



BAS70T/ -04T/ -05T/ -06T

SURFACE MOUNT SCHOTTKY BARRIER DIODE

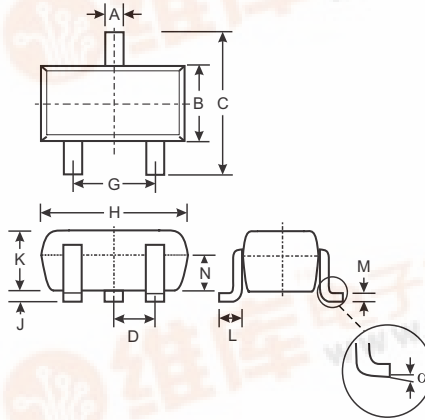
NEW PRODUCT

Features

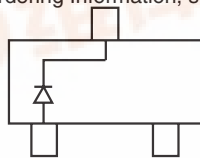
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Ultra-Small Surface Mount Package
- **Lead Free/RoHS Compliant (Note 3)**

Mechanical Data

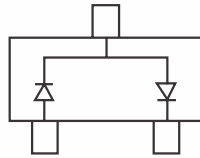
- Case: SOT-523
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking: See Diagrams Below & Page 2
- Weight: 0.002 grams (approx.)
- Ordering Information, see Page 2



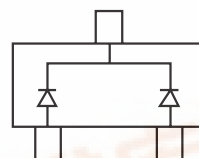
SOT-523			
Dim	Min	Max	Typ
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
α	0°	8°	—
All Dimensions in mm			



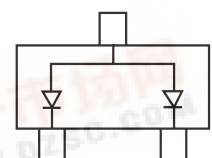
BAS70T Marking: 7C



BAS70-04T Marking: 7D



BAS70-05T Marking: 7E



BAS70-06T Marking: 7F

Maximum Ratings and Electrical Characteristics, Single Diode @ 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 _{RWM} V _R	70	V
RMS Reverse Voltage	V _{R(RMS)}	49	V
Forward Continuous Current (Note 1)	I _{FM}	70	mA
Non-Repetitive Peak Forward Surge Current @ t _p < 1.0s	I _{FSM}	100	mA
Power Dissipation (Note 1)	P _d	150	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R _{θJA}	833	°C/W
Operating Temperature Range	T _j	-55 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

Electrical Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V _{(BR)R}	70	—	—	I _R = 10μA
Forward Voltage (Note 2)	V _F	—	410 1000	mV	t _p < 300μs, I _F = 1.0mA t _p < 300μs, I _F = 15mA
Leakage Current (Note 2)	I _R	—	100	nA	t _p < 300μs, V _R = 50V
Total Capacitance	C _T	—	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, I _{rr} = 0.1 x I _R , R _L = 100Ω

Notes: 1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
2. Short duration test pulse used to minimize self-heating effect.
3. No purposefully added lead.



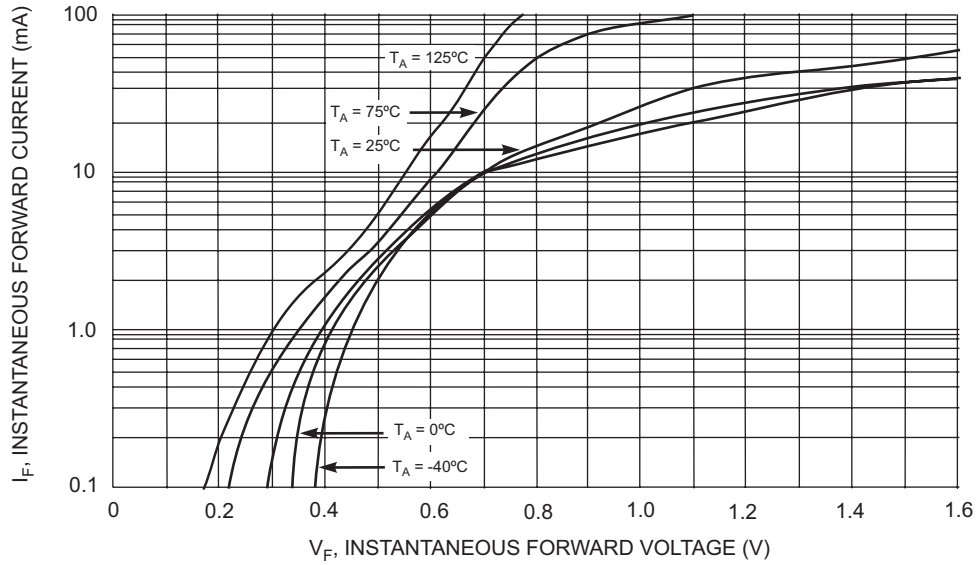


Fig. 1 Typical Forward Characteristics

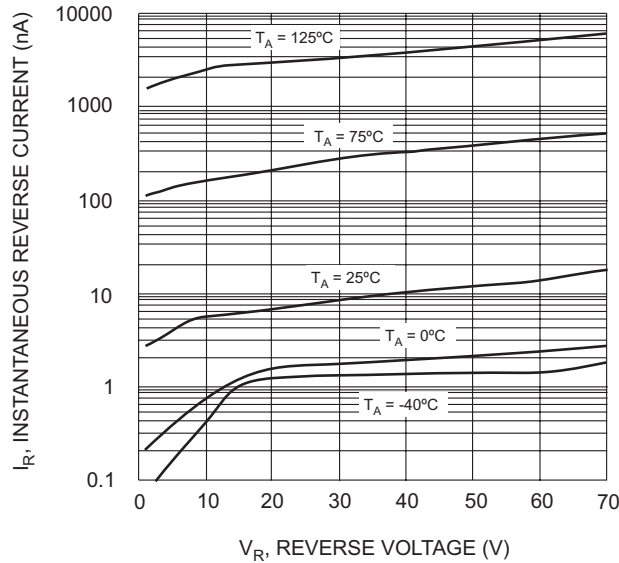


Fig. 2 Typical Reverse Characteristics

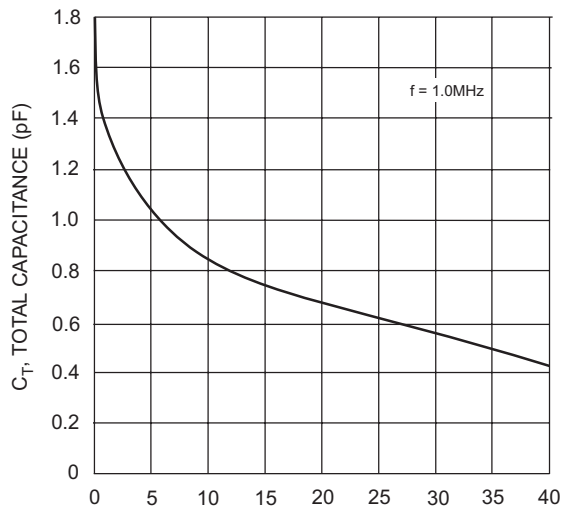


Fig. 3 Typical Capacitance

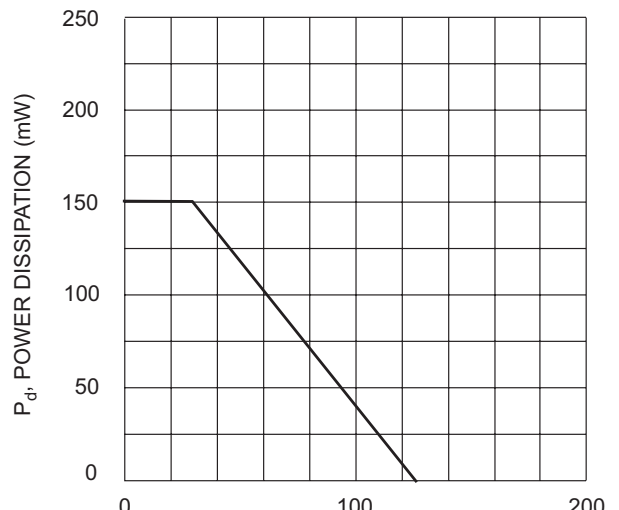


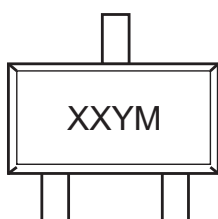
Fig. 4 Power Derating Curve, Total Package

Ordering Information (Note 4)

Device	Packaging	Shipping
BAS70T-7-F	SOT-523	3000/Tape & Reel
BAS70-04T-7-F	SOT-523	3000/Tape & Reel
BAS70-05T-7-F	SOT-523	3000/Tape & Reel
BAS70-06T-7-F	SOT-523	3000/Tape & Reel

Notes: 4. For Packaging Details: go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



XX = Product Type Marking Code (See Page 1, e.g. 7C = BAS70T)
 YM = Date Code Marking
 Y = Year (ex: N = 2002)
 M = Month (ex: 9 = September)

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009
Code	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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