



SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

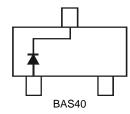
- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 4)
- Qualified to AEC-Q101 Standards for High Reliability

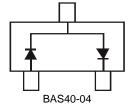
Mechanical Data

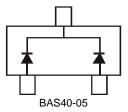
- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)

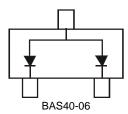


Top View









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
Forward Surge Current (Note 1) @ t < 1.0s	I _{FSM}	600	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	350	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{ heta JA}$	357	°C/W
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

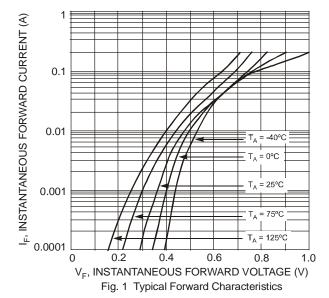
Electrical Characteristics @T_A = 25°C unless otherwise specified

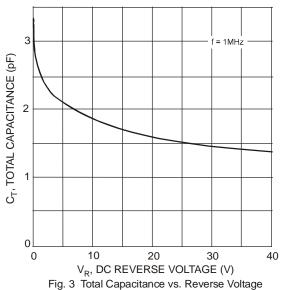
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40			V	$I_R = 10\mu A$
Forward Voltage	V _F	_	_	380 1000	mV	$t_p < 300 \mu s$, $I_F = 1.0 mA$ $t_p < 300 \mu s$, $I_F = 40 mA$
Reverse Leakage Current (Note 2)	I _R	_	20	200	nA	$t_p < 300 \mu s, V_R = 30 V$
Total Capacitance	C _T	_	4.0	5.0	pF	$V_R = 0V$, $f = 1.0MHz$
Reverse Recovery Time	t _{rr}	_	_	5.0	ns	$I_F = I_R = 10$ mA to $I_R = 1.0$ mA, $R_L = 100\Omega$

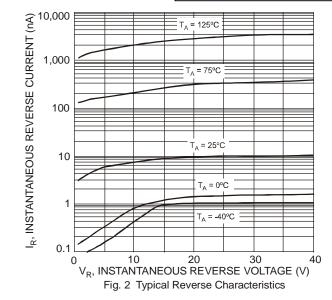
Notes:

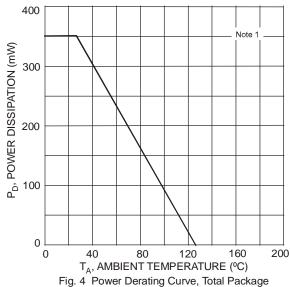
- 1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- 2. Short duration pulse test used to minimize self-heating effect.
- 3. No purposefully added lead. Halogen and Antimony Free.
- 4. Product manufactured with Date Čode V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.









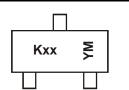


Ordering Information (Notes 4 & 5)

Part Number	Case	Packaging
BAS40-7-F	SOT-23	3000/Tape & Reel
BAS40-04-7-F	SOT-23	3000/Tape & Reel
BAS40-05-7-F	SOT-23	3000/Tape & Reel
BAS40-06-7-F	SOT-23	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



Kxx = Product Type Marking Code:

K43 = BAS40

K44 = BAS40-04 K45 = BAS40-05

K46 = BAS40-06

YM = Date Code Marking

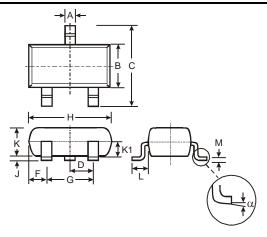
Y = Year (ex: T = 2006)

M = Month (ex: 9 = September)

Date Code	Key							M = M	onth (e	c: 9 = Se	ptember	.)					
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	K	L	M	N	Р	R	S	Т	U	V	W	Χ	Υ	Z	Α	В	С
Month	Jan	-	Feb	Mar	Α	pr	May	Jui	n	Jul	Aug	S	ер	Oct	Nov	,	Dec
Code	1		2	3		1	5	6		7	8		9	0	N		D

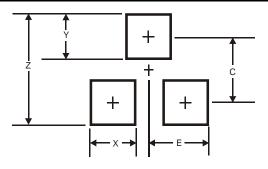


Package Outline Dimensions



SOT-23						
Dim	Min	Max	Тур			
Α	0.37	0.51	0.40			
В	1.20	1.40	1.30			
С	2.30	2.50	2.40			
D	0.89	1.03	0.915			
F	0.45	0.60	0.535			
G	1.78	2.05	1.83			
Н	2.80	3.00	2.90			
J	0.013	0.10	0.05			
K	0.903	1.10	1.00			
K1	-	-	0.400			
L	0.45	0.61	0.55			
М	0.085	0.18	0.11			
α	0°	8°	-			
All Dimensions in mm						

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Υ	0.9
С	2.0
E	1.35

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