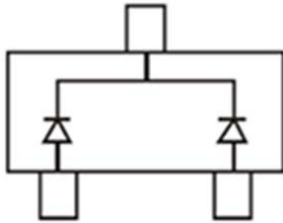


## Small-Signal Fast Switching Diodes



**SOT-23**



### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Fast Switching Speed
- High Conductance
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- Low-leakage current applications
- Automotive

### Mechanical Data

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

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

Item	Symbol	Unit		Value
Repetitive peak reverse voltage	$V_{RRM}$	V		100
Average Forward Current	$I_{FAV[1]}$	mA		215
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	A	$t_p=1\mu s,$	4
Power Dissipation	$P_D$	mW		250
Thermal Resistance from Junction to Ambient	$R_{thJA}$	$^\circ\text{C}/\text{W}$		500
Operation Junction Temperature	$T_J$	$^\circ\text{C}$		-55 to +150
Storage Temperature	$T_{STG}$	$^\circ\text{C}$		-55 to +150

[1] Single diode loaded



# BAV170Q

## ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified, Per Leg)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Reverse Voltage	V <sub>BR</sub>	V	I <sub>R</sub> =100uA	100		
Forward Voltage	V <sub>F</sub>	V	I <sub>F</sub> =1mA			0.9
			I <sub>F</sub> =10mA			1
			I <sub>F</sub> =50mA			1.1
			I <sub>F</sub> =150mA			1.25
Reverse Current	I <sub>R</sub>	nA	V <sub>R</sub> =75V			5
Total Capacitance	C <sub>J</sub>	pF	V <sub>R</sub> =0V, f=1.0MHz,			4
Reverse Recovery Time	T <sub>rr</sub>	us	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1*I <sub>R</sub> , R <sub>L</sub> =100Ω			3

## ■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAV170Q	F2	Approximate 0.01	3000	30000	120000	7" reel



## ■ Typical Characteristics (Per Leg)

Fig.1:  $P_D-T_A$

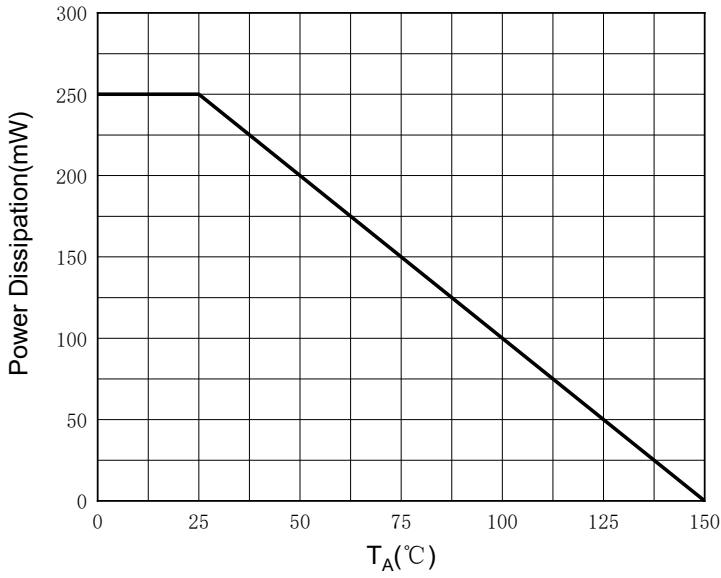


Fig.2: Capacitance Characteristics

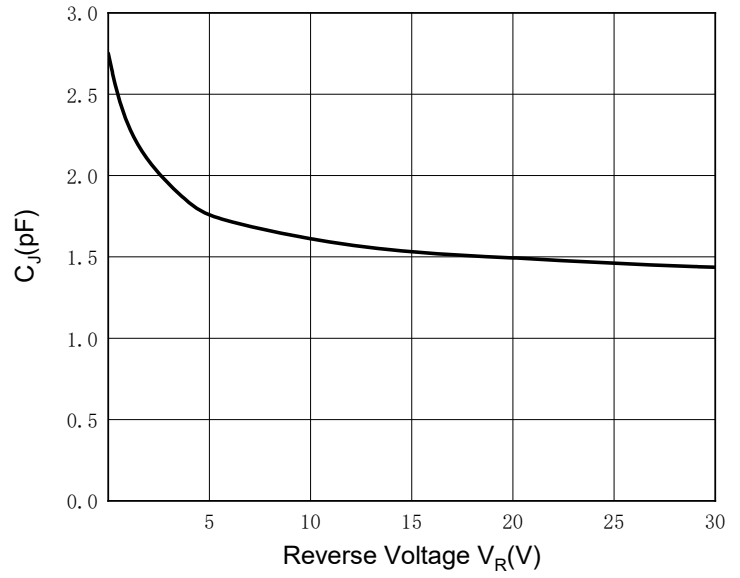


Fig.3: Forward Characteristics

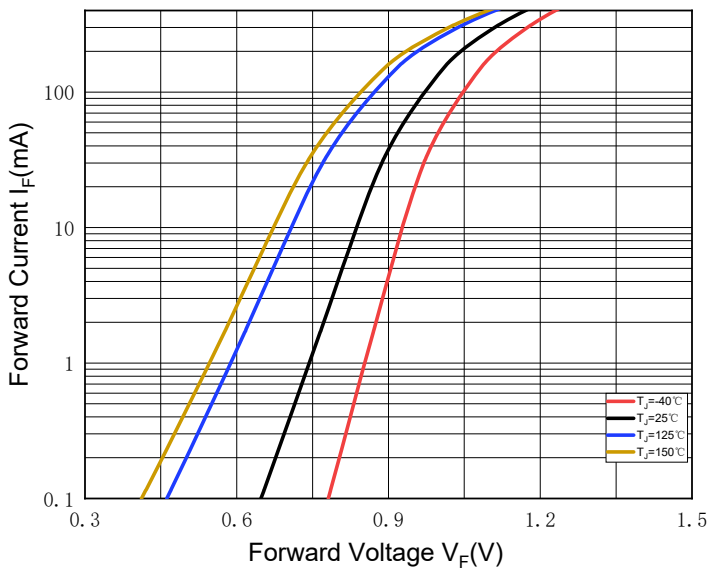
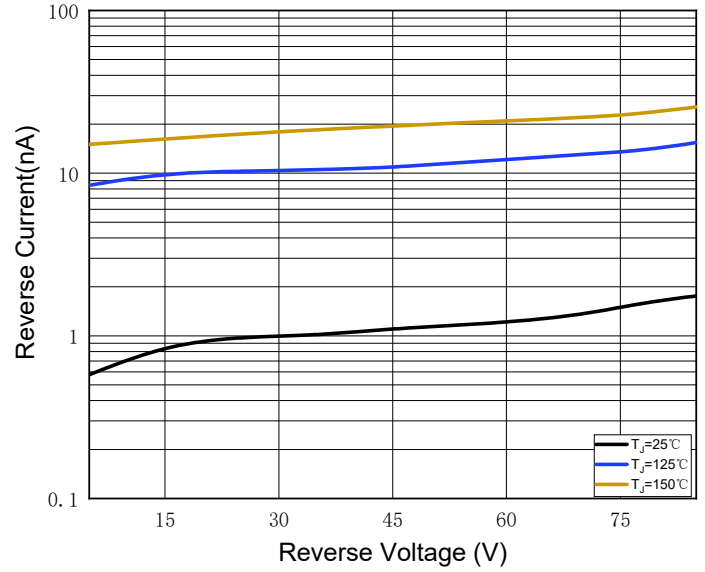


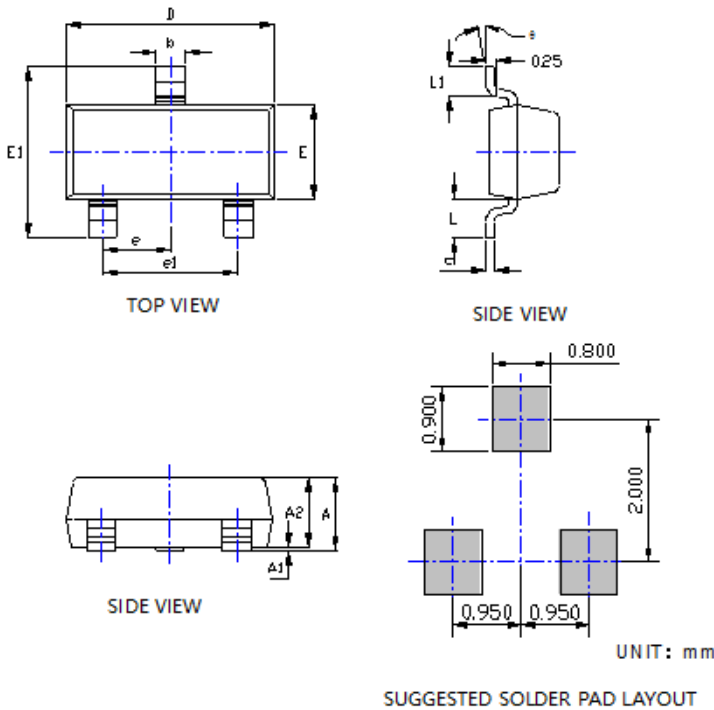
Fig.4: Reverse Characteristics





# BAV170Q

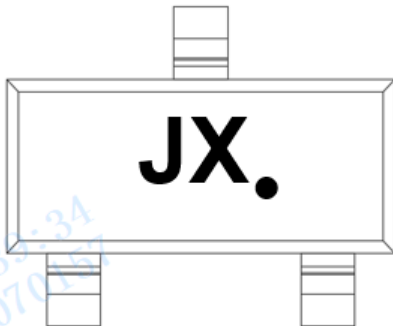
## ■ SOT-23 Package Outline Dimensions



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
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. Body color: Black



## BAV170Q

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### Disclaimer

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