

High Speed Switching Diode



SOT-23

Features

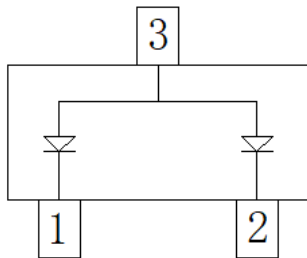
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_{BR} 100V
- I_{FAV} 200mA@ Single diode loaded
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

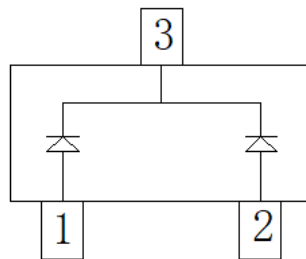
- Extreme fast switches

Mechanical Data

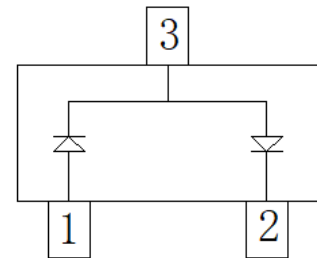
- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



BAW56Q
Marking:A1



BAV70Q
Marking:A4



BAV99Q
Marking:A7

■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Reverse Breakdown Voltage	V_{BR}	V		100
Average Forward Current	$I_{FAV[1]}$	mA		200
Non-Repetitive Peak Forward Surge Current	I_{FSM}	A	$t_p=1$ ms	1
Power Dissipation	$P_{tot[1]}$	mW		350
Thermal Resistance Junction to Ambient	R_{thJA}	$^\circ\text{C}/\text{W}$		357
Maximum Junction Temperature	T_j	$^\circ\text{C}$		150
Storage Temperature Range	T_{stg}	$^\circ\text{C}$		-55 to +150

[1] Single diode loaded



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■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

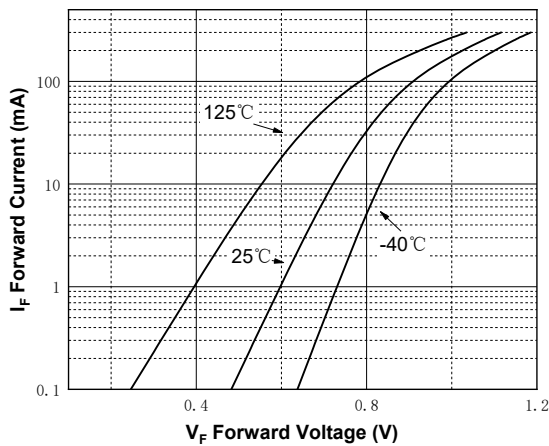
PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Forward Voltage	V _F	V	I _F =1mA	0.715
			I _F =10mA	0.855
			I _F =50mA	1.0
			I _F =150mA	1.25
Reverse Current	I _R	μA	V _R =75V	1
Reverse Breakdown Voltage	V _{BR}	V	I _R =10μA	100
Junction Capacitance	C _J	pF	V _R =V _F =0V, f =1MHz	4
Reverse Recovery Time	t _{rr}	ns	I _F =10mA, I _{rr} =0.1I _R , R _L =100Ω	4

■ Ordering Information (Example)

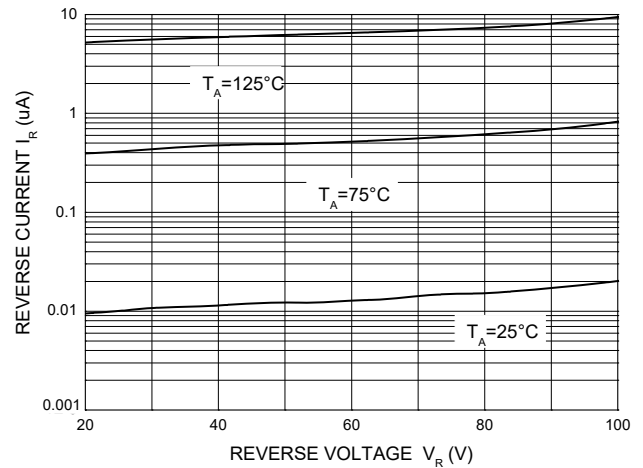
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAW56Q&BAV70Q&BAV99Q	F2	Approximate 0.010	3000	30000	120000	7" reel

■ Characteristics (Typical)

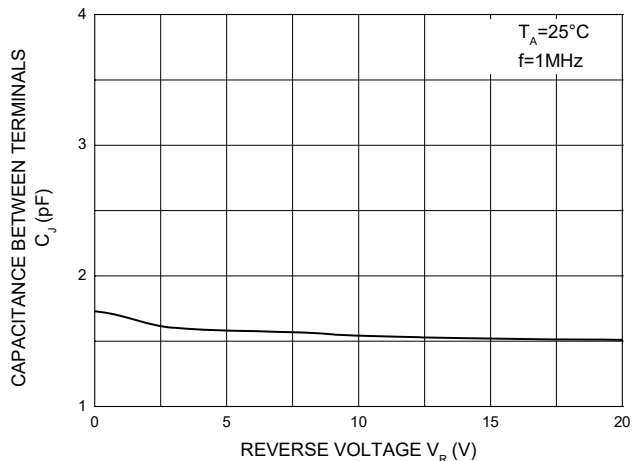
Fig.1 - Forward Characteristics



Reverse Characteristics



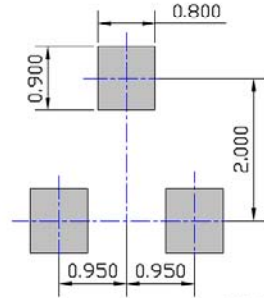
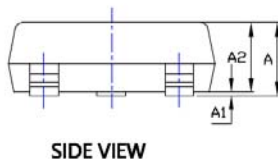
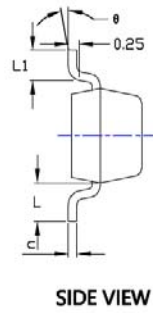
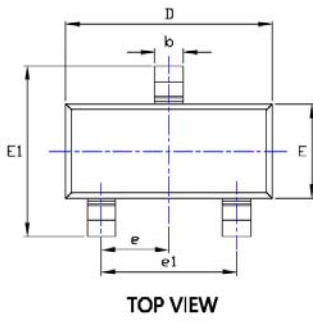
Capacitance Characteristics





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■ Outline Dimensions



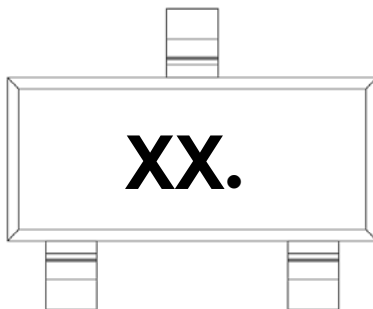
UNIT: mm

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.200	0.300	0.500
θ	0°	8°	0°	8°

NOTE:

- 1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
- 2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
- 3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. XX is Marking Code
4. Body color: Black



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