



SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

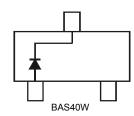
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

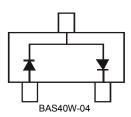
Mechanical Data

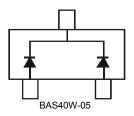
- Case: SOT323
- Case Material: Molded Plastic, "Green" Molding Compound,
 Note 4. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208 (3)
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- · Polarity: See Diagrams Below
- Weight: 0.006 grams (approximate)

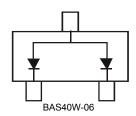


Top View









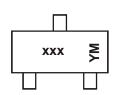
Ordering Information (Notes 4 & 5)

Part Number	Case	Packaging
BAS40W-7-F	SOT323	3000/Tape & Reel
BAS40W-13-F	SOT323	10000/Tape & Reel
BAS40W-04-7-F	SOT323	3000/Tape & Reel
BAS40W-05-7-F	SOT323	3000/Tape & Reel
BAS40W-06-7-F	SOT323	3000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. Product manufactured with Date Code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.
- 5. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



xxx = Product Type Marking Code

K43 = BAS40W

K44 = BAS40W-04

K45 = BAS40W-05

K46 = BAS40W-06

YM = Date Code Marking

Y = Year (ex: B = 2014)

M = Month (ex: 9 = September)

Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Code	Т	U	V	W	Χ	Υ	Z	Α	В	C	D	Е	F	G	Н	- 1
Month	Jan	F	eb	Mar	Apr	M	ay	Jun	Jul	A	ug	Sep	Oct	No	ov	Dec
Code	1		2	3	4		5	6	7	3	3	9	0	1	٧	D



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
RMS Reverse Voltage	V _{R(RMS)}	28	V
Forward Continuous Current (Note 6)	I _{FM}	200	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0s	I _{FSM}	600	mA

Thermal Characteristics

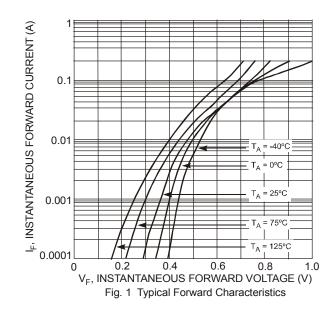
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P_{D}	200	mW
Thermal Resistance Junction to Ambient Air (Note 6)	R _{θJA}	625	°C/W
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

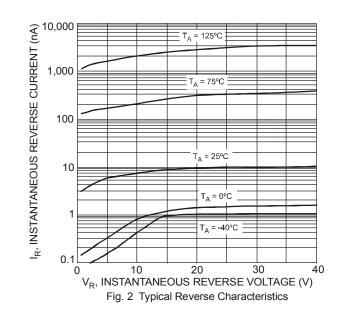
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	40		V	I _R = 10μA
Forward Voltage	V _F	_	380 1000	mV mV	I_F = 1.0mA, t_p < 300 μ s I_F = 40mA, t_p < 300 μ s
Leakage Current (Note 7)	I _R	_	200	nA	V _R = 30V
Total Capacitance	C _T	_	5.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	_	5.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

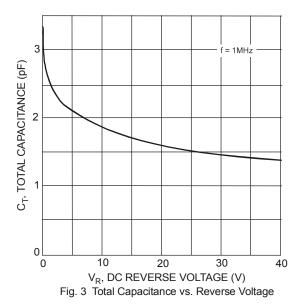
Notes:

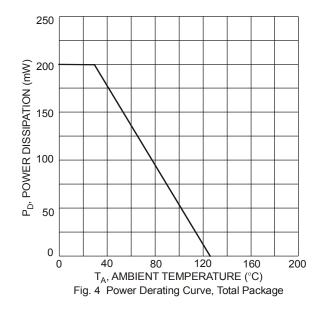
- 6. Device mounted on FR4 PC board with recommended pad layout, per http://www.diodes.com
- 7. Short duration pulse test used to minimize self-heating effect.





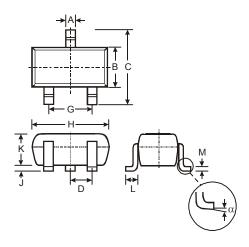






Package Outline Dimensions

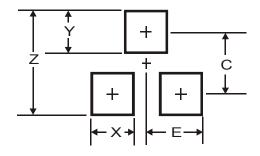
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



	SOT323								
Dim	Min	Max	Тур						
Α	0.25	0.40	0.30						
В	1.15	1.35	1.30						
С	2.00	2.20	2.10						
D	1	1	0.65						
G	1.20	1.40	1.30						
Н	1.80	2.20	2.15						
J	0.0	0.10	0.05						
K	0.90	1.00	1.00						
L	0.25	0.40	0.30						
M	0.10	0.18	0.11						
α	0°	8°	-						
All	All Dimensions in mm								

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
Z	2.8
Х	0.7
Υ	0.9
С	1.9
E	1.0



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