



SURFACE MOUNT HIGH VOLTAGE DUAL SWITCHING DIODE

Features

- · Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- High Reverse Breakdown Voltage
- Low Leakage Current
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 1 and 2)
- Qualified to AEC-Q101 Standards for High Reliability

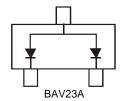
Mechanical Data

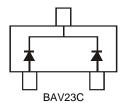
- Case: SOT23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- · Polarity: See Diagrams Below
- Weight: 0.008 grams (approximate)

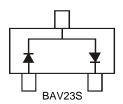












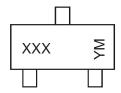
Ordering Information (Note 3)

Part Number	Qualification	Case	Packaging
BAV23A-7-F	Commercial	SOT23	3,000/Tape & Reel
BAV23A-13-F	Commercial	SOT23	10,000/Tape & Reel
BAV23AQ-7-F	Automotive	SOT23	3,000/Tape & Reel
BAV23AQ-13-F	Automotive	SOT23	10,000/Tape & Reel
BAV23C-7-F	Commercial	SOT23	3,000/Tape & Reel
BAV23C-13-F	Commercial	SOT23	10,000/Tape & Reel
BAV23CQ-7-F	Automotive	SOT23	3,000/Tape & Reel
BAV23CQ-13-F	Automotive	SOT23	10,000/Tape & Reel
BAV23S-7-F	Commercial	SOT23	3,000/Tape & Reel
BAV23S-13-F	Commercial	SOT23	10,000/Tape & Reel
BAV23SQ-13-F	Automotive	SOT23	10,000/Tape & Reel

Notes:

- 1. No purposefully added lead. Halogen and Antimony Free.
- 2. 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.
- 3. For packaging details, go to our website at http://www.diodes.com.

Marking Information



XXX = Product Type Marking Code
ex. KT7 = BAV23A
 KT6 = BAV23C
 KL31 = BAV23S
YM = Date Code Marking
Y = Year (ex: Y = 2011)
M = Month (ex: 9 = September)

Date Code Key

	,														
Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Code	Р	R	S	Т	U	V	W	Х	Υ	Z	Α	В	С	D	E
Month	Jan	Fe	b	Mar	Apr	May	Ju	n	Jul	Aug	Sep	Oc	t	Nov	Dec
Code	1	2		3	4	5	6		7	8	9	0		N	D



Maximum Ratings @TA = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	250	V
Working Peak Reverse Voltage DC Blocking Voltage		V _{RWM} V _R	200	V
RMS Reverse Voltage		V _{R(RMS)}	141	V
Forward Continuous Current (Note 4)		I _{FM}	400	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 100μs @ t = 10ms	I _{FSM}	9.0 3.0 1.7	А
Repetitive Peak Forward Surge Current (Note 4)		I _{FRM}	625	mA

Thermal Characteristics

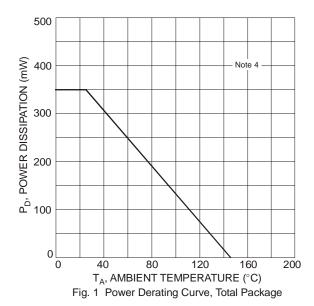
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P_{D}	350	mW
Thermal Resistance Junction to Ambient Air (Note 4)	$R_{ hetaJA}$	357	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

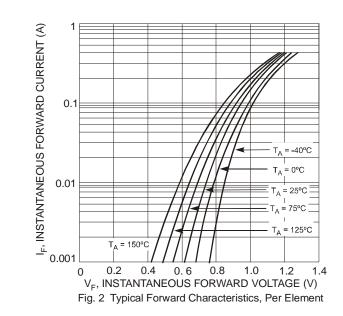
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	250		V	$I_R = 100 \mu A$
Forward Voltage	VF	_	1.0	W	$I_F = 100 \text{mA}$
Forward Voltage	VF	_	1.25	\ \ \	$I_F = 200 \text{mA}$
Reverse Current (Note 5)		_	100	nA	$V_R = 200V, T_J = 25^{\circ}C$
Reverse Current (Note 5)	IR	_	100	μΑ	$V_R = 200V, T_J = 150^{\circ}C$
Total Capacitance	C _T	_	5.0	pF	$V_R = 0$, $f = 1.0MHz$
Reverse Recovery Time			_ 50	ns	$I_F = I_R = 30 \text{mA},$
Reverse Recovery Time	t _{rr}				$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

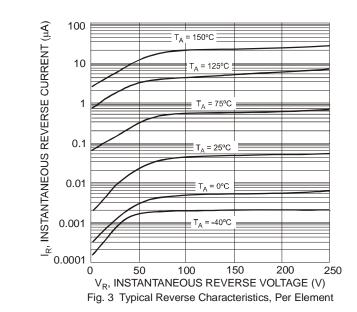
Notes:

- 4. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com.
- 5. Short duration pulse test used to minimize self-heating effect.









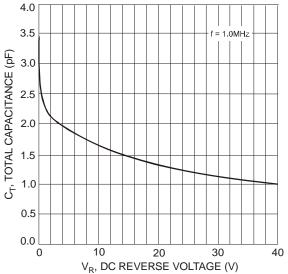
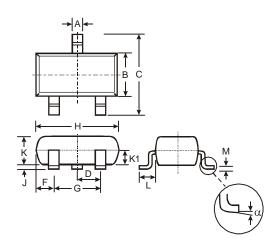


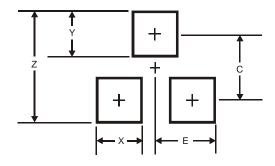
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Package Outline Dimensions



SOT23							
Dim	Min	Max	Тур				
Α	0.37	0.51	0.40				
В	1.20	1.40	1.30				
C	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				
7	0.013	0.10	0.05				
K	0.903	1.10	1.00				
K 1	-	1	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			
Y	0.9			
С	2.0			
E	1.35			



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