

Features

- Ultra-Small Surface Mount Package
- Very Low Leakage Current
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- PPAP Capable (Note 4)

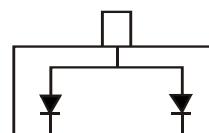
Mechanical Data

- Case: SOT523
- Case Material: Molded Plastic, "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 Leadframe).
- Polarity: See Diagram Below
- Marking Information: See Below
- Ordering Information: See Below
- Weight: 0.002 grams (Approximate)

SOT523



Top View



BAW156TQ Marking: 53

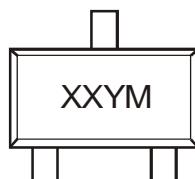
Ordering Information (Note 5)

Part Number	Case	Packaging
BAW156TQ-7-F	SOT523	3,000/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. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to http://www.diodes.com/quality/product_compliance_definitions/.
5. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



XX = Product Type Marking Code ("53" for BAW156TQ)

YM = Date Code Marking

Y = Year (ex: E = 2017)

M = Month (ex: 9 = September)

Date Code Key

Year	2017	2018	2019	2020	2021	2022	2023	2024				
Code	E	F	G	H	I	J	K	L				
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	
Peak Repetitive Reverse Voltage	V_{RRM}			
Working Peak Reverse Voltage	V_{RWM}	85	V	
DC Blocking Voltage	V_R			
RMS Reverse Voltage	$V_{R(\text{RMS})}$	60	V	
Forward Continuous Current (Note 6)	Single Diode Double Diode	I_{FM}	215 125	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{ms}$ @ $t = 1.0\text{s}$	I_{FSM}	4.0 1.0 0.5	A

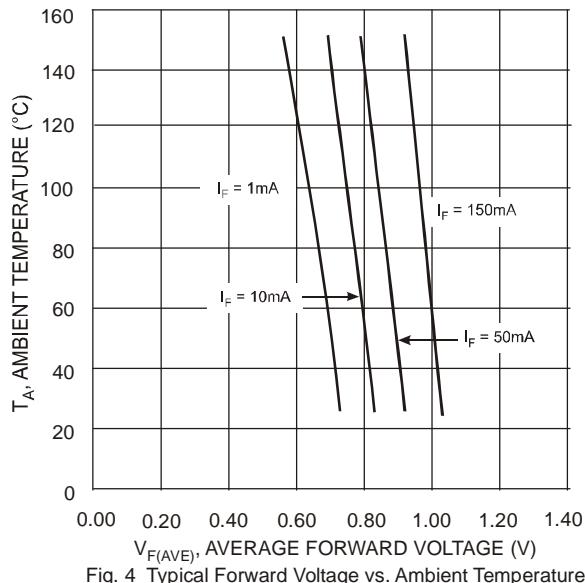
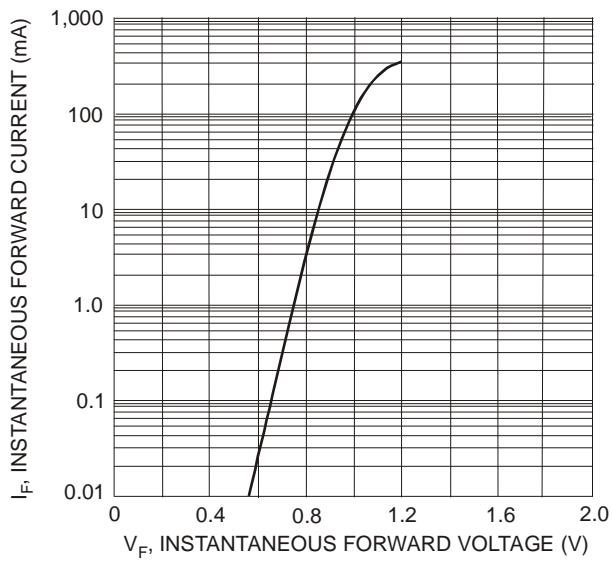
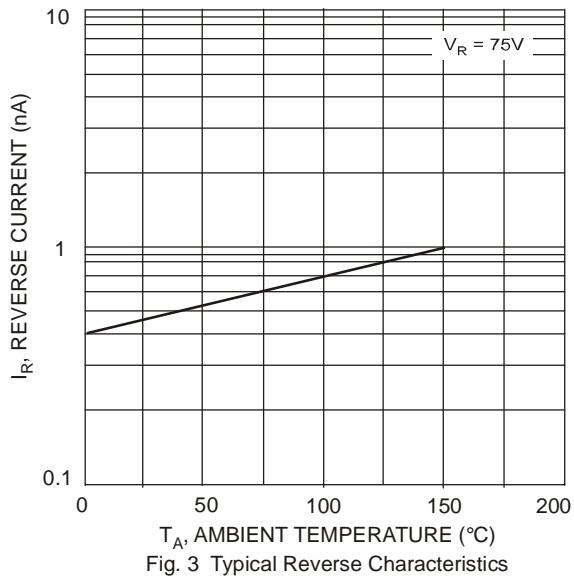
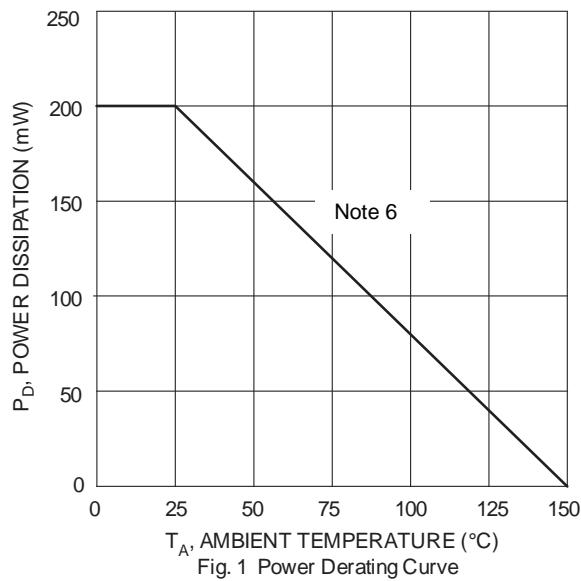
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P_D	150	mW
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{\theta JA}$	833	°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	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	85	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	V_F	—	—	0.90 1.0 1.1 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Leakage Current (Note 7)	I_R	—	—	5.0 80	nA nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_J = +150^\circ\text{C}$
Total Capacitance	C_T	—	2	—	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{RR}	—	—	3.0	μs	$I_F = I_R = 10\text{mA},$ $I_{RR} = 0.1 \times I_R, R_L = 100\Omega$

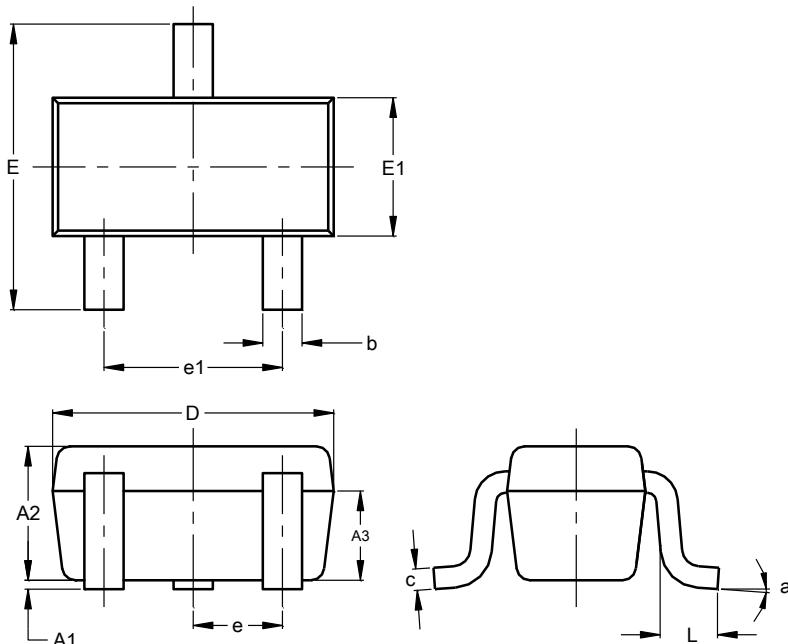
Notes:
 6. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
 7. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT523



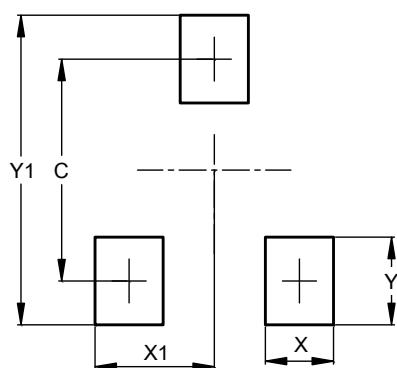
SOT523			
Dim	Min	Max	Typ
A	0.60	0.80	0.75
A1	0.00	0.10	0.05
A3	0.45	0.65	0.50
b	0.15	0.30	0.22
c	0.10	0.20	0.12
D	1.50	1.70	1.60
E	1.45	1.75	1.60
E1	0.75	0.85	0.80
e	0.50 BSC		
e1	0.90	1.10	1.00
L	0.20	0.40	0.33
a	0°	--	8°

All Dimensions in mm

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT523



Dimensions	Value
C	1.29
X	0.40
X1	0.70
Y	0.51
Y1	1.80

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