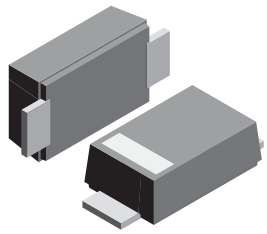
BAS170H

SURFACE MOUNT SCHOTTKY BARRIER DIODES



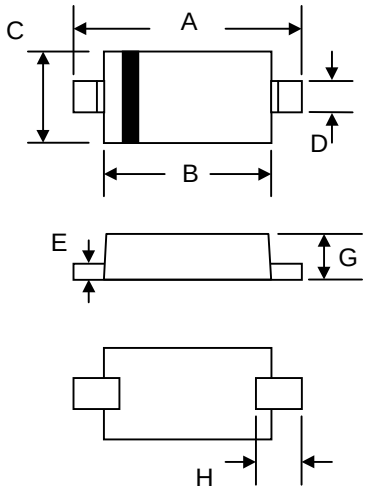
Features

- Schottky diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing

Mechanical Data

- Case: SOD-323, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)
- Marking: S 7

RoHS COMPLIANT



SOD-323		
Dim	**Min**	**Max**
A	2.30	2.70
B	1.75	1.95
C	1.15	1.35
D	0.25	0.35
E	0.05	0.15
G	0.70	0.95
H	0.30	—
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	70	V
Forward Continuous Current at T_{amb} = 25°C	I_F	70	mA
Surge Forward Current at t_p < 1s, T_{amb} = 25°C	I_{FSM}	600	mA
Power Dissipation(1) at T_{amb} = 25°C	P_{tot}	200	mW
Thermal Resistance Junction to Ambient Air(1)	$R_{\theta JA}$	650	°C/W
Junction Temperature	T_j	150	°C
Operating Temperature Range	T_{op}	–55 to +125	°C
Storage Temperature Range	T_S	–55 to +150	°C

Note: (1) Valid provided that electrodes are kept at ambient temperature

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	I_R = 10μA (pulsed)	70	—	—	V
Leakage Current	I_R	V_R = 50V V_R = 70V	— —	— —	0.1 10	μA
Forward Voltage	V_F	I_F = 1mA I_F = 10mA I_F = 15mA(1)	— — —	375 705 880	410 750 1000	mV
Capacitance	C_{tot}	V_R = 0V f = 1MHz	—	1.5	2	pF
Charge Carrier Lifetime	τ	I_F = 25mA	—	100	—	ps
Differential Forward Resistance	R_F	I_E = 5mA, f = 10KHz	—	34	—	Ω

Note: (1) Pulse test; $t_p \leq 300\mu s$

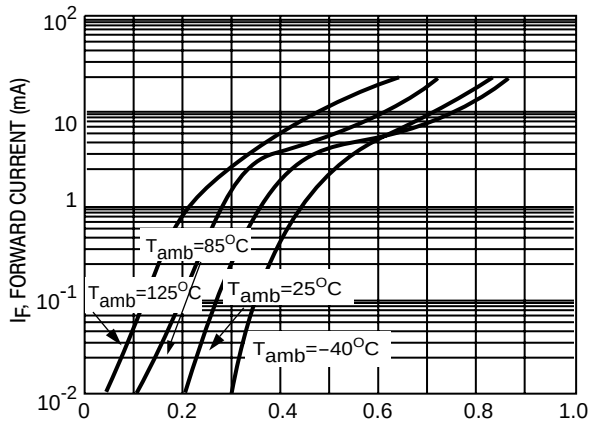


Fig.1 Forward current as a function of forward voltage; typical values.

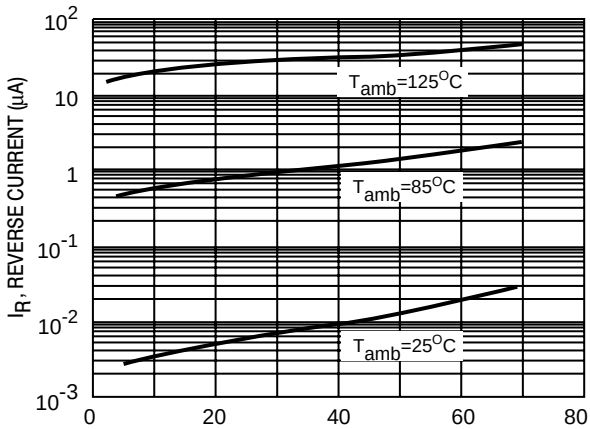


Fig.2 Reverse current as a function of reverse voltage; typical values.

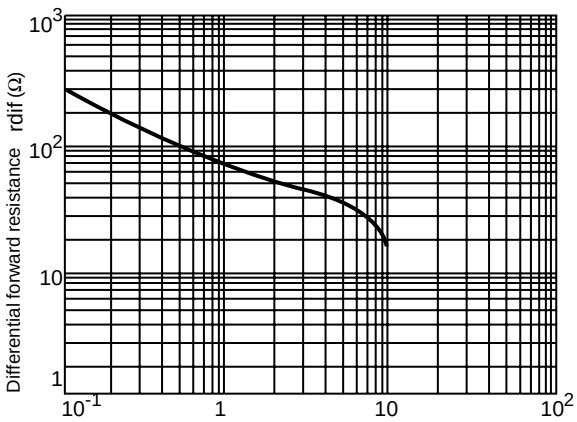


Fig.3 Differential forward resistance as a function of forward current;typical values.

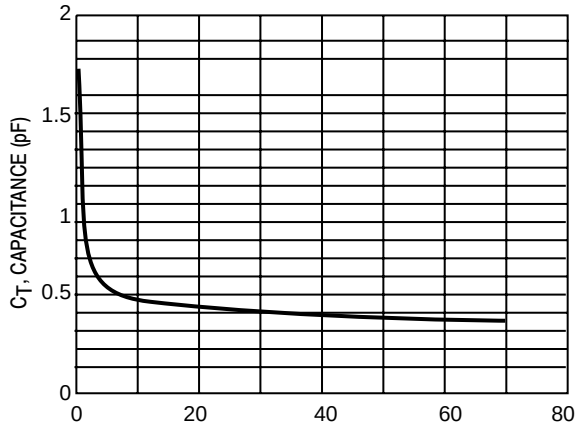


Fig.4 Diode capacitance as a function of reverse voltage;typical values.