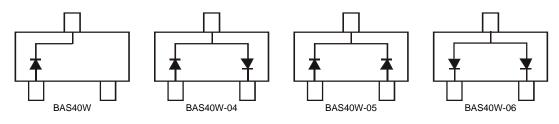
#### SURFACE MOUNT SCHOTTKY BARRIER DIODE

### **Features**

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 3)
- "Green" Device (Note 4 and 5)

### **Mechanical Data**

- Case: SOT-323
- 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
- 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: 0.006 grams (approximate)



## **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 <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	40	٧		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V		
Forward Continuous Current (Note 1)	I <sub>FM</sub>	200	mA		
Non-Repetitive Peak Forward Surge Current @ t = 1.0s	I <sub>FSM</sub>	600	mA		

### **Thermal Characteristics**

Top View

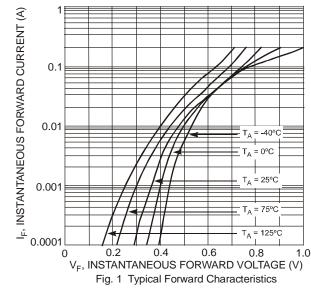
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	$P_{D}$	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	625	°C/W
Operating Temperature Range	$T_J$	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

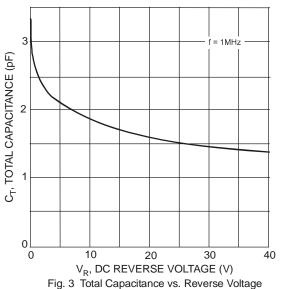
# **Electrical Characteristics** $@T_A = 25\%$ unless otherwise specified

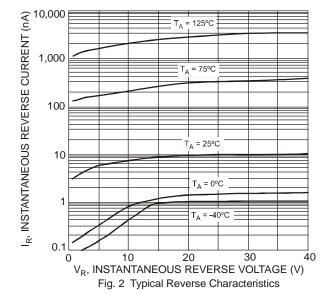
Characteristic	Symbol	Min	Max	Unit	Test Condition		
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40	_	V	$I_R = 10\mu A$		
Forward Voltage	V <sub>F</sub>	_	380 1000	mV mV	$I_F = 1.0 \text{mA}, t_p < 300 \mu \text{s}$ $I_F = 40 \text{mA}, t_p < 300 \mu \text{s}$		
Leakage Current (Note 2)	I <sub>R</sub>		200	nA	V <sub>R</sub> = 30V		
Total Capacitance	C <sub>T</sub>	_	5.0	pF	$V_R = 0, f = 1.0MHz$		
Reverse Recovery Time	t <sub>rr</sub>	_	5.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$		

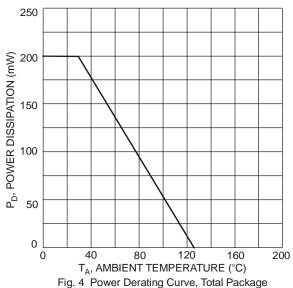
Notes: 1. Device mounted on FR4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

- Short duration pulse test used to minimize self-heating effect.
  No purposefully added lead.
- 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.
- 5. 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.







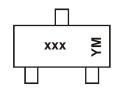


### Ordering Information (Notes 5 & 6)

Part Number	Case	Packaging
BAS40W-7-F	SOT-323	3000/Tape & Reel
BAS40W-04-7-F	SOT-323	3000/Tape & Reel
BAS40W-05-7-F	SOT-323	3000/Tape & Reel
BAS40W-06-7-F	SOT-323	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

# **Marking Information**



xxx = Product Type Marking Code

K43 = BAS40W

K44 = BAS40W-04 K45 = BAS40W-05

K46 = BAS40W-06

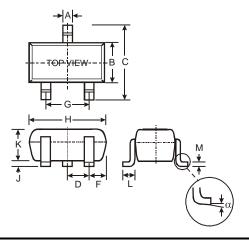
YM = Date Code Marking

Y = Year (ex: N = 2002)

M = Month (ex: 9 = September)

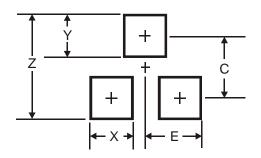
Date Code Key								141 – 14101	тит (ож. с	5 = <b>C</b> opt	.0111001)					
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	L	М	Ν	Р	R	S	Т	U	V	W	X	Υ	Z	Α	В	С
Month	Jan	F	eb	Mar	Apr	N	lay	Jun	Jul	A	ug	Sep	Oct	Ne	ov	Dec
Code	1		2	3	4		5	6	7		8	9	0	1	1	D

## **Package Outline Dimensions**



	SOT-323						
Dim	Min Max Typ						
Α	0.25	0.40	0.30				
В	1.15	1.35	1.30				
С	2.00	2.20	2.10				
D	-	-	0.65				
F	0.30	0.40	0.425				
G	1.20	1.40	1.30				
Н	1.80	2.20	2.15				
J	<b>J</b> 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**



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

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