

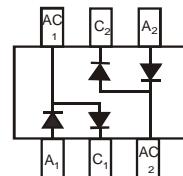
Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)



Top View

SOT363


 Top View
 Internal Schematic

Mechanical Data

- Case: SOT363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over Alloy 42 Leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: See Diagram
- Weight: 0.008 grams (Approximate)

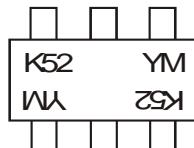
Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
BAV199DW-7-F	Standard	SOT363	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 compounds.
4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



K52 = Product Type Marking Code

YM = Date Code Marking

Y = Year (ex: C = 2015)

M = Month (ex: 9 = September)

Date Code Key

Year	2006	2007	2008	...	2015	2016	2017	2018	2019	2020		
Code	T	U	V	...	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
Peak Repetitive Reverse Voltage	V_{RRM}	85	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	60	V
Forward Continuous Current (Note 5)	Single Diode Double Diode	I _{FM}	mA
Repetitive Peak Forward Current (Note 5)		I _{FRM}	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I _{FSM}	A
		4.0 1.0 0.5	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{θJA}$	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	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	85	—	—	V	$I_R = 100\mu A$
Forward Voltage	V_F	—	—	0.90 1.0 1.1 1.25	V	$I_F = 1.0mA$ $I_F = 10mA$ $I_F = 50mA$ $I_F = 150mA$
Leakage Current (Note 6)	I_R	—	—	5.0 80	nA	$V_R = 75V$ $V_R = 75V$, $T_J = +150°C$
Total Capacitance	C_T	—	1.5	—	pF	$V_R = 0$, $f = 1.0MHz$
Reverse Recovery Time	t_{RR}	—	—	3.0	μs	$I_F = I_R = 10mA$, $I_{RR} = 0.1 \times I_R$, $R_L = 100\Omega$

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

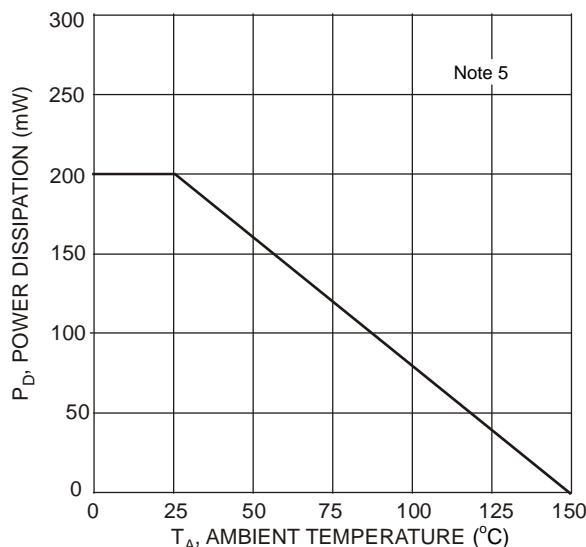


Fig. 1 Power Derating Curve, Total Package

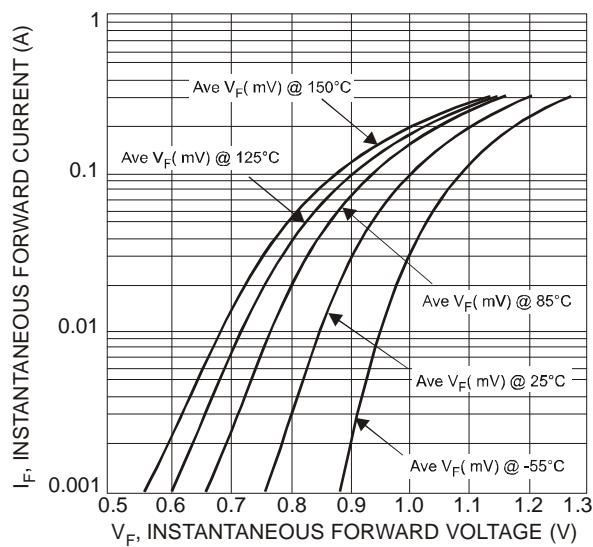


Fig. 2 Typical Forward Characteristics, Per Element

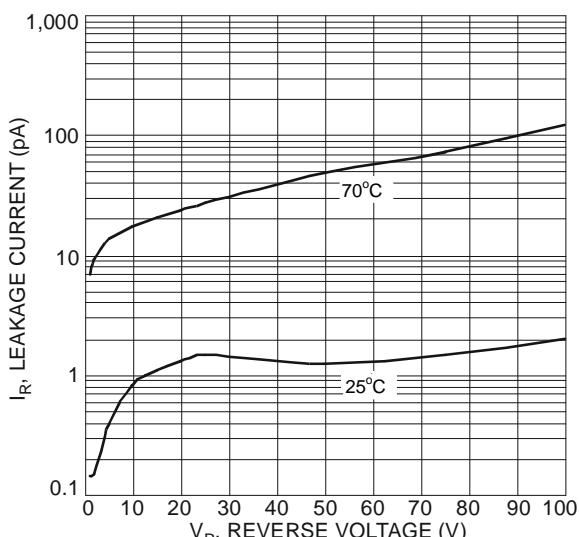


Fig. 3 Typical Reverse Characteristics, Per Element

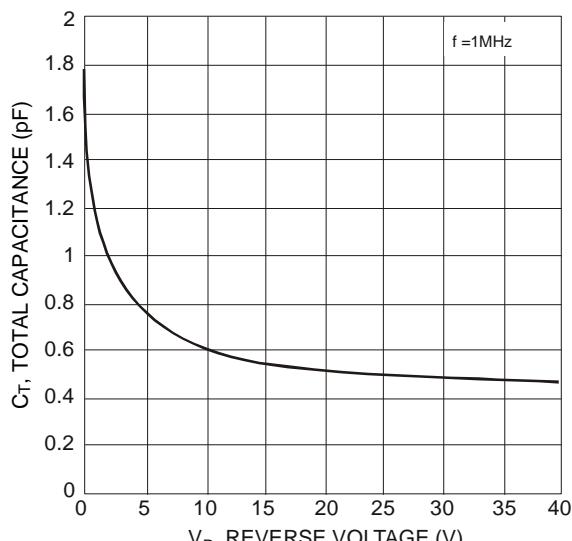


Fig. 4 Typical Total Capacitance

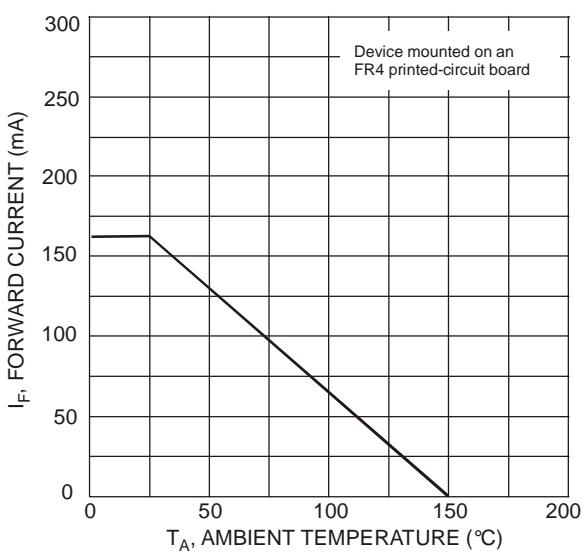
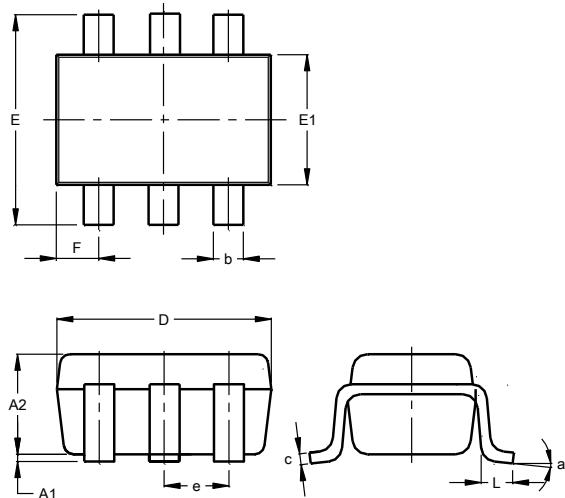


Fig. 5 Current Derating Curve, Per Element

Package Outline Dimensions

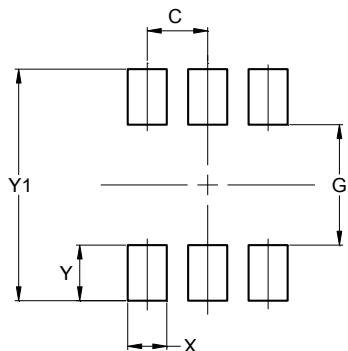
Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



SOT363			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	1.00
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	8°		
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.420
Y	0.600
Y1	2.500

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