

High Speed Switching Diode



SOT-23

Features

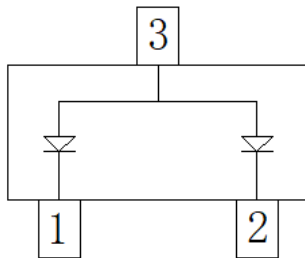
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_{BR} 100V
- I_{FAV} 200mA@ Single diode loaded
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

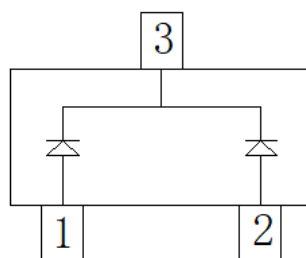
- Extreme fast switches

Mechanical Data

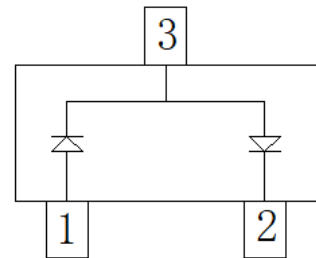
- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



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	$t_p=1\text{ ms}$	1
Power Dissipation	$P_{tot[1]}$	mW		350
Thermal Resistance Junction to Ambient	R_{thJA}	$^{\circ}\text{C/W}$		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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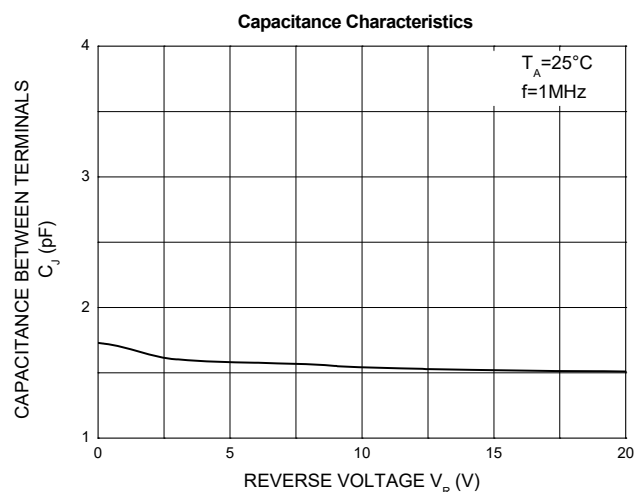
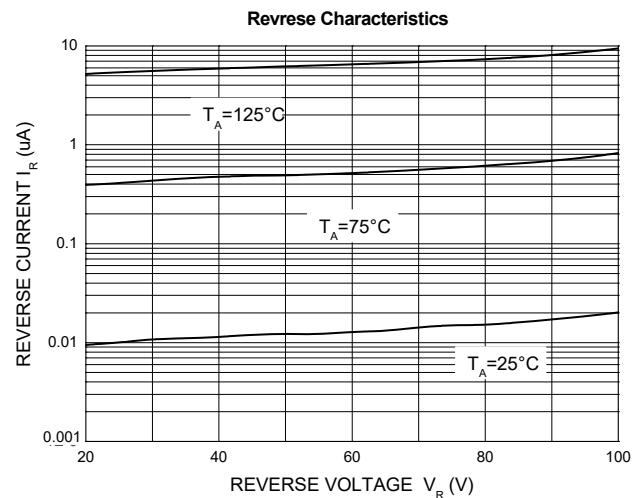
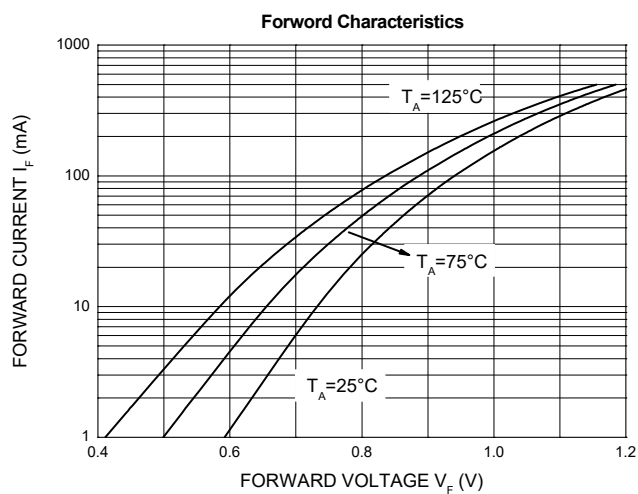
■ Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Forward Voltage	V_F	V	$I_F=1\text{mA}$	0.715
			$I_F=10\text{mA}$	0.855
			$I_F=50\text{mA}$	1.0
			$I_F=150\text{mA}$	1.25
Reverse Current	I_R	μA	$V_R=75\text{V}$	1
Reverse Breakdown Voltage	V_{BR}	V	$I_R=10\mu\text{A}$	100
Junction Capacitance	C_j	pF	$V_R=V_F=0\text{V}$, $f=1\text{MHz}$	4
Reverse Recovery Time	t_{rr}	ns	$I_F=10\text{mA}$, $I_{rr}=0.1I_R$, $R_L=100\Omega$	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

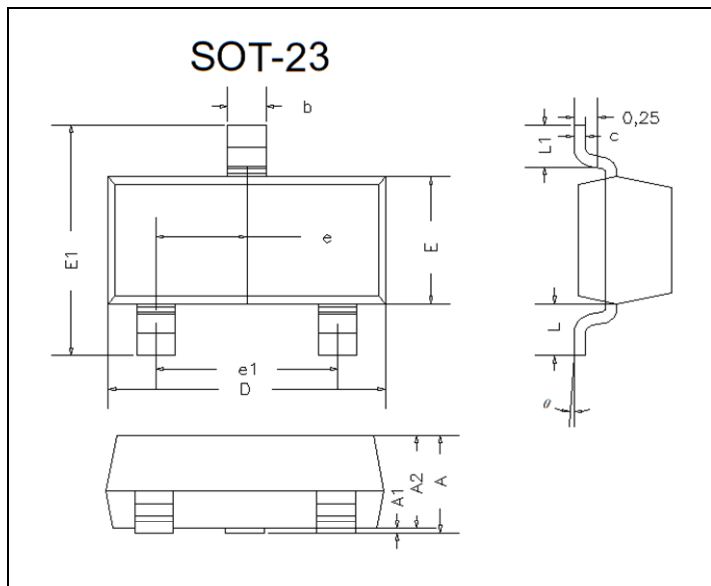
■ Characteristics (Typical)





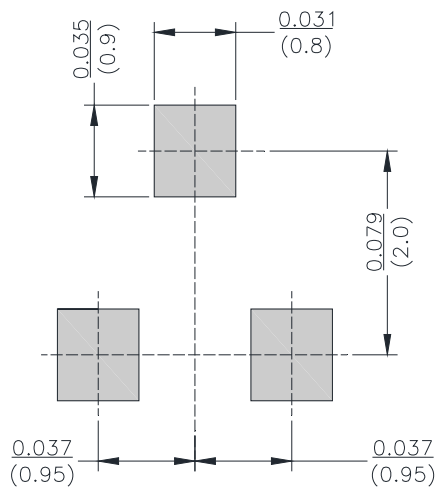
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■ Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.045	0.90	1.15	
A1	0.000	0.004	0.00	0.10	
A2	0.035	0.041	0.90	1.05	
b	0.012	0.020	0.30	0.50	
c	0.004	0.008	0.10	0.20	
D	0.110	0.118	2.80	3.00	
E	0.047	0.055	1.20	1.40	
E1	0.089	0.100	2.25	2.55	
e	0.370TYP		0.95TYP		
e1	0.071	0.079	1.80	2.00	
L	0.220REF		0.55REF		
L1	0.012	0.020	0.30	0.50	
θ	0°	8°	0°	8°	

■ Soldering Footprint



Unit: $\frac{\text{inch}}{\text{mm}}$



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