = I_R = 10$ mA to $I_R = 1.0$ mA, $R_L = 100\Omega$

Notes:

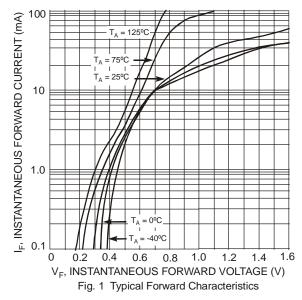
- Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

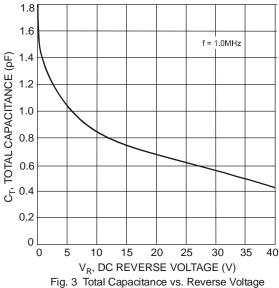
- Short duration pulse test used to minimize self-heating effect.

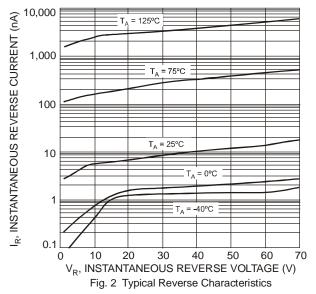
  No purposefully added lead. Halogen and Antimony Free.

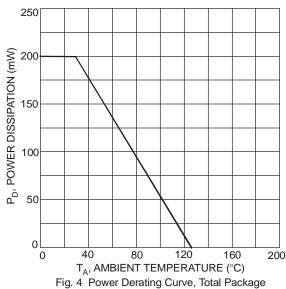
  Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb<sub>2</sub>O<sub>3</sub> Fire Retardants.









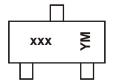


### Ordering Information (Note 5)

Part Number	Case	Packaging
BAS70-7-F	SOT-23	3000/Tape & Reel
BAS70-04-7-F	SOT-23	3000/Tape & Reel
BAS70-05-7-F	SOT-23	3000/Tape & Reel
BAS70-06-7-F	SOT-23	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

# **Marking Information**



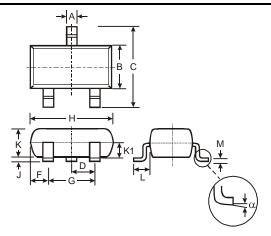
xxx = Product Type Marking Code: K73, K7C = BAS70 K74, K7D = BAS70-04 K75, K7E = BAS70-05 K76, K7F = BAS70-06 YM = Date Code Marking Y = Year (ex: T = 2006)

Date Code Key M = Month (ex: 9 = September)

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	M	Ν	Р	R	S	Т	U	V	W	X	Υ	Z	Α	В	С
Month	Jan	Fe	b	Mar	Apr	Мау	Jur	n	Jul	Aug	Sep	Oct	t	Nov	Dec
Code	1	2		3	4	5	6		7	8	9	0		N	D

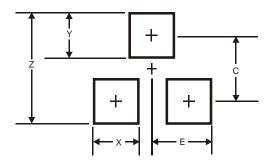


### **Package Outline Dimensions**



	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			
M	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
Y	0.9
C	2.0
E	1.35

#### IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

#### LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.