

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- Two "BAW56" Circuits In One Package
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standard for High Reliability

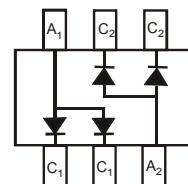
Mechanical Data

- Case: SOT363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208 (e3)
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Weight: 0.006 grams (approximate)



Top View

SOT363


 Top View
 Internal Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
BAW56DW-7-F	SOT363	3000/Tape & Reel
BAW56DWQ-7-F	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



KJC = Product Type Marking Code

YM = Date Code Marking

Y = Year ex: N = 2002

M = Month ex: 9 = September

Date Code Key

Year	2002	2003	...	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Code	N	P	...	V	W	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 (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	75	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 5)	I_{FM}	300	mA
Average Rectified Output Current (Note 5)	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$	I_{FSM}	2.0	
@ $t = 1.0\text{s}$		1.0	A

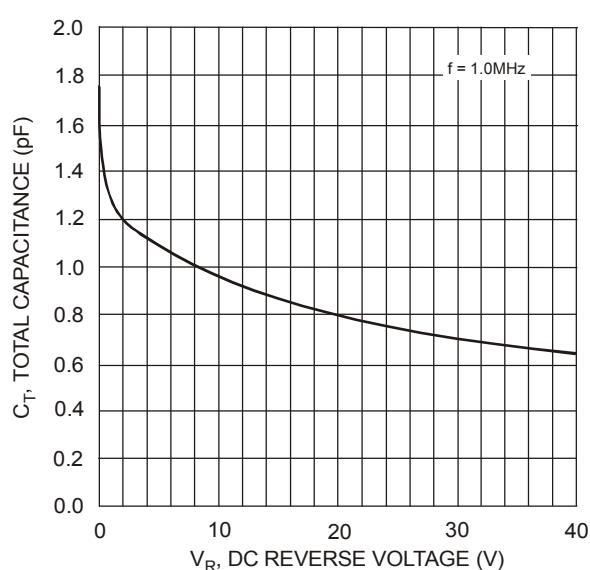
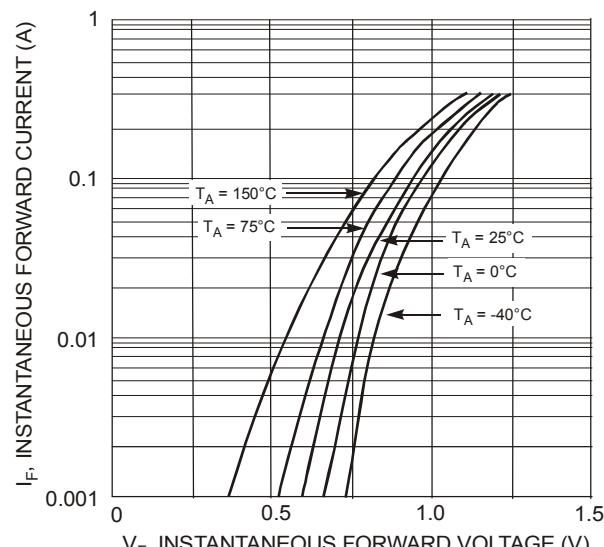
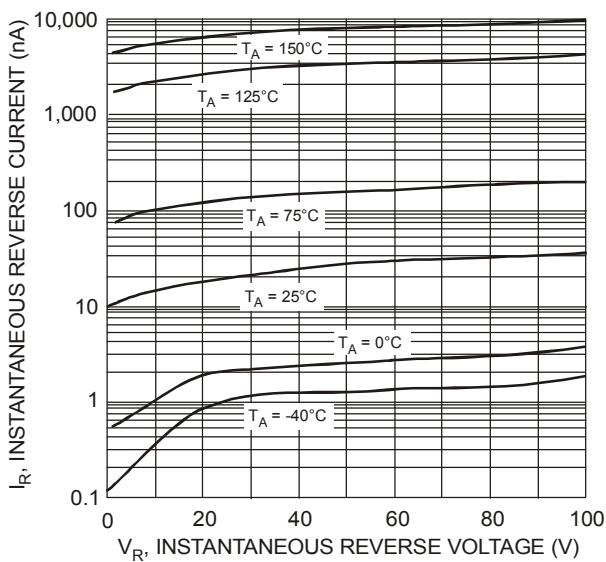
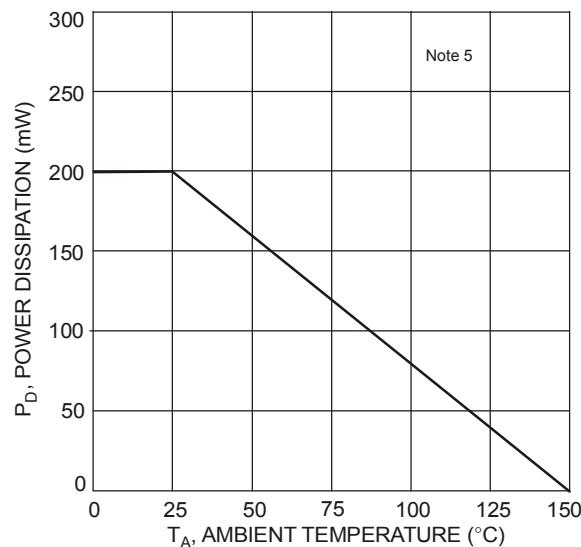
Thermal Characteristics

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
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

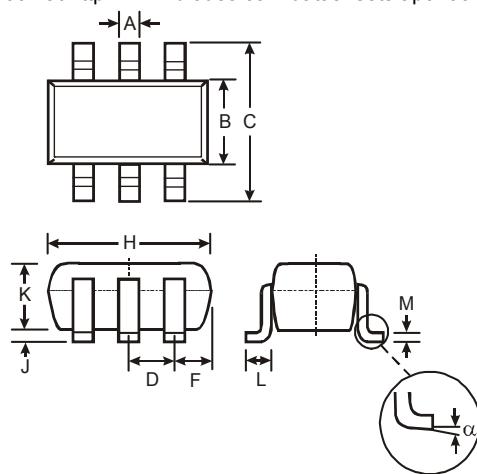
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	75	—	V	$I_R = 2.5\mu\text{A}$
Forward Voltage	V_F	—	0.715 0.855 1.0 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Reverse Current (Note 6)	I_R	—	2.5 50 30 25	μA μA μA nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_J = +150^\circ\text{C}$ $V_R = 25\text{V}, T_J = +150^\circ\text{C}$ $V_R = 20\text{V}$
Total Capacitance	C_T	—	2.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	4.0	ns	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 5. Device mounted on FR-4 PC board with recommended pad layout, 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.



Package Outline Dimensions

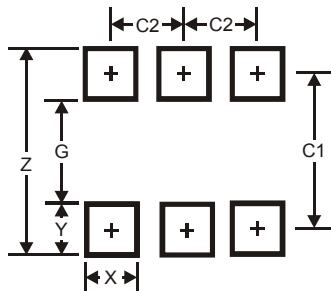
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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

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