BAS70W Surface Mount Schottky Barrier Diode

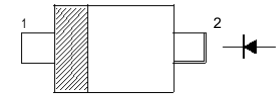
Voltage Range 70 Volts 250m Watts Power Dissipation

Features

- Low forward voltage drop
- Guard Ring Construction for Transient Protection
- Fast switching time
- Low Reverse Capacitance
- Surface mount package ideally suited for automatic insertion

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Marking Code: "SX"
Simplified outline SOD-123 and symbol

Maximum Ratings and Electrical Characteristics, Single Diode @ T_A = 25°C unless otherwise specified

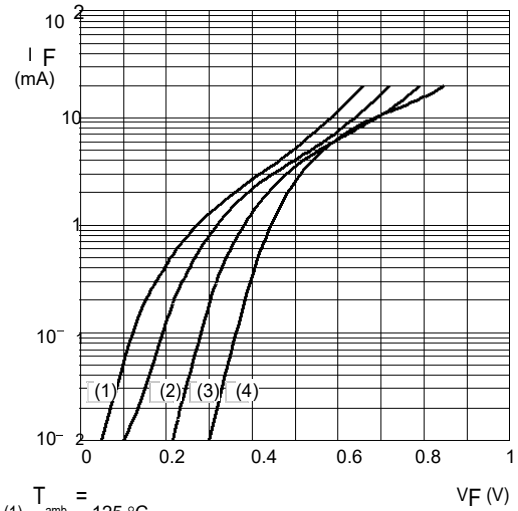
Characteristic	Symbol	BAS70W	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	70	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	V
Forward Continuous Current (Note 1)	I_F	70	mA
Non-Repetitive Peak Forward Surge Current @ t_p 1.0s	I_{FSM}	100	mA
Power Dissipation (Note 1)	P_d	250	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R_{JA}	400	K/W
Operating Junction Temperature Range	T_j	-55 to +125	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

Electrical Ratings @ T_A = 25°C n ss oth rwise sp cified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	70	—	—	I_R=10 A
Forward Voltage	V_{FM}	—	410 1000	mV	t_p <300μs, I_F = 1.0mA t_p <300μs, I_F = 15mA
Peak Reverse Current	I_{RM}		100	nA	t_p < 300μs, V_R = 50V
Junction Capacitance	C_j		2.0	pF	V_R = 0V, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	5.0	ns	I_F = I_R = 10mA to I_R = 1.0mA, Irr = 0.1 x I_R, R_L = 100

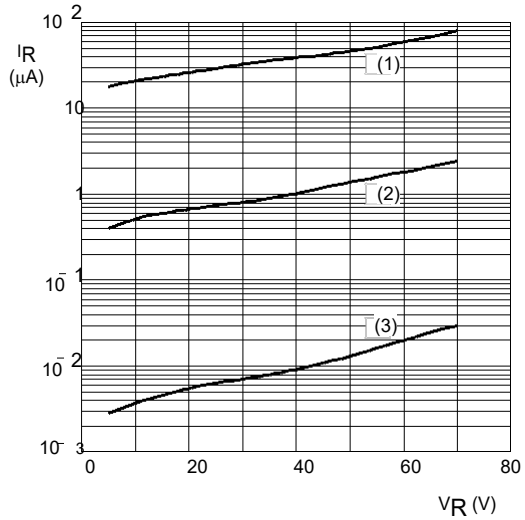
Notes: 1. Valid provided that terminals are kept at ambient temperature.
2. Test period <30 s.

Typical Characteristics



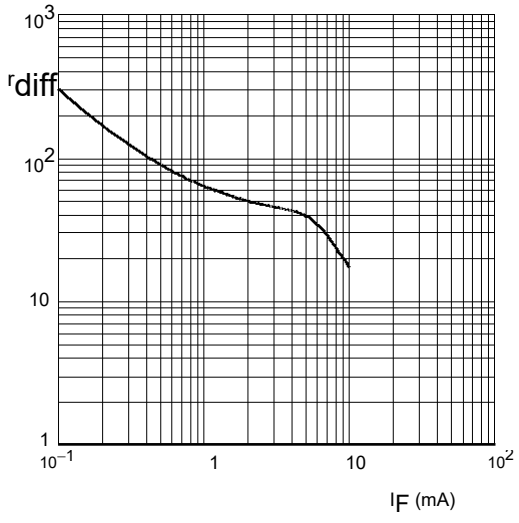
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.
(4) T_{amb} = −40 °C.

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



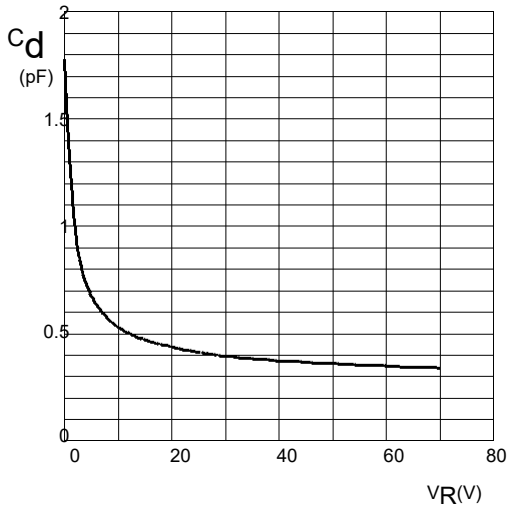
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

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



f = 10 kHz.

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

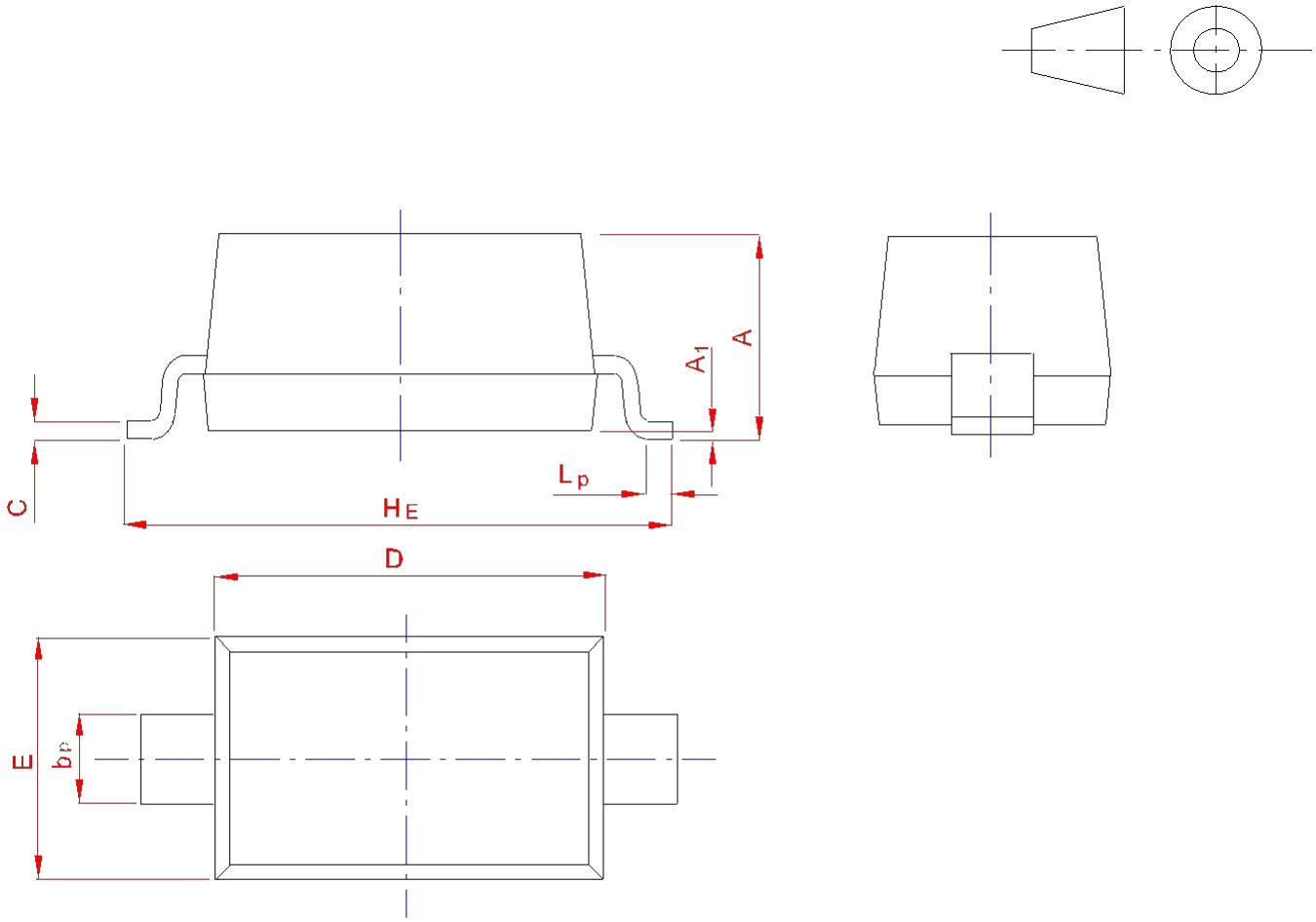


f = 1 MHz; T_{amb} = 25 °C.

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

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads **SOD-123**



UNIT	A	b_p	C	D	E	H_E	A_1	L_p
mm	1.20 0.90	0.60 0.50	0.135 0.100	2.75 2.55	1.65 1.55	3.85 3.55	0.10 0.01	0.50 0.20