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Diodes Incorporated
BAW156

For any questions, you can email us directly:
sales@integrated-circuit.com

DIODES INCORPORATED

Lead-free Green

BAW156

DUAL SURFACE MOUNT LOW LEAKAGE DIODE

Features

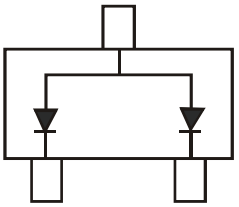
- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- **Lead, Halogen, and Antimony Free, RoHS Compliant (Note 1)**
- **"Green" Device (Notes 2 & 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approximate)

SOT23

Top View



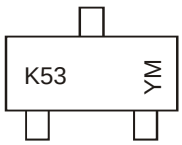
Top View
Internal Schematic

Ordering Information (Note 4)

Part Number	Qualification	Case	Packaging
BAW156-7-F	Commercial	SOT23	3,000/Tape & Reel
BAW156-13-F	Commercial	SOT23	10,000/Tape & Reel
BAW156Q-7-F	Automotive	SOT23	3,000/Tape & Reel
BAW156Q-13-F	Automotive	SOT23	10,000/Tape & Reel

Notes:
1. No purposefully added lead.
2. Product manufactured with Date Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb_2O_3 Fire Retardants.
3. Diodes Inc.`s "Green" Policy can be found on our website at http://www.diodes.com
4. For packaging details, go to our website at http://www.diodes.com.

Marking Information



K53 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: Y = 2011)
M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	.....	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Code	J	K	.....	T	U	V	W	X	Y	Z	A	B	C	D	E

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

BAW156

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V_{RRM} V_{RWM} V_R	85	V
RMS Reverse Voltage		$V_{R(RMS)}$	60	V
Forward Continuous Current (Note 5)	Single diode Double diode	I_{FM}	160 140	mA
Repetitive Peak Forward Current (Note 5)		I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I_{FSM}	4.0 1.0 0.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	250	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	500	°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 = 100μA
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 nA	V_R = 75V V_R = 75V, T_J = 150°C
Total Capacitance	C_T	—	3	—	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	—	3.0	μs	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

Notes: 5. Part mounted on FR-4 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.

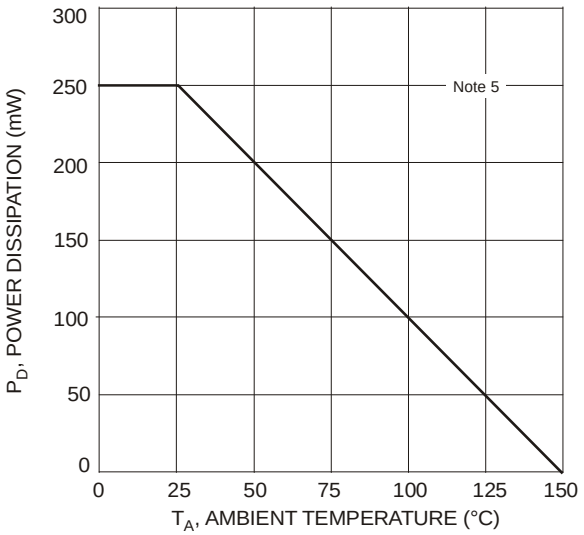


Fig. 1 Power Derating Curve, Total Package

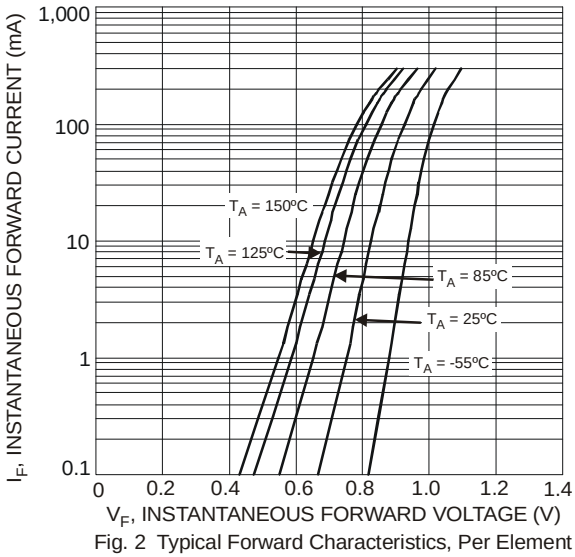


Fig. 2 Typical Forward Characteristics, Per Element

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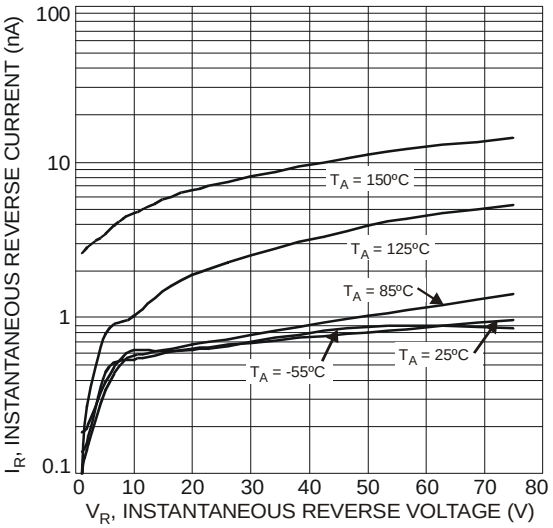


Fig. 3 Typical Reverse Characteristics, Per Element

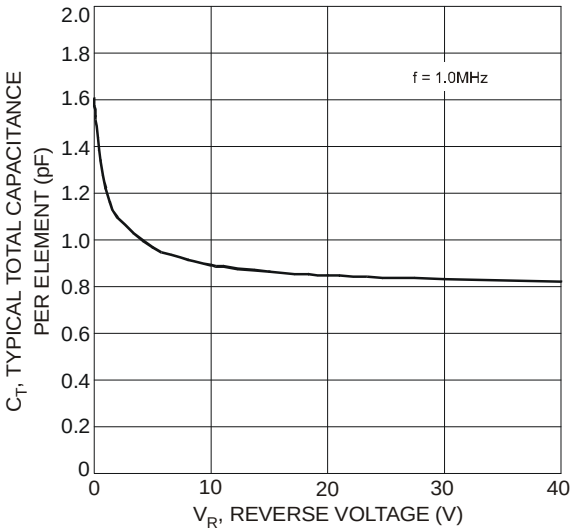
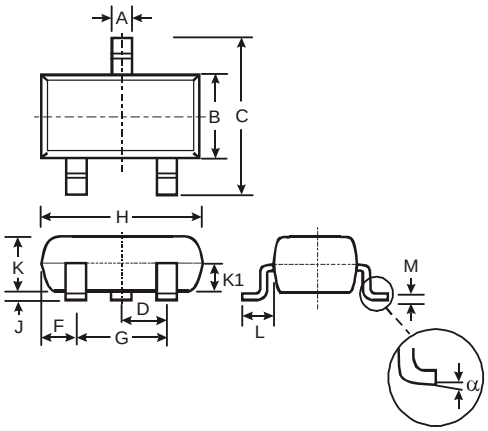


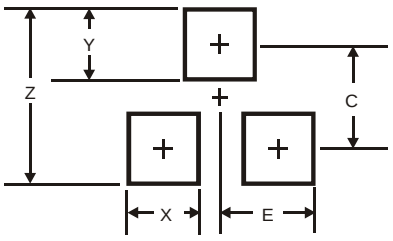
Fig. 4 Typical Capacitance vs. Reverse Voltage

Package Outline Dimensions



SOT23			
Dim	**Min**	**Max**	**Typ**
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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