

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Product Summary

V _R (V)	I _F (mA)	V _{F MAX} (V) @ +25°C	I _{R MAX} (μΑ) @ +25°C	
70	1.0	0.41	0.1	

Features and Benefits

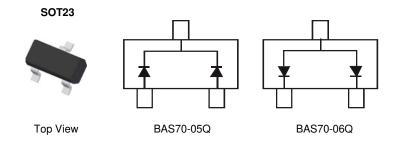
- Low Turn-On Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- PPAP Capable (Note 4)

Description

This device is a 70mA surface mount Schottky barrier diode in a SOT23 package, which offers low forward voltage drop and fast-switching capability, designed with PN junction guard ring for transient and ESD protection.

Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic.
 - UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead-Free Plating (Matte Tin Finish Annealed over Alloy 42 Leadframe) (3)
- Polarity: See Diagrams Below
- Weight: 0.008 grams (Approximate)



Ordering Information (Notes 4 & 5)

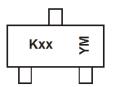
Part Number	Case	Packaging
BAS70-05Q-7-F	SOT23	3,000/Tape & Reel
BAS70-05Q-13-F	SOT23	10,000/Tape & Reel
BAS70-06Q-7-F	SOT23	3,000/Tape & Reel
BAS70-06Q-13-F	SOT23	10.000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
- 2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to https://www.diodes.com/quality/.
- 5. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.



Marking Information



K = (SAT, Shanghai Assembly / Test Site)
xx = Product Type Marking Code:
75, 7E = BAS70-05Q
76, 7F = BAS70-06Q
YM = Date Code Marking
Y = Year (ex: G = 2019)
M = Month (ex: 9 = September)

Date Code Key

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Code	F	G	Н	ı	J	K	L	М	N	0	Р	Q	R
Month	Jan	Feb	Mar	Apr	May	Jun	Ju	ıl A	ug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	'	8	9	0	N	D

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 _R WM V _R	70	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	V
Maximum Forward Continuous Current (Note 6)	I _{FM}	70	mA
Non-Repetitive Peak Forward Surge Current @ t ≤ 1.0s	I _{FSM}	100	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Power Dissipation (Note 6)	P_D	200	mW
Typical Thermal Resistance Junction to Ambient Air (Note 6)	R _{eJA}	600	°C/W
Operating Junction Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

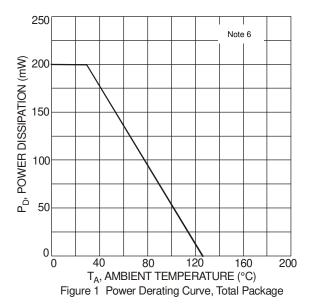
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

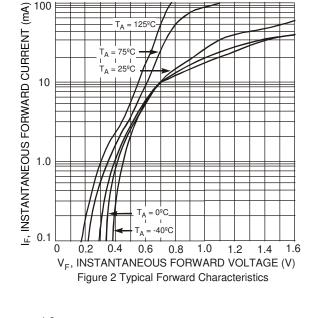
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	70	1	-	٧	$I_R = 100\mu A$
Forward Voltage	V _F		1 1	410 1000	mV	t_p <300 μ s, I_F = 1.0mA t_p <300 μ s, I_F = 15mA
Reverse Current (Note 7)	I _R	1	1	100	nA	$t_p < 300 \mu s, V_R = 50 V$
Total Capacitance	Ст	1	1.7	1	pF	$V_R = 0V$, $f = 1.0MHz$
Reverse Recovery Time	t _{RR}	1	2.5		ns	$I_F = I_R = 10 mA$ to $I_R = 1.0 mA, \; R_L = 100 \Omega$

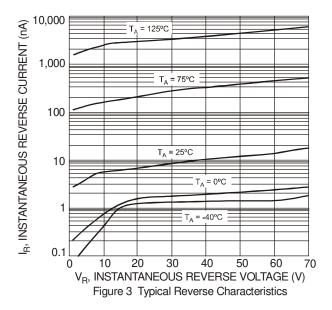
Notes: 6. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/package-outlines.html.

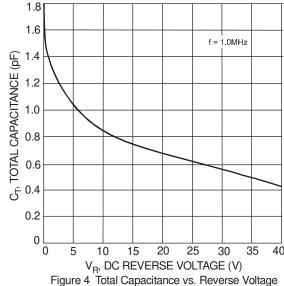
7. Short duration pulse test used to minimize self-heating effect.









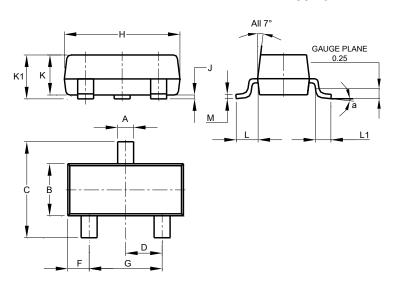




Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT23

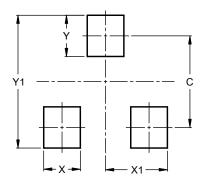


	SOT23							
Dim	Min	Max	Тур					
Α	0.37	0.51	0.40					
В	1.20	1.40	1.30					
С	2.30	2.50	2.40					
D	0.89	1.03	0.915					
F	0.45	0.60	0.535					
G	1.78	2.05	1.83					
Н	2.80	3.00	2.90					
J	0.013	0.10	0.05					
K	0.890	1.00	0.975					
K1	0.903	1.10	1.025					
L	0.45	0.61	0.55					
L1	0.25	0.55	0.40					
М	0.085	0.150	0.110					
а	0°	8°	_					
All	All Dimensions in mm							

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT23



Dimensions	Value (in mm)
C	2.0
Х	0.8
X1	1.35
Υ	0.9
Y1	2.9



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