



DESCRIPTION

Planar Schottky barrier diodes with an integrated guard ring for stress protection.

We declare that the material of product compliance with RoHS requirements.

The BAS40 is available in SOT-23 package

FEATURES

- Low forward current
- Guard ring protected
- Low diode capacitance.
- RoHS Compliant
- Available in SOT-23 package

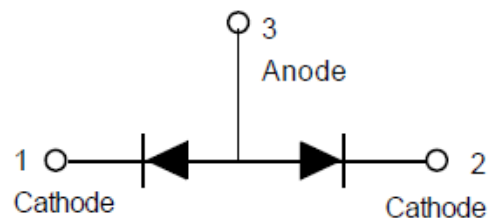
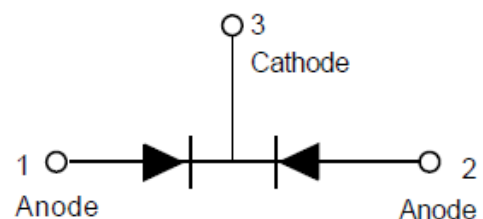
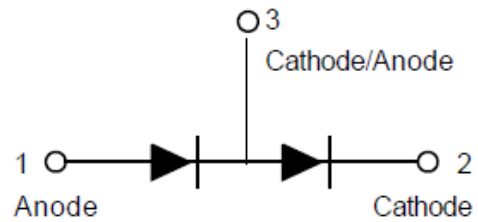
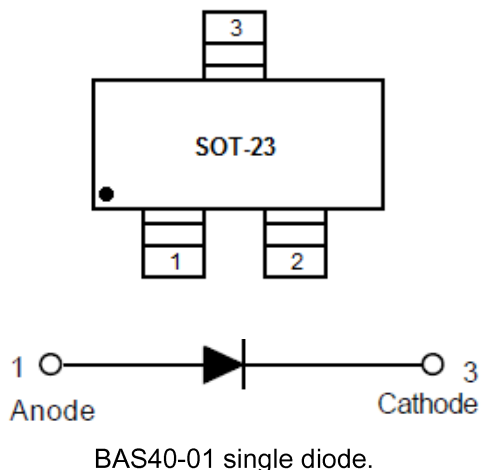
APPLICATIONS

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

ORDERING INFORMATION

Package Type	Part Number
SOT-23	BAS40-01
	BAS40-04
	BAS40-05
	BAS40-06
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

V_R , Continuous reverse voltage	40V
I_F , Continuous forward current	120mA
I_{FSM} , Repetitive Peak forward surge current ($t_p \leq 1s; \delta \leq 0.5$)	120mA
I_{FSM} , Non-repetitive peak forward current ($t_p < 10ms$)	200mA
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

$T_A = 25^\circ C$

Parameter	Symbol	Conditions	Max.	Unit
Forward Voltage (Fig. 1)	V_F	$I_F = 1mA$	400	mV
		$I_F = 10mA$	560	mV
		$I_F = 40mA$	1	V
Reverse Current (Fig.2) ^{NOTE1}	I_R	$V_R = 30V$	1	μA
		$V_R = 40V$	10	μA
Diode Capacitance (Fig.4)	C_d	$f = 1MHz; V_R = 0$	5	pF

NOTE1: Pulse test: $t_p = 300\mu s; \delta = 0.02$.

THERMAL CHARACTERISTICS

Parameter	Symbol	Conditions	VALUE	Unit
Thermal Resistance From Junction to Ambient	$R_{TH J-A}$	NOTE2	500	k/w

NOTE2: Refer to SOT-23 or SOT-143B standard mounting conditions.



TYPICAL CHARACTERISTICS

$T_A = 25^\circ\text{C}$

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

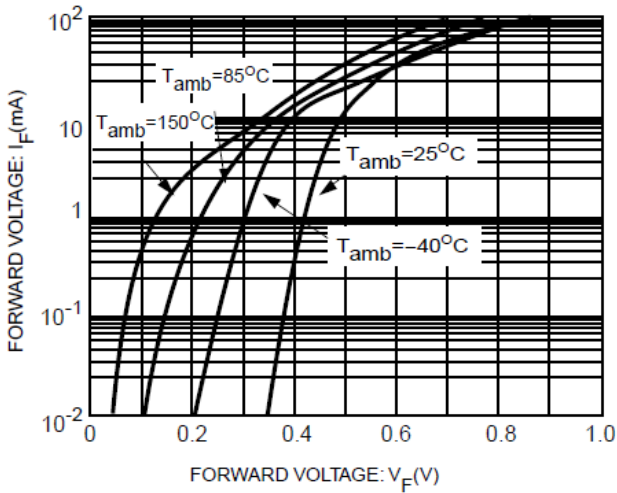


Figure 2. Reverse current as a function of reverse voltage; typical values.

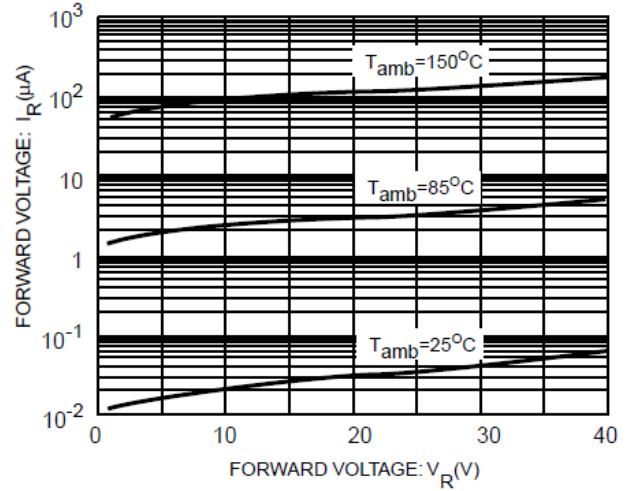


Figure 3. Differential forward resistance as a function of forward current; typical values.

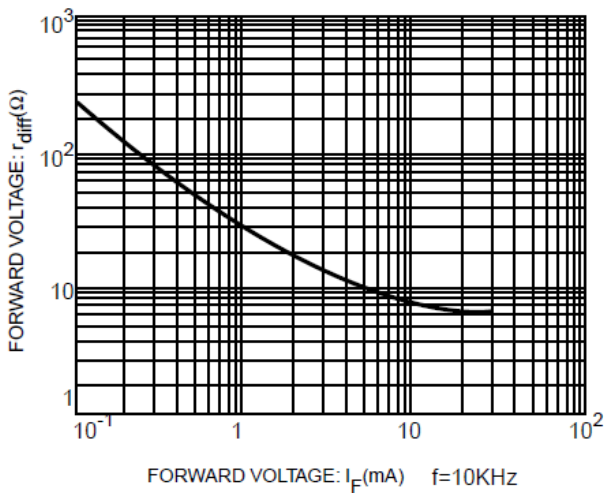
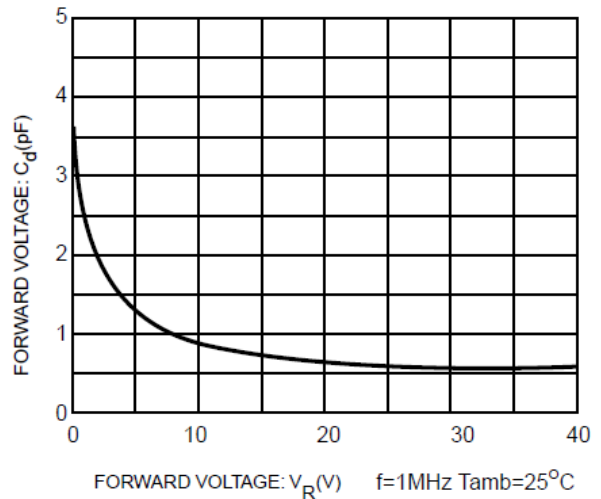


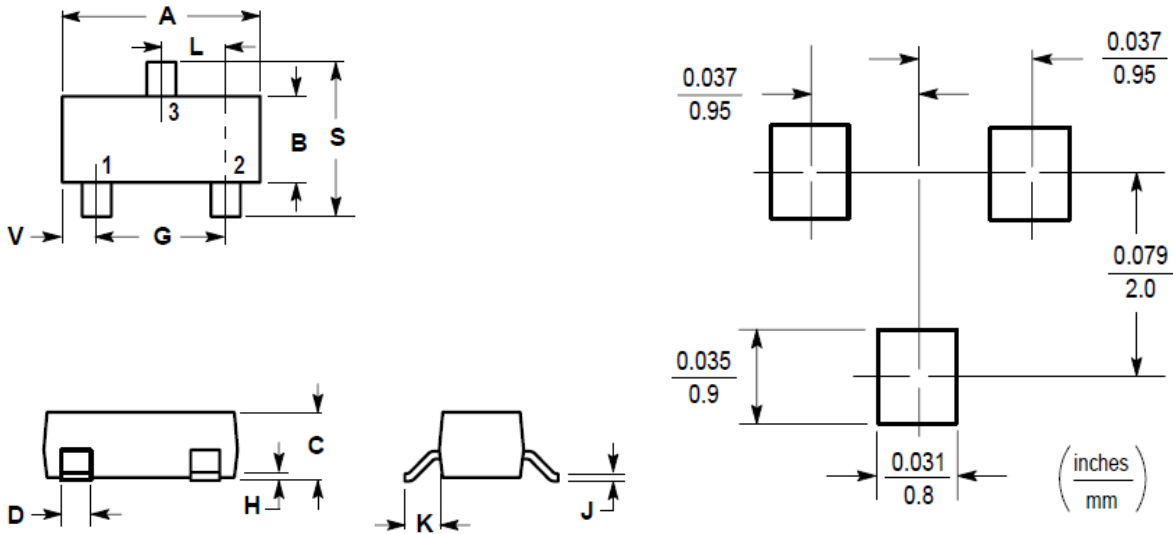
Figure 4. Diode capacitance as a function of reverse voltage; typical values.





PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.800	3.040	0.1102	0.1197
B	1.200	1.400	0.0472	0.0551
C	0.890	1.110	0.0350	0.0440
D	0.370	0.500	0.0150	0.0200
G	1.780	2.040	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.350	0.690	0.0140	0.0285
L	0.890	1.020	0.0350	0.0401
S	2.100	2.640	0.0830	0.1039
V	0.450	0.600	0.0177	0.0236



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