High Speed Switching Diode

SOT-23

Features

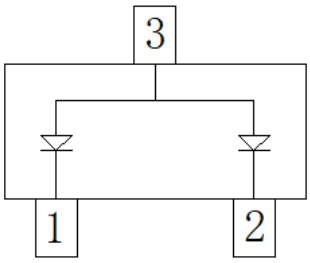
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_{BR} 100V
- I_{FAV} 200mA@ Single diode loaded
- Part no. with suffix “Q” means AEC-Q101 qualified

Applications

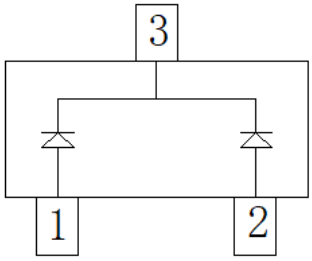
- Extreme fast switches
- Automotive

Mechanical Data

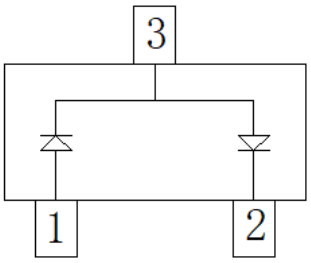
- **Case**: SOT-23
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102



BAW56Q



BAV70Q



BAV99Q

■ Maximum Ratings (T_a=25℃ 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}	℃/W		357
Maximum Junction Temperature	T_j	℃		-55 to +150
Storage Temperature Range	T_{stg}	℃		-55 to +150

[1] Single diode loaded

■ Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
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,Irr=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: P_D-T_A

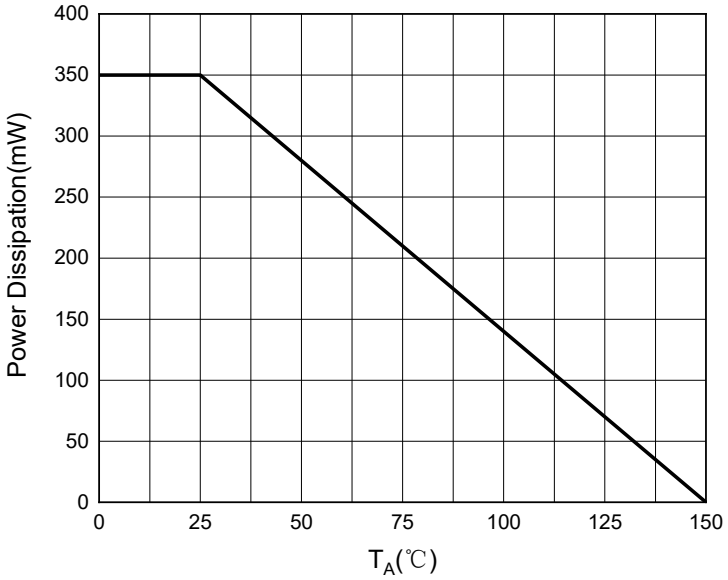


Fig.2: Capacitance Characteristics

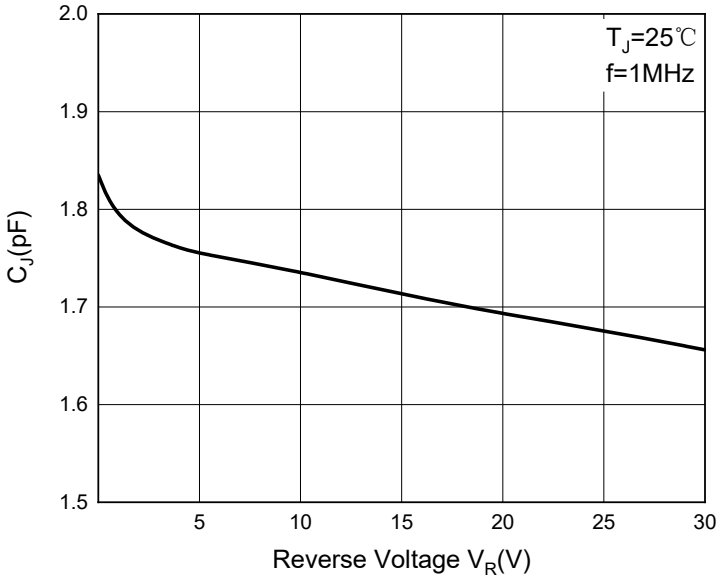


Fig3: Forward Characteristics

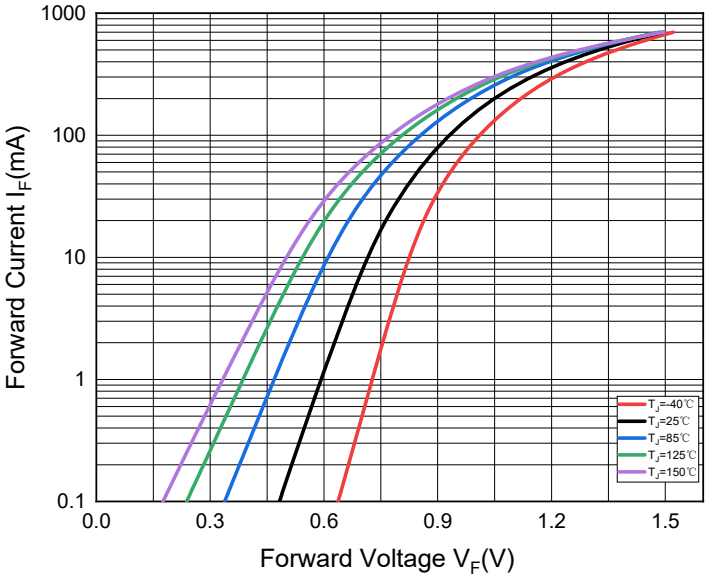
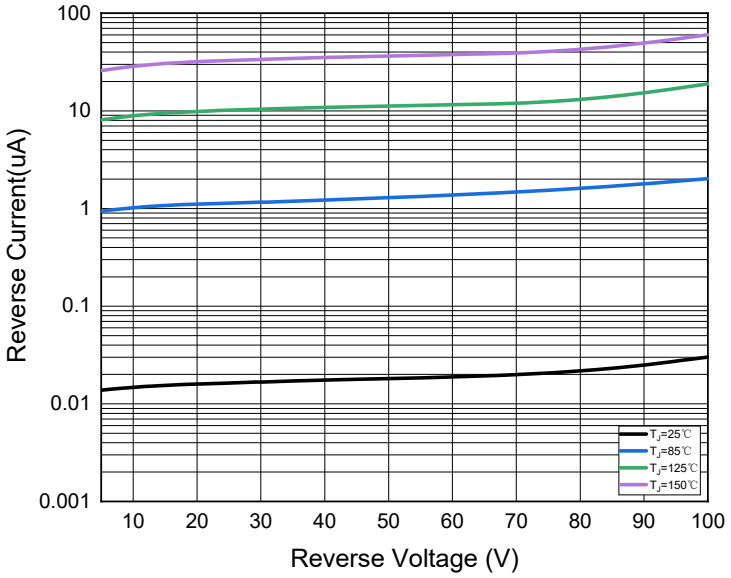
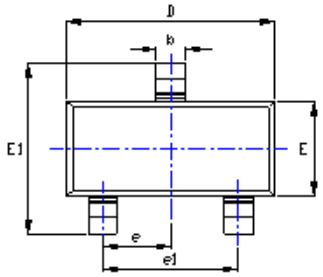


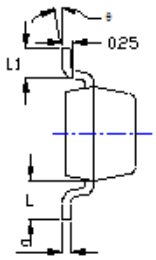
Fig.4: Reverse Characteristics



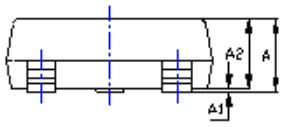
■ Outline Dimensions



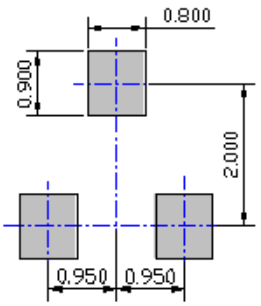
TOP VIEW



SIDE VIEW



SIDE VIEW



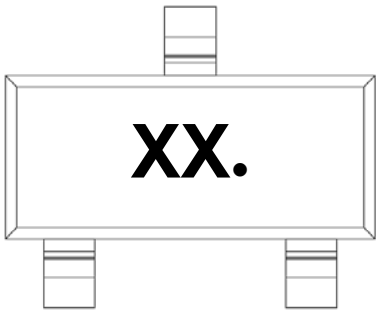
UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

DIMENSIONS				
SYMBOL	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	0.020	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



PN	Marking Code
BAW56Q	A1
BAV70Q	A4
BAV99Q	A7

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

Disclaimer

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