DESCRIPTION

70mA Planar Schottky barrier diodes with an integrated guard ring for stress protection. Single diodes and double diodes with different pinning are available.

The BAS70 is available in SOT-23 package

FEATURES

- Low Turn-on Voltage
- Fast Switching
- Low forward current
- High breakdown voltage
- Guard ring protected
- Low diode capacitance.
- Available in SOT-23 package

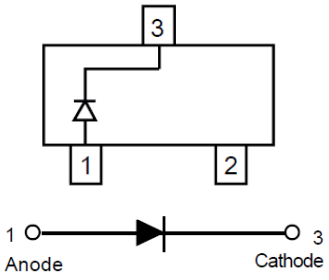
ORDERING INFORMATION

Package Type	Part Number
SOT-23	BAS70
	BAS70-04
	BAS70-05
	BAS70-06
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

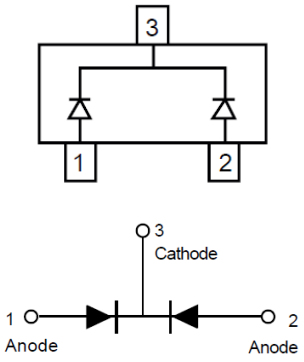
APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits.
- Blocking diodes.

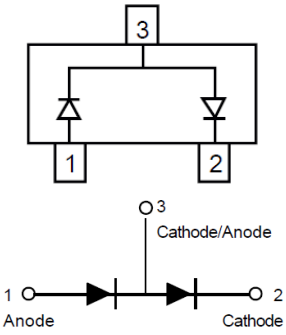
PIN DESCRIPTION



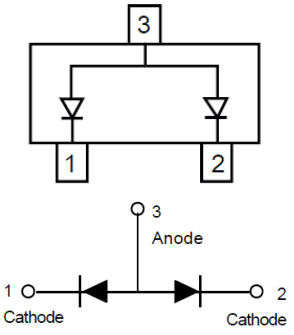
BAS70 single diode.



BAS70-05 double diode.



BAS70-04 double diode.



BAS70-06 double diode.

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C

V_R, Continuous Reverse Voltage	70V
I_F, Continuous Forward Current	70mA
I_{FSM}, Repetitive Peak Forward Surge Current (t_p≦1s; δ≦0.5)	70mA
I_{FSM}, Non-Repetitive Peak Forward Current (t_p<10ms)	100mA
T_{STG}, Storage Temperature	-65~+150°C
T_J, Junction Temperature	150°C
T_{AMB}, Operating Ambient Temperature	-65~+150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C

Parameter	Symbol	Conditions	Max.	Unit
Forward Voltage (Fig.1)	V_F	I_F=1mA	410	mV
		I_F=10mA	750	mV
		I_F=15mA	1	V
Reverse Current (Fig.2)NOTE1	I_R	V_R=50V	100	nA
		V_R=70V	10	μA
Charge Carrier Life Time (krakauer method)	τ	I_F=5mA	100	ps
Diode Capacitance (Fig.4)	C_d	f=1MHz;V_R=0	2	pF

NOTE1: Pulse test: t_p=300μs;δ=0.02.

THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient	$R_{th\ j\text{-}a}$	500	k/w

TYPICAL CHARACTERISTICS

T_A = 25°C

Figure 1. Forward current as a function of forward voltage; typical values.

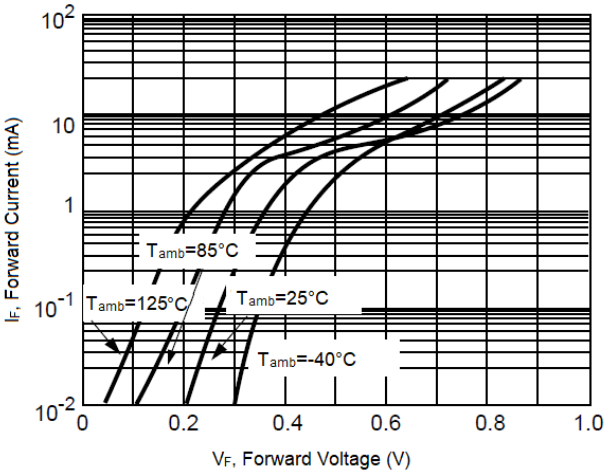


Figure 2. Reverse current as a function of reverse voltage; typical values.

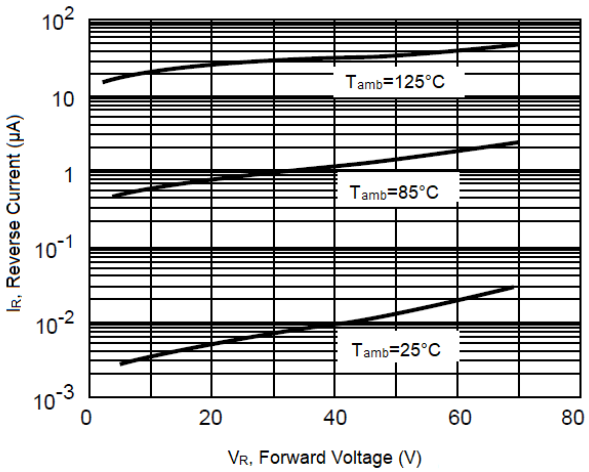


Figure 3. Differential forward resistance as a function of forward current; typical values.

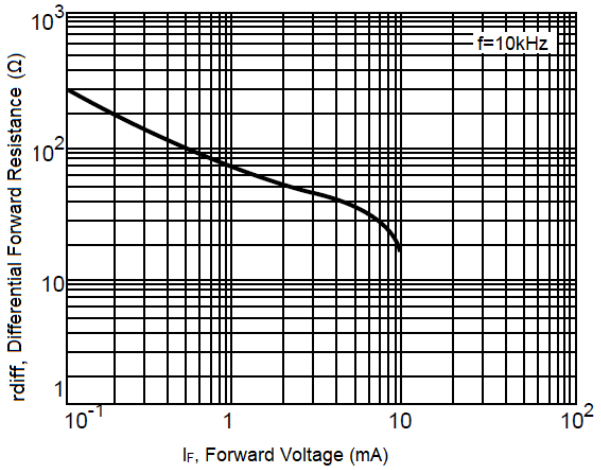
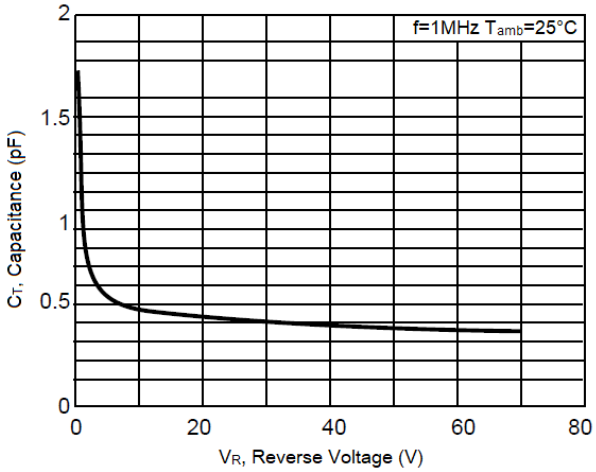
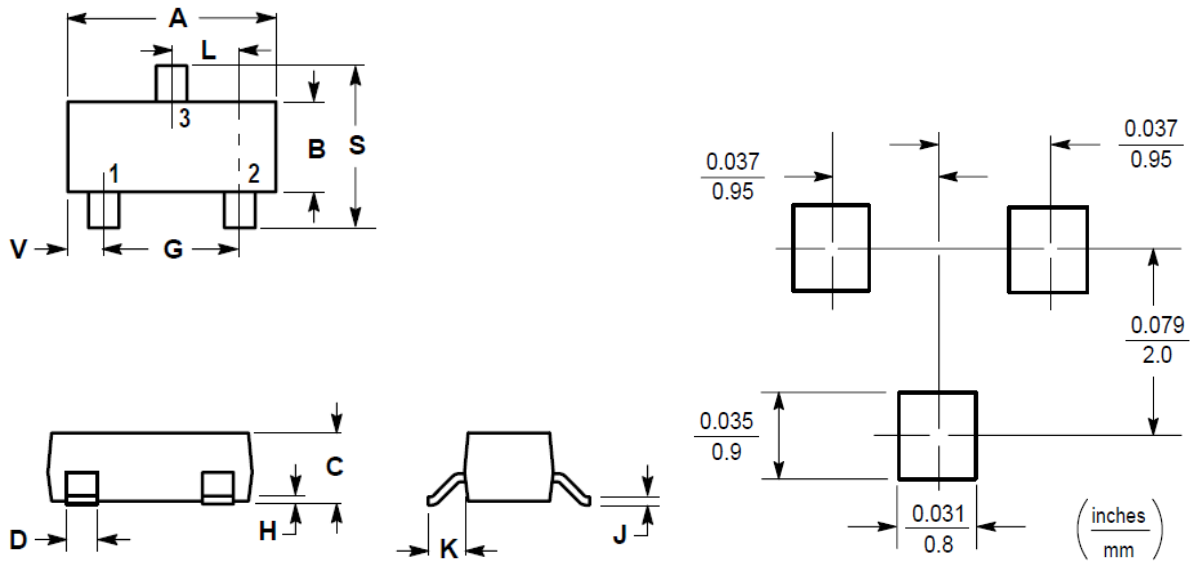


Figure 4. Diode capacitance as a function of reverse voltage; typical values.



PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	0.89	1.11	0.0350	0.0440
D	0.37	0.50	0.0150	0.0200
G	1.78	2.04	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.35	0.69	0.0140	0.0285
L	0.89	1.02	0.0350	0.0401
S	2.10	2.64	0.0830	0.1039
V	0.45	0.60	0.0177	0.0236

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