BAS40/ -04/ -05/ -06

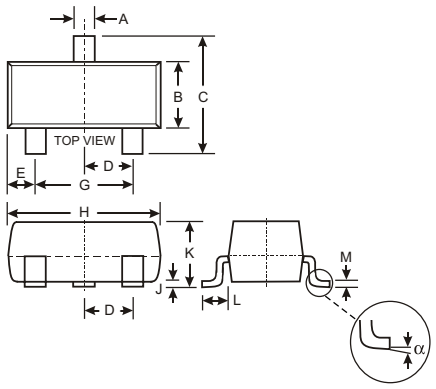
SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

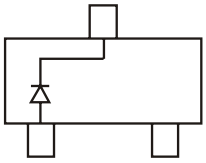
Mechanical Data

- 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
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Marking Code: See Diagrams Below & Page 2
- Ordering Information: See Page 2

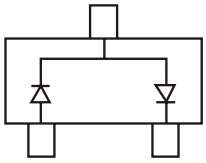


SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

TOP VIEW



BAS40 Marking: K43



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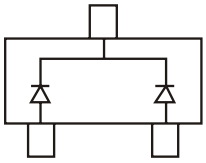
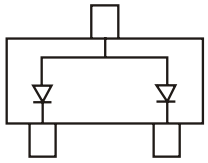


BAS40-05 Marking: K45



BAS40-06 Marking: K46

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)	$R_{\theta JA}$	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.

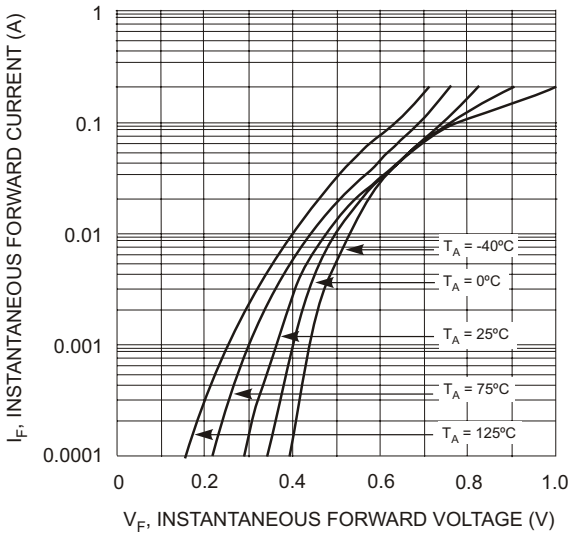


Fig. 1 Typical Forward Voltage

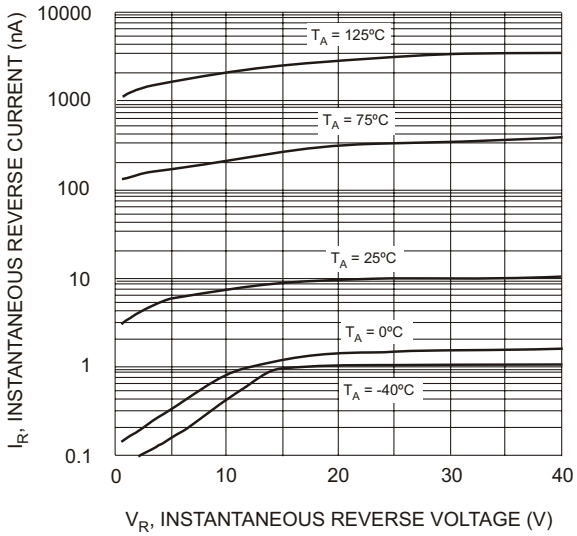


Fig. 2 Typical Reverse Characteristics

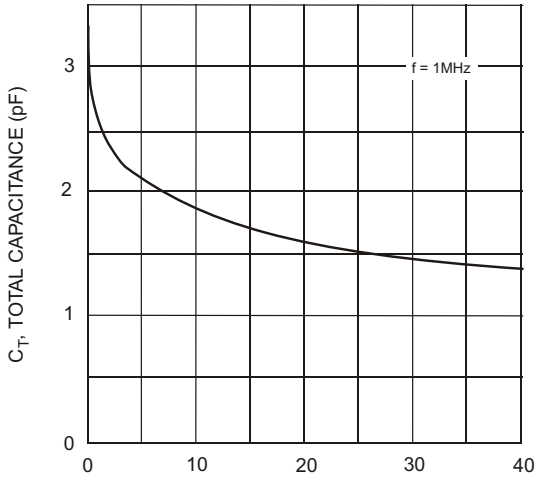


Fig. 3 Typical Capacitance

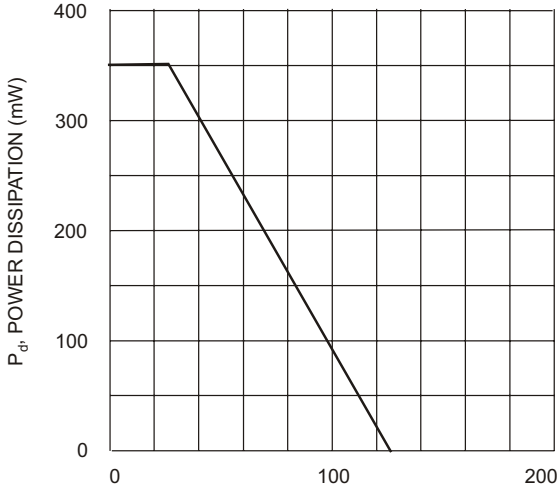


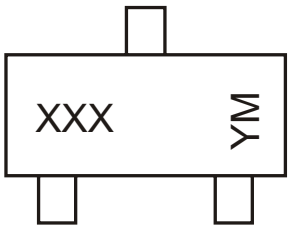
Fig. 4 Power Derating Curve, Total Package

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.

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