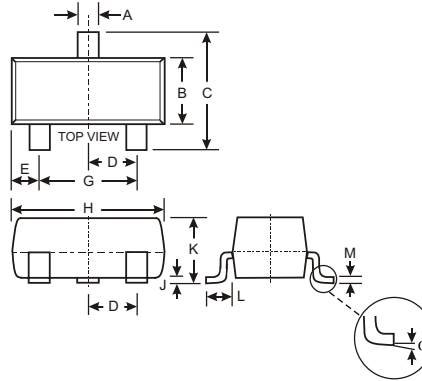


Features

- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Also Available in Lead Free Version

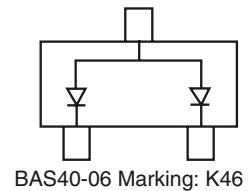
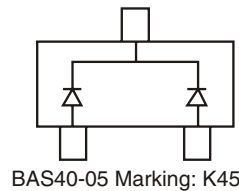
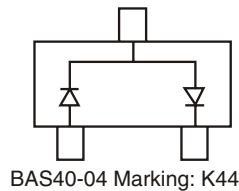
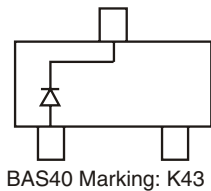
Mechanical Data

- Case: SOT-23, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 4, on Page 2
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Marking Code: See Diagrams Below & Page 2



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

TOP VIEW



Maximum Ratings @ 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	40	V
Forward Continuous Current (Note 1)	I _{FM}	200	mA
Power Dissipation (Note 1)	P _d	350	mW
Forward Surge Current (Note 1) @ t < 1.0s	I _{FSM}	600	mA
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	357	°C/W
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V _{(BR)R}	40	—	—	V	I _R = 10μA
Forward Voltage (Note 2)	V _F	—	—	380 1000	mV	t _p < 300μs, I _F = 1.0mA t _p < 300μs, I _F = 40mA
Reverse Leakage Current (Note 2)	I _R	—	20	200	nA	t _p < 300μs, V _R = 30V
Total Capacitance	C _T	—	4.0	5.0	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, R _L = 100Ω

Note: 1. Part mounted on FR-4 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.

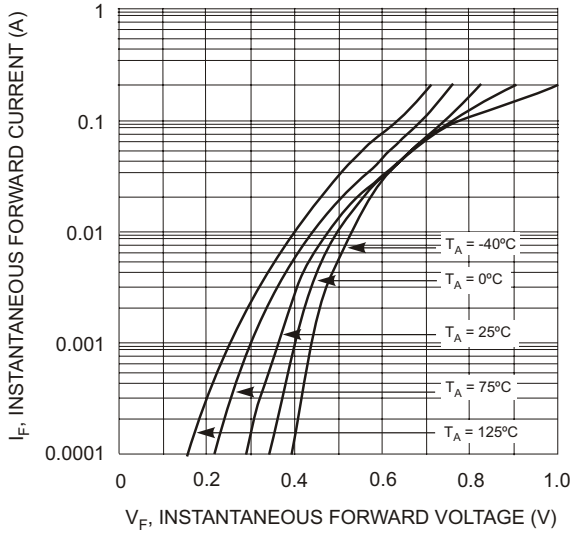


Fig. 1 Typical Forward Voltage

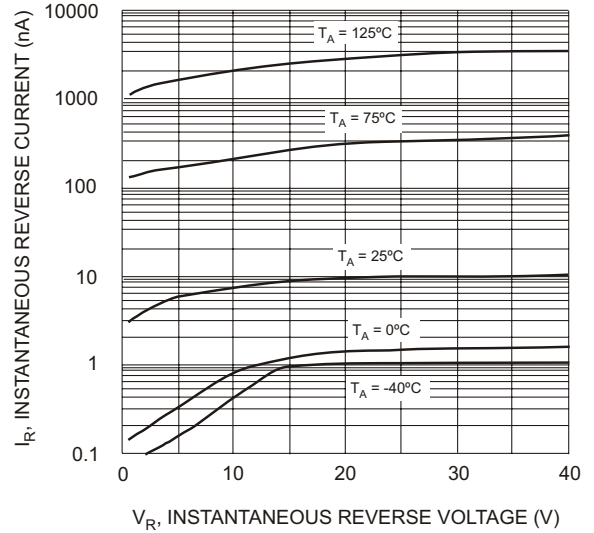


Fig. 2 Typical Reverse Characteristics

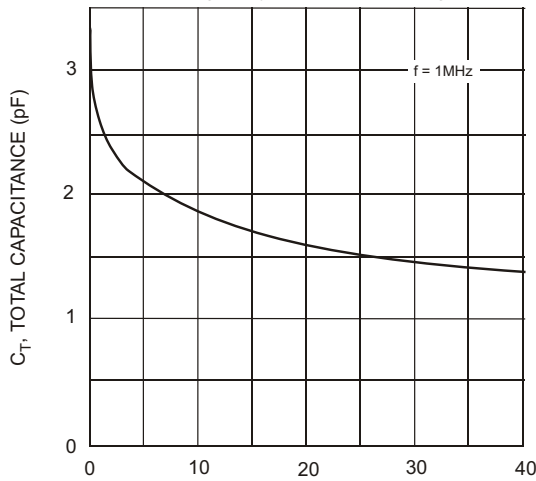


Fig. 3 Typical Capacitance

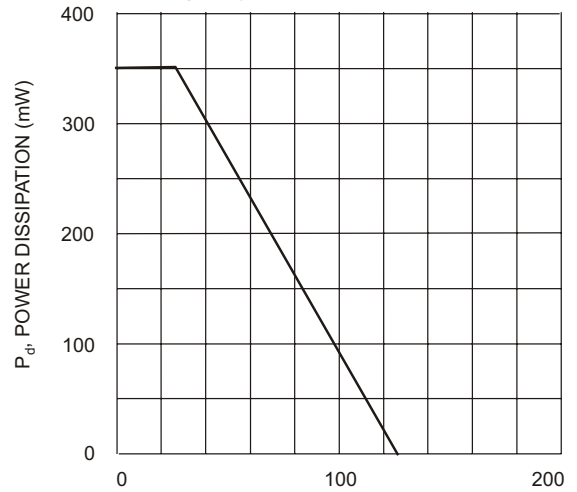


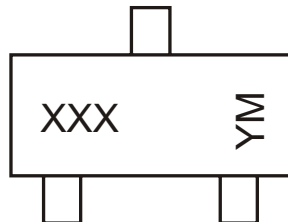
Fig. 4 Power Derating Curve, Total Package

Ordering Information (Note 3)

Device	Packaging	Shipping
BAS40-7	SOT-23	3000/Tape & Reel
BAS40-04-7	SOT-23	3000/Tape & Reel
BAS40-05-7	SOT-23	3000/Tape & Reel
BAS40-06-7	SOT-23	3000/Tape & Reel

- Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 4. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.
 Example: BAS40-06-7-F.

Marking Information



XXX = Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	K	L	M	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