

High Speed Switching Diode



SOT-23

Features

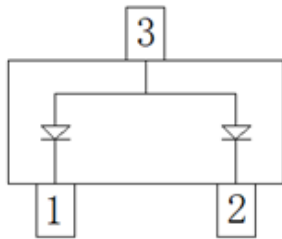
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_{BR} 100V
- I_{FAV} 200mA@ Single diode loaded
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

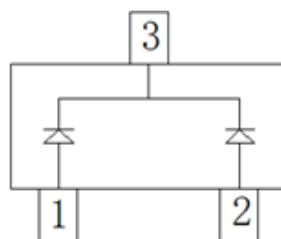
- Extreme fast switches
- Automotive

Mechanical Data

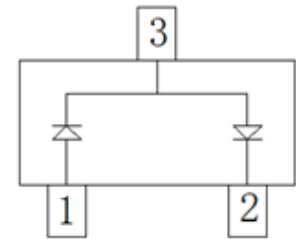
- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



BAW56HQ
Marking: A1[⊗]



BAV70HQ
Marking: A4[⊗]



BAV99HQ
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		200
Thermal Resistance Junction to Ambient	R_{thJA}	$^{\circ}\text{C}/\text{W}$		625
Maximum Junction Temperature	T_j	$^{\circ}\text{C}$		-55 to +150
Storage Temperature Range	T_{stg}	$^{\circ}\text{C}$		-55 to +150

[1] Single diode loaded



BAW56HQ&BAV70HQ&BAV99HQ

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

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	Typ	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, I _{rr} =0.1I _R , R _L =100Ω			5

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAW56HQ BAV70HQ BAV99HQ	F2	Approximate 0.010	3000	30000	120000	7" reel



BAW56HQ&BAV70HQ&BAV99HQ

■ Characteristics (Typical)

Fig.1: $P_D - T_A$

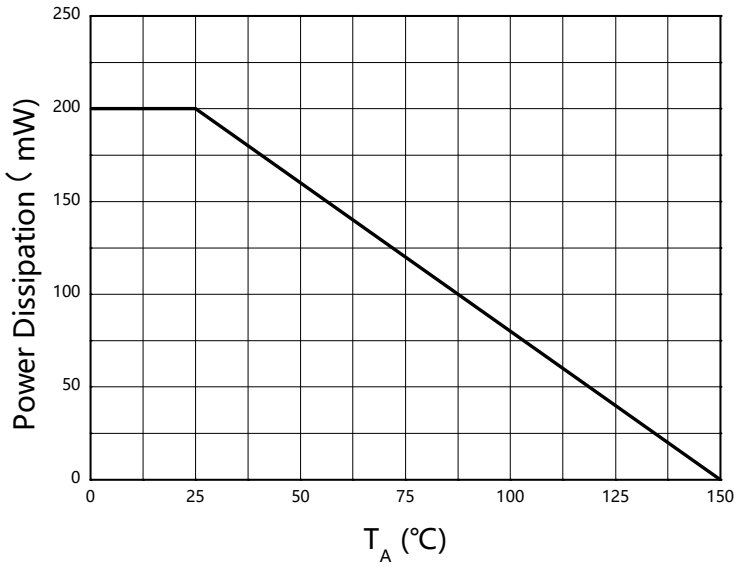


Fig.2: Capacitance Characteristics

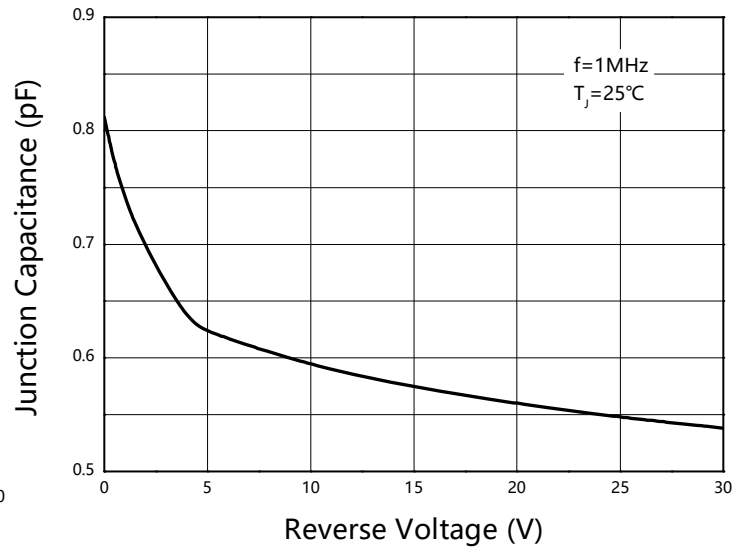


Fig.3: Forward Characteristics

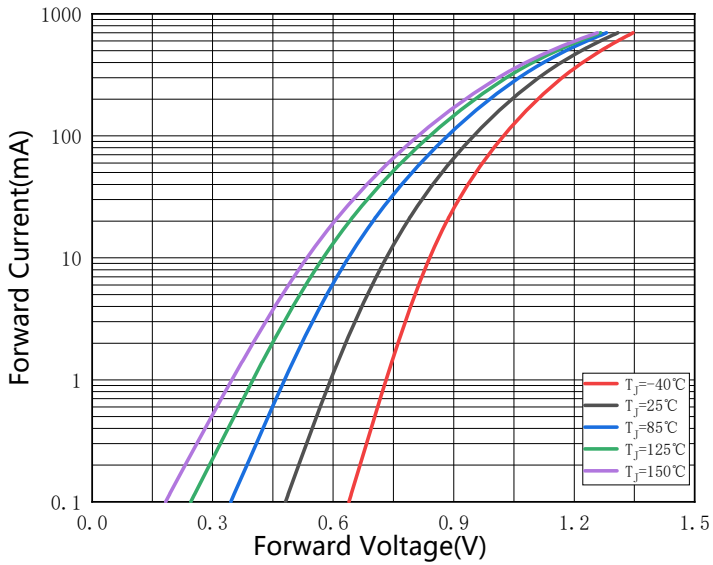
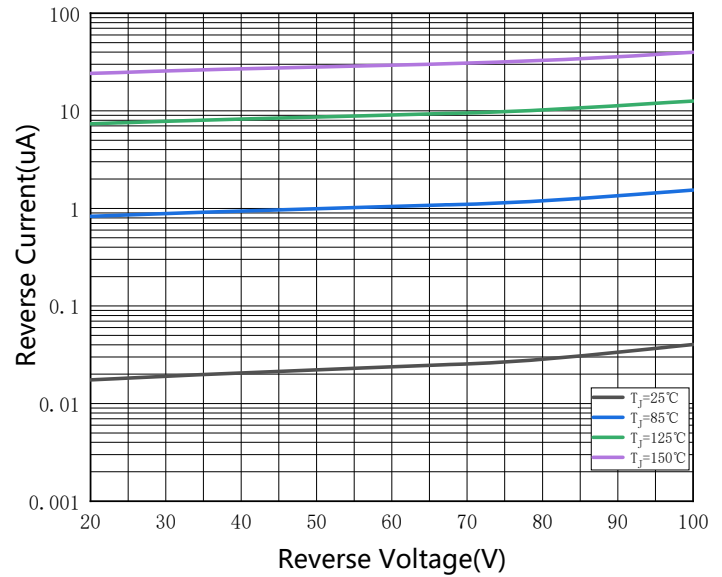


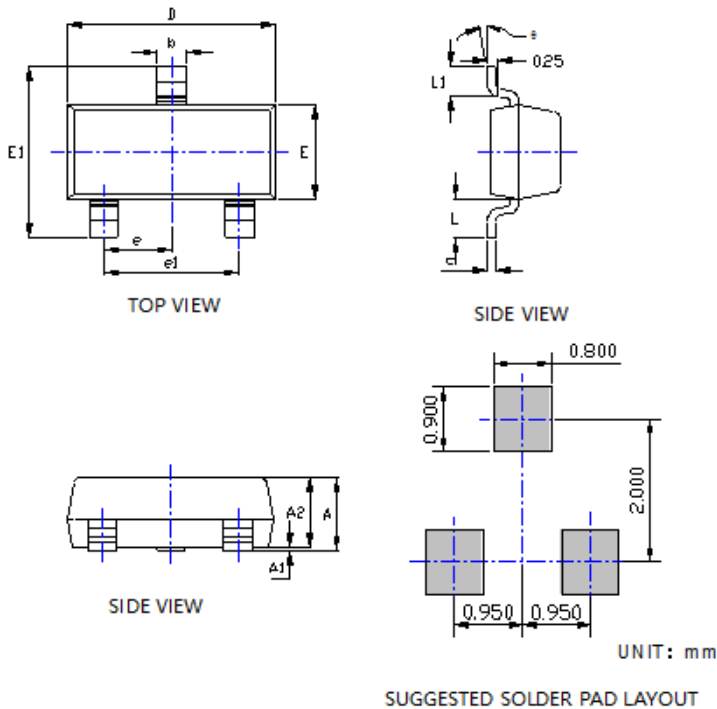
Fig.4: Reverse Characteristics





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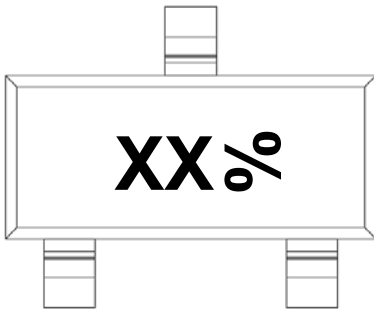
■ Outline Dimensions



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	0.020	0.300	0.500
φ	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
BAW56HQ	A1
BAV70HQ	A4
BAV99HQ	A7

Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black
4. XX is Marking Code
5. % is a date code, rotated 90° counterclockwise

*Date Code vary depending upon production date



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