SURFACE MOUNT SWITCHING DIODE ARRAY

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- Two “BAV70” Circuits In One Package
- **Lead Free/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

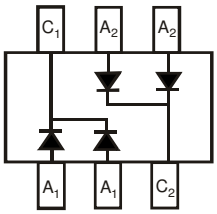
Mechanical Data

- Case: SOT563
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper Alloy leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Orientation: See Diagram
- Weight: 0.003 grams (approximate)

SOT563

Top View

Bottom View



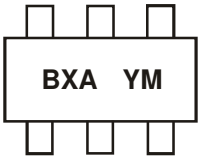
Top View
Internal Schematic

Ordering Information (Note 3)

Part Number	Case	Packaging
BAV70DV-7	SOT563	3000/Tape & Reel

Notes: 1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com.
3. For packaging details, go to our website at http://www.diodes.com.

Marking Information



BXA = 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
Code	Y	Z	A	B	C	D	E

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
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	75	V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 4)	I_{FM}	300	mA
Average Rectified Output Current (Note 4)	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I_{FSM}	2.0 1.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P_D	200	mW
Thermal Resistance Junction to Ambient Air (Note 4)	$R_{\theta JA}$	625	°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)	$V_{(BR)R}$	75	—	V	I_F = 2.5μA
Forward Voltage	V_F	—	0.715 0.855 1.0 1.25	V	I_F = 1.0mA I_F = 10mA I_F = 50mA I_F = 150mA
Reverse Current (Note 5)	I_R	—	2.5 50 30 25	μA μA μA nA	V_R = 75V V_R = 75V, T_J = 150°C V_R = 25V, T_J = 150°C V_R = 20V
Total Capacitance	C_T	—	2.0	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	4.0	ns	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

Notes: 4. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com.
5. Short duration pulse test used to minimize self-heating effect.

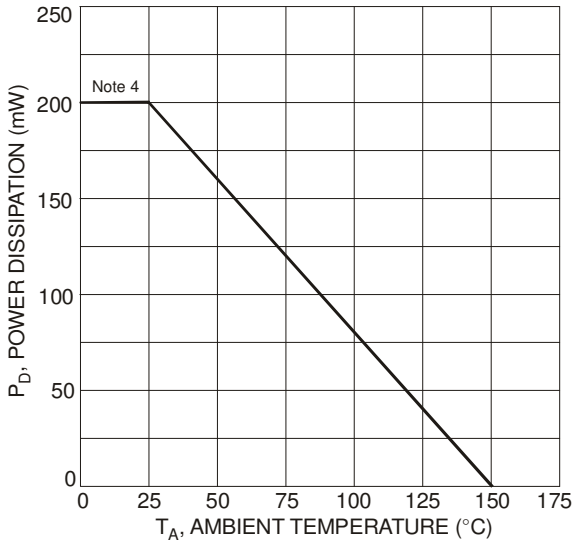


Fig. 1 Power Derating Curve, Total Package

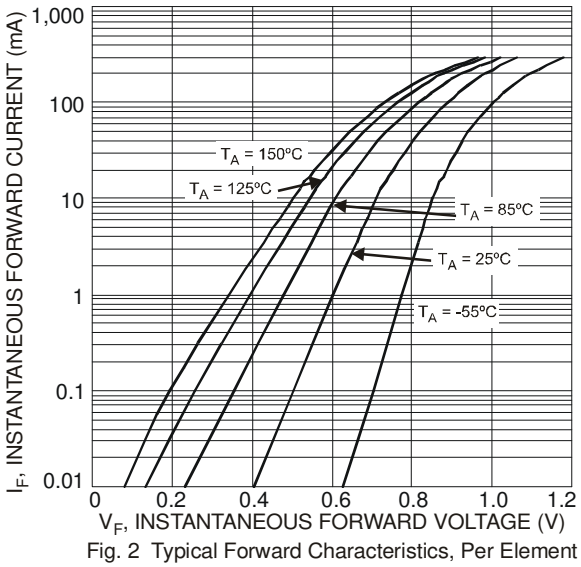


Fig. 2 Typical Forward Characteristics, Per Element

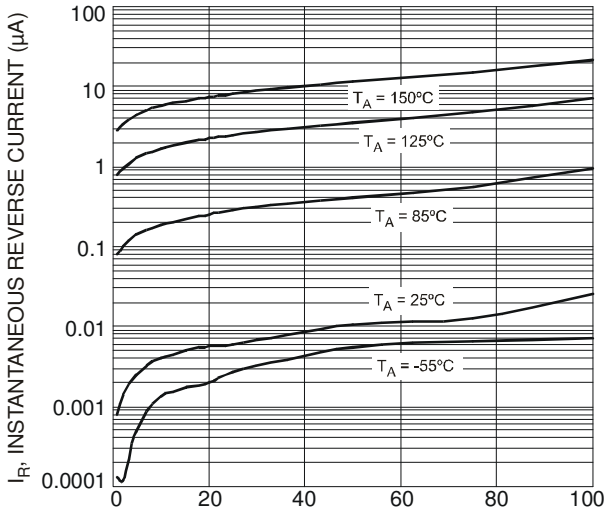


Fig. 3 Typical Reverse Characteristics, Per Element

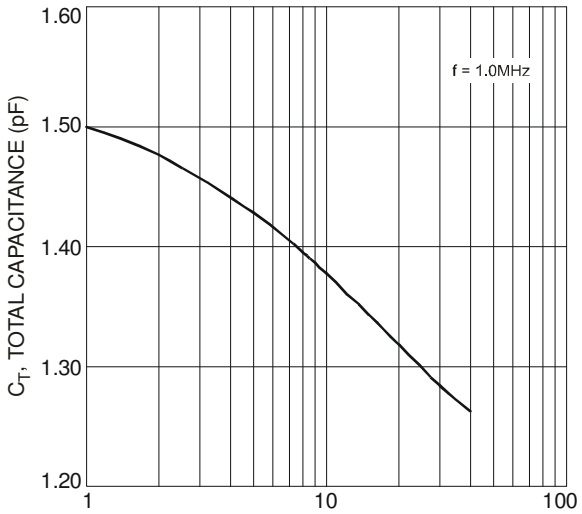
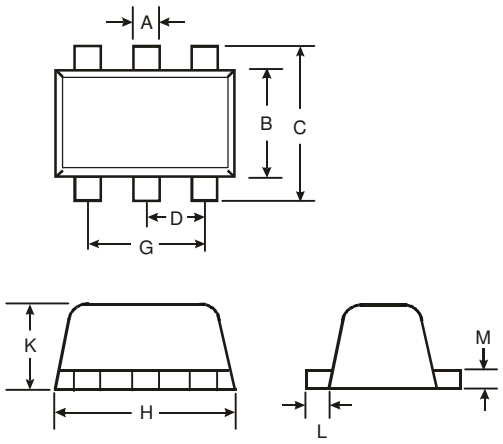


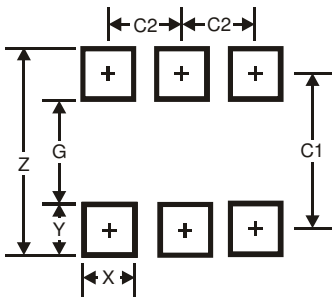
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Package Outline Dimensions



SOT563			
Dim	**Min**	**Max**	**Typ**
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	-	-	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5

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