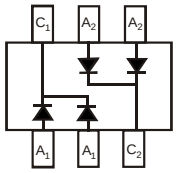
Features

- Fast Switching Speed
- Small Surface Mount Package
- Low Leakage Current
- Two “BAV70” Circuits in One Package
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Matte Tin Finish Annealed over Alloy 42 Leadframe (Lead-Free Plating). Solderable per MIL-STD-202, Method 208 e3
- Orientation: See Diagram
- Weight: 0.006 grams (Approximate)

TOP VIEW
SOT-363



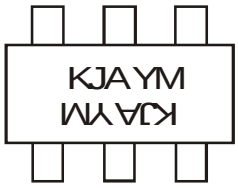
TOP VIEW
Internal Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
BAV70DW-7-F	SOT-363	3000/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 compounds1.
4. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



KJA = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: B = 2014
M = Month ex: 9 = September

Date Code Key

Year	2001	2002	…	2010	2011	2012	2013	2014	2015	2016	2017	2018
Code	M	N	…	X	Y	Z	A	B	C	D	E	F

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	80	V
RMS Reverse Voltage		$V_{R(RMS)}$	57	V
Forward Continuous Current (Note 5)		I_{FM}	300	mA
Average Rectified Output Current (Note 5)		I_O	150	mA
Repetitive Peak Forward Current		I_{FRM}	450	mA
Non-repetitive Peak Forward Surge Current	@ t = 1.0µs @ t = 1.0ms @ t = 1.0s	I_{FSM}	4 1 0.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	$R_{\theta JA}$	625	°C/W
Thermal Resistance, Junction to Solder Point	$R_{\theta JSP}$	70	°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 6)	$V_{(BR)R}$	75 80	—	V	I_F = 2.5µA I_F = 20µA
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 6)	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	—	1.5	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
Forward Recovery Voltage	V_{FR}	—	1.75	V	I_F = 10mA, t_r = 20 ns

Notes:
5. Device mounted on FR-4 PCB, 1in. x 0.85in. x 0.062in. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
6. Short duration pulse test used to minimize self-heating effect.

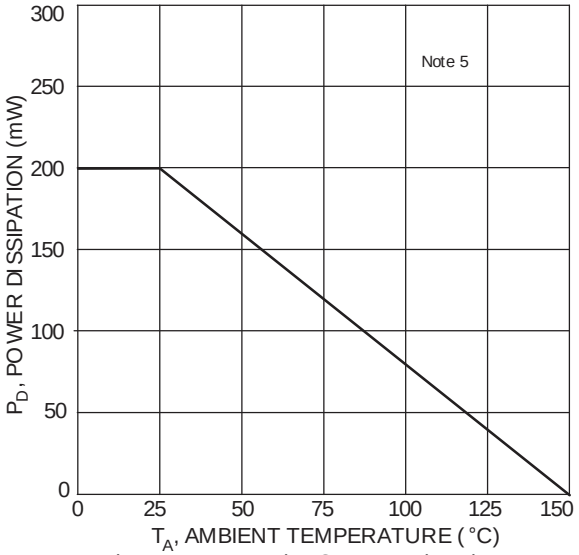


Fig. 1 Power Derating Curve, Total Package

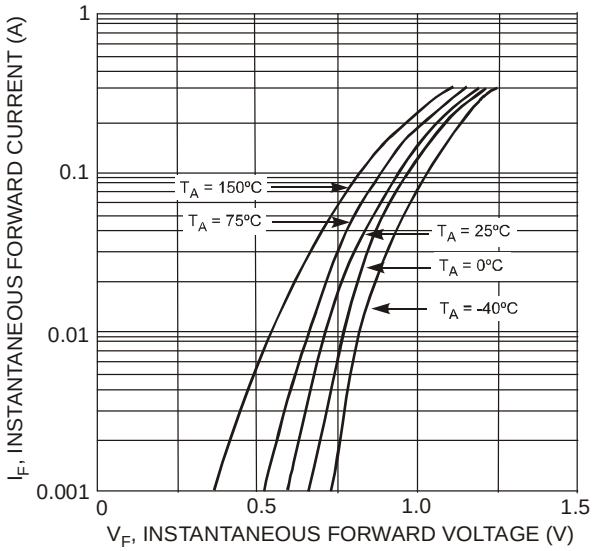


Fig. 2 Typical Forward Characteristics, Per Element

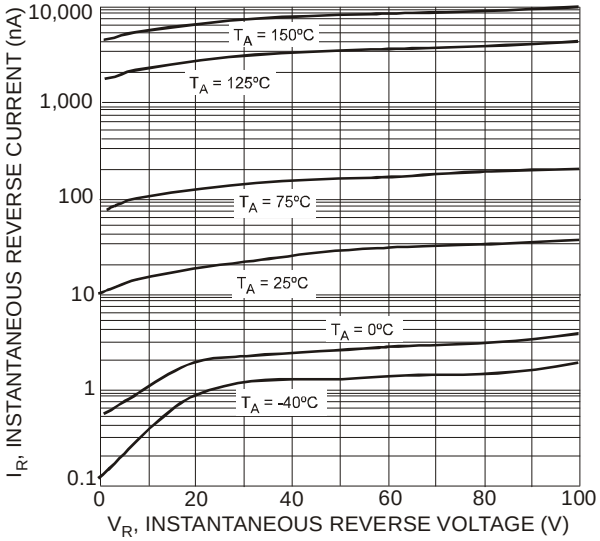


Fig. 3 Typical Reverse Characteristics, Per Element

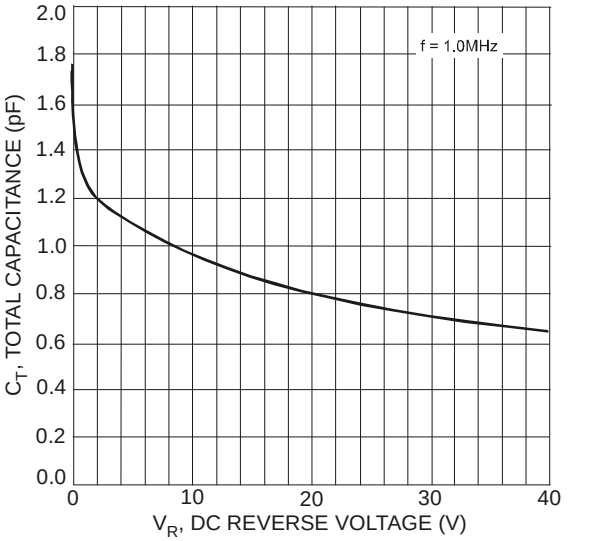
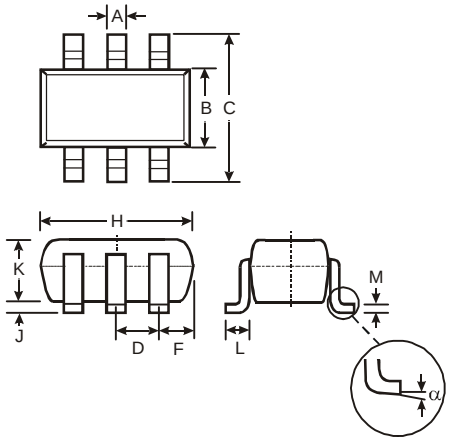


Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Package Outline Dimensions

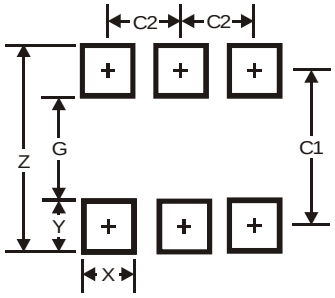
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



SOT363			
Dim	**Min**	**Max**	**Typ**
A	0.10	0.30	0.25
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	0.65 Typ		
F	0.40	0.45	0.425
H	1.80	2.20	2.15
J	0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.22	0.11
α	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	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65

Mouser Electronics

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BAV70DW-7-F