



# THE DATASHEET OF BAW101S-7



## Features

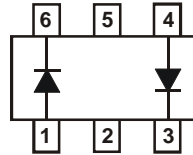
- Fast Switching Speed: max. 50ns
- High Reverse Breakdown Voltage: 300V
- Two Electrically Isolated Elements in a Single Compact Package
- Low Leakage Current: 150nA at Room Temperature
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 3)**
- **"Green" Device (Note 4)**

## 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-020
- Terminals: Finish – Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.006 grams (approximate)



Top View



Device Schematic

## Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	Single Diode	300	V
	Series Connection	600	
Working Peak Reverse Voltage DC Blocking Voltage	Single Diode	300	V
	Series Connection	600	
RMS Reverse Voltage	V <sub>R(RMS)</sub>	212	V
Forward Current (Note 2)	Single Diode Loaded	250	mA
	Double Diode Loaded	140	
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs	I <sub>FSM</sub>	4.5	A
Repetitive Peak Forward Current @ t = 8.3ms (Note 2)	I <sub>FRM</sub>	625	mA

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P <sub>D</sub>	300	mW
Thermal Resistance Junction to Ambient Air (Note 2)	R <sub>θJA</sub>	417	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	300	—	V	I <sub>R</sub> = 100μA
Forward Voltage	V <sub>F</sub>	—	1.1	V	I <sub>F</sub> = 100mA
Reverse Current (Note 1)	I <sub>R</sub>	—	50	nA	V <sub>R</sub> = 5V
		—	150	nA	V <sub>R</sub> = 250V
		—	75	μA	V <sub>R</sub> = 250V, T <sub>J</sub> = 150°C
Total Capacitance	C <sub>T</sub>	—	2.0	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	50	ns	I <sub>F</sub> = I <sub>R</sub> = 30mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
  2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  3. No purposefully added lead. Halogen and Antimony Free.
  4. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).

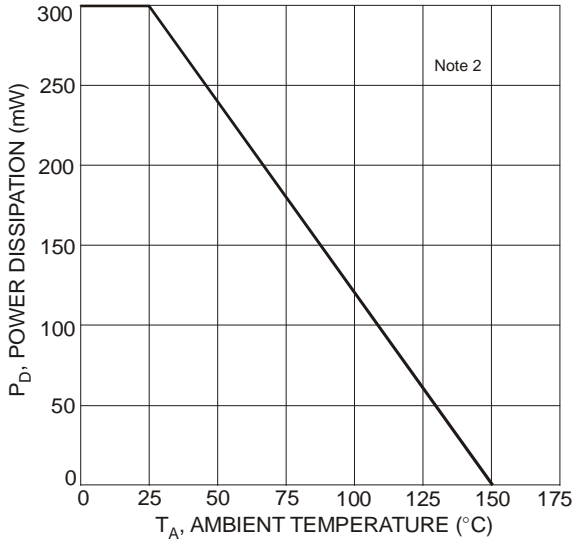


Fig. 1 Power Derating Curve, Total Package

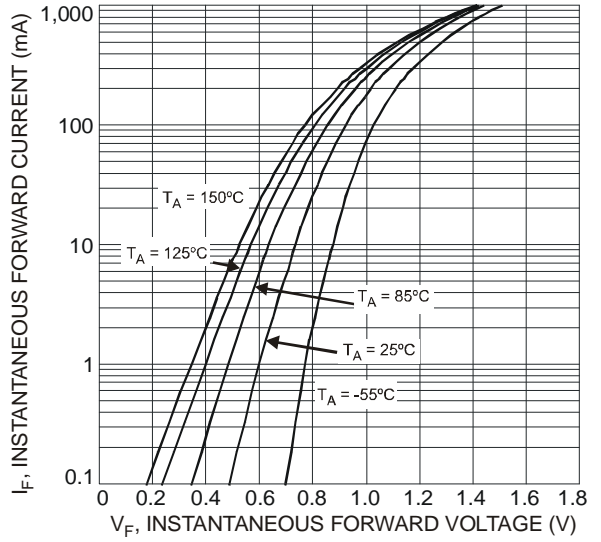


Fig. 2 Typical Forward Characteristics, Per Element

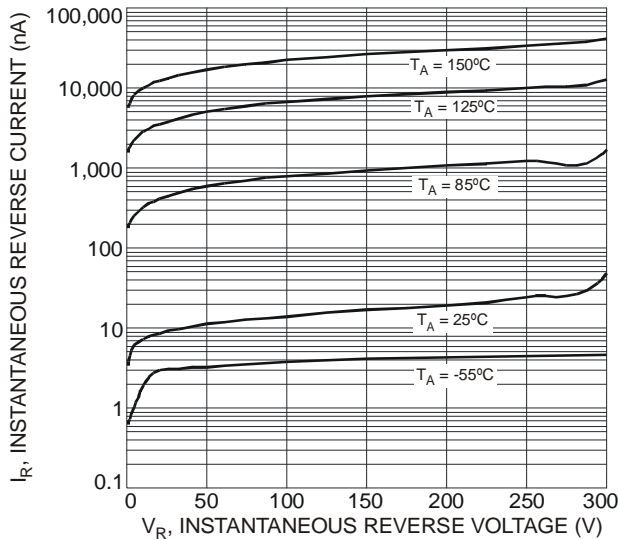


Fig. 3 Typical Reverse Characteristics, Per Element

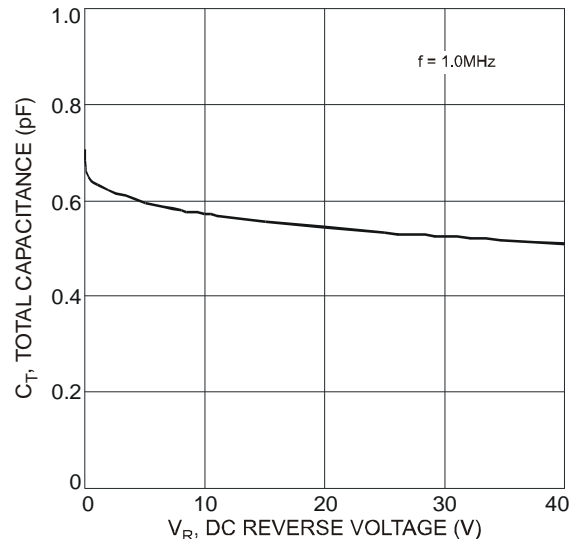


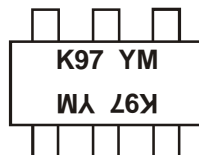
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

**Ordering Information** (Note 5)

Part Number	Case	Packaging
BAW101S-7	SOT-363	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



K97 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: X = 2010)  
 M = Month (ex: 9 = September)

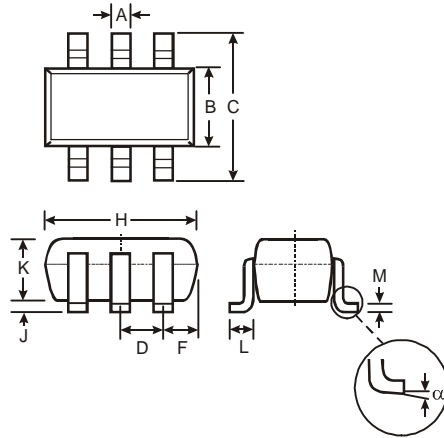
Date Code Key

Year	2010	2011	2012	2013	2014	2015	2016
Code	X	Y	Z	A	B	C	D

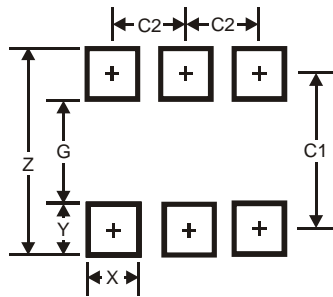
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**Package Outline Dimensions**



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Typ	
F	0.40	0.45
H	1.80	2.20
J	0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.22
α	0°	8°
All Dimensions in mm		

**Suggested Pad Layout**



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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