



**THE DATASHEET OF
BAV23-7**

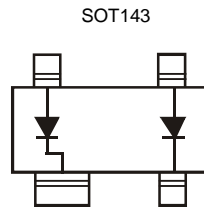


Features

- Fast Switching Speed
- High Reverse Breakdown Voltage
- Two Electrically Isolated Elements in a Single Compact Package
- Low Leakage Current
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: SOT143
- 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 Diagram Below
- Weight: 0.008 grams (Approximate)



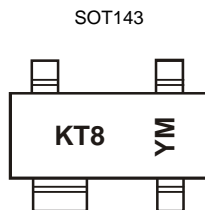
Device Schematic

Ordering Information (Note 3)

Part Number	Case	Packaging
BAV23-7	SOT143	3,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. 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.

Marking Information



KT8 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Y = 2011)
 M = Month (ex: 9 = September)

Date Code Key

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Code	Y	Z	A	B	C	D	E	F	G	H

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Maximum Ratings (@T_A = +25°C unless otherwise specified.)

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

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P _D	400	mW
Thermal Resistance Junction to Ambient Air (Note 4)	R _{θJA}	312	°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 = 100μA
Forward Voltage	V _F	—	1.0	V	I _F = 100mA
		—	1.25	V	I _F = 200mA
Reverse Current (Note 5)	I _R	—	100	nA	V _R = 200V
		—	100	μA	V _R = 200V, T _J = +150°C
Total Capacitance	C _T	—	2.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	50	ns	I _F = I _R = 30mA, I _{rr} = 0.1 x I _R , R _L = 100Ω

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.

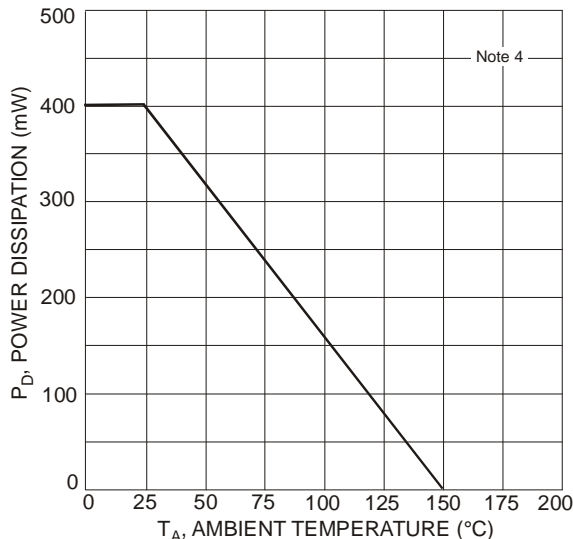


Fig. 1 Power Derating Curve, Total Package

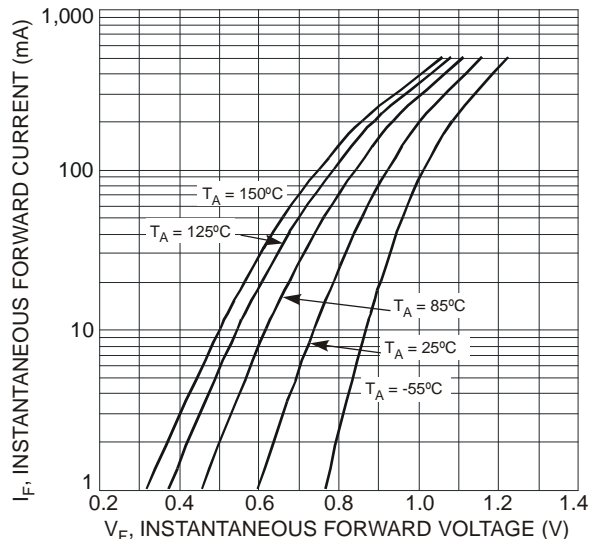


Fig. 2 Typical Forward Characteristics, Per Element

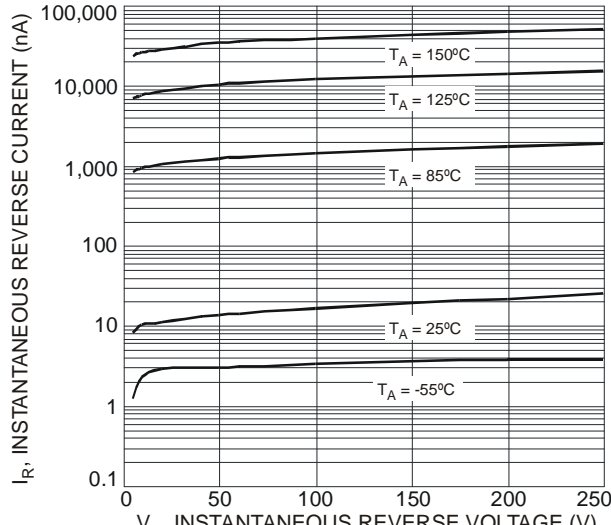


Fig. 3 Typical Reverse Characteristics, Per Element

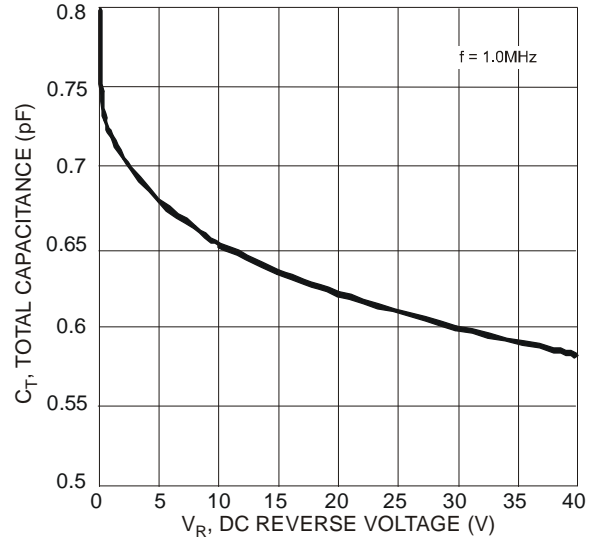
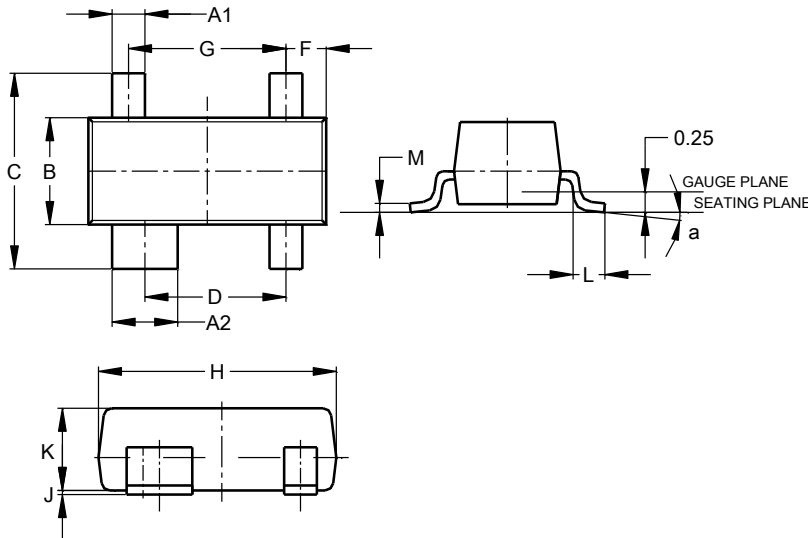


Fig. 4 Typical Total Capacitance vs. Reverse Voltage, Per Element

Package Outline Dimensions

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

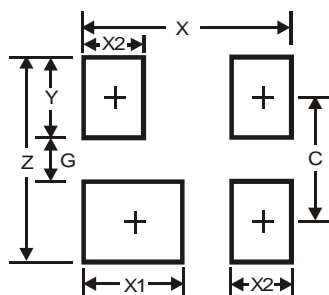


SOT143			
Dim	Min	Max	Typ
A1	0.37	0.51	0.400
A2	0.77	0.93	0.800
B	1.20	1.40	1.30
C	2.28	2.48	2.38
D	1.58	1.83	1.72
F	0.45	0.60	0.49
G	1.78	2.03	1.92
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.89	1.00	-
L	0.46	0.60	0.50
M	0.085	0.18	0.11
a	0°	8°	-

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	2.70
G	1.30
X	2.50
X1	1.00
X2	0.60
Y	0.70
C	2.00

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