NEW PRODUCT

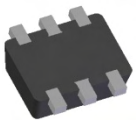
Features

- Fast Switching Speed: Maximum of 50ns
- High Reverse Breakdown Voltage: 325V for Single Diode or 650V for Series Connection
- Two Electrically Isolated Elements in a Single Compact Package
- Low Leakage Current: Maximum of 50nA when V_R = 5V or Maximum of 150nA when V_R = 250V at Room Temperature
- Thermally Efficient Copper Alloy leadframe for High Power Dissipation
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 3)**
- **"Green" Device (Note 4)**

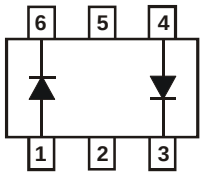
Mechanical Data

- Case: SOT-563
- 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 Copper 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



Bottom View



Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Repetitive Peak Reverse Voltage	Single Diode	V_{RRM}	325	V
	Series Connection		650	
Working Peak Reverse Voltage DC Blocking Voltage	Single Diode	V_{RWM} V_R	325	V
	Series Connection		650	
RMS Reverse Voltage		$V_{R(RMS)}$	230	V
Forward Current (Note 2)	Single Diode Loaded	I_F	250	mA
	Double Diode Loaded		140	
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs		I_{FSM}	8.0	A
Repetitive Peak Forward Current @ t = 8.3ms (Note 2)		I_{FRM}	3.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_D	500	mW
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	250	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	300	—	V	I_R = 100μA
Forward Voltage	V_F	—	1.1	V	I_F = 100mA
Reverse Current (Note 1)	I_R	— — —	50 150 50	nA nA μA	V_R = 5V V_R = 250V V_R = 250V, T_J = 150°C
Total Capacitance	C_T	—	2.0	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	50	ns	I_F = I_R = 30mA, I_{rr} = 0.1 x I_R, R_L = 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.

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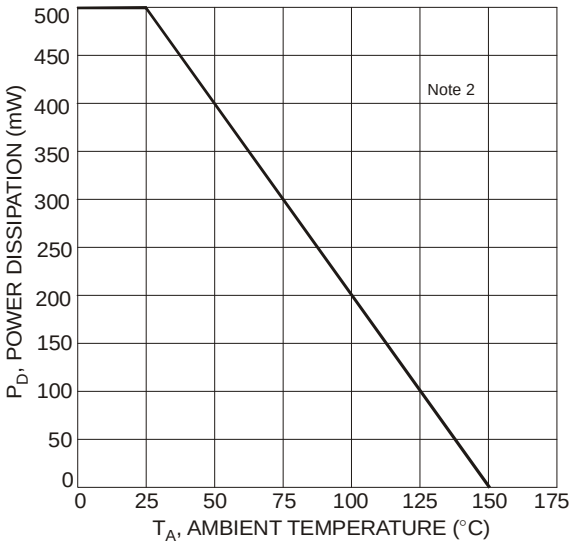


Fig. 1 Power Derating Curve, Total Package

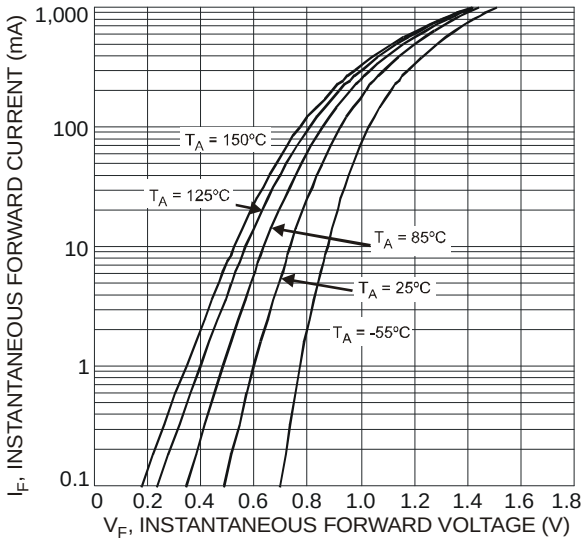


Fig. 2 Typical Forward Characteristics, Per Element

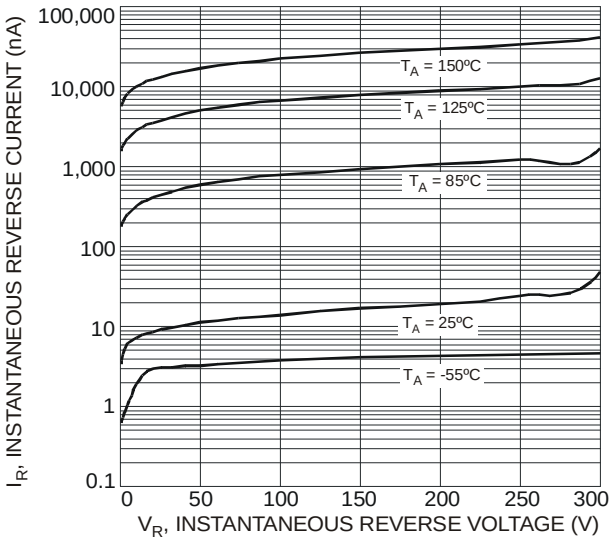


Fig. 3 Typical Reverse Characteristics, Per Element

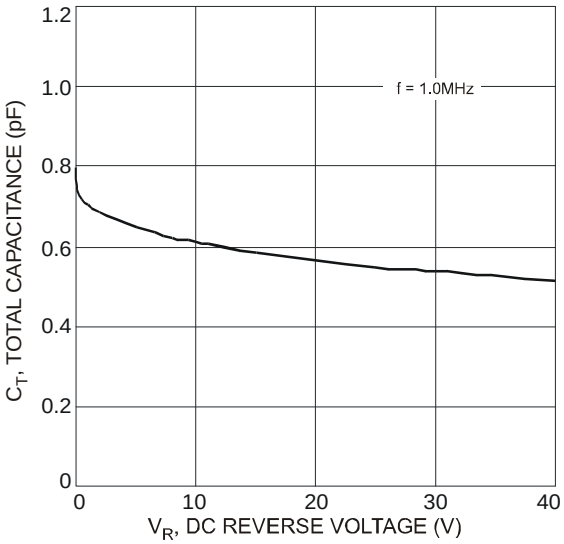


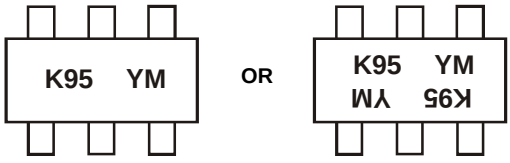
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Ordering Information (Notes 5 & 6)

Part Number	Case	Packaging
BAW101V-7	SOT-563	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
6. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).

Marking Information



K95 = 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

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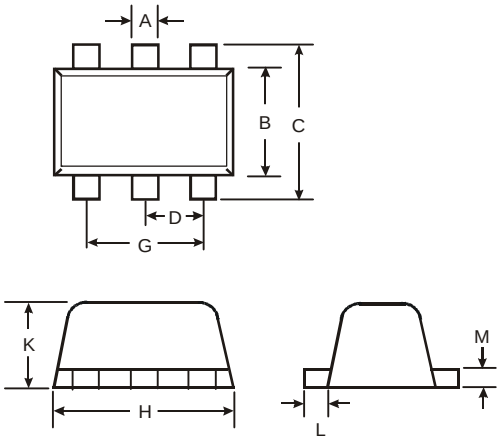
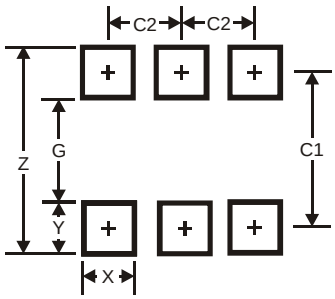
Package Outline Dimensions



SOT-563			
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

NEW PRODUCT

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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