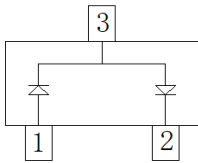


## High Speed Switching Diode



**SOT-23**



### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- $V_{BR}$  85V
- $I_{FAV}$  215mA@ Single diode loaded
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- Low-Leakage
- Automotive

### Mechanical Data

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

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

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Reverse Breakdown Voltage	$V_{BR}$	V		85
Average Forward Current	$I_{FAV}^{[1]}$	mA		215
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	A	$t_p=1\ \mu\text{s}$	4
Power Dissipation	$P_D$	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

### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN.	TPY.	MAX.
Forward Voltage	$V_F$	mV	$I_F=1\ \text{mA}$			900
			$I_F=10\ \text{mA}$			1000
			$I_F=50\ \text{mA}$			1100
			$I_F=150\ \text{mA}$			1250
Reverse Current	$I_R$	nA	$V_R=75\ \text{V}$			5
Reverse Breakdown Voltage	$V_{BR}$	V	$I_R=100\ \mu\text{A}$	85		
Junction Capacitance	$C_j$	pF	$V_R=0\ \text{V}$ , $f=1\ \text{MHz}$			4
Reverse Recovery Time	$t_{rr}$	$\mu\text{s}$	$I_F=I_R=10\ \text{mA}$ , $I_{rr}=0.1I_R$ , $R_L=100\ \Omega$			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
BAV199Q	F2	Approximate 0.010	3000	30000	120000	7" reel

## ■ Characteristics (Typical)

Fig.1:  $P_D-T_A$

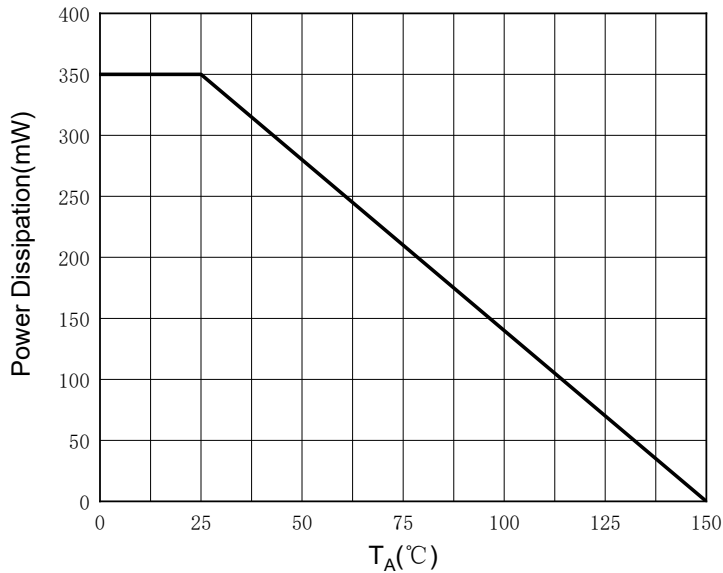


Fig.2: Capacitance Characteristics

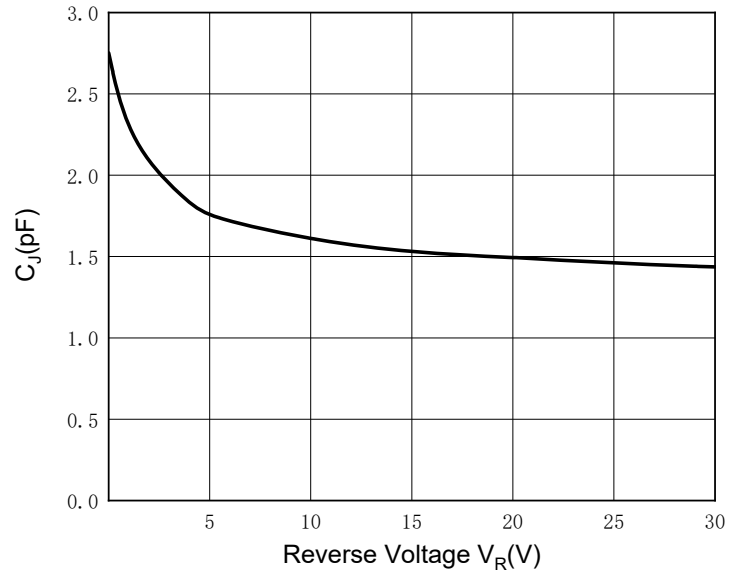


Fig.3: Forward Characteristics

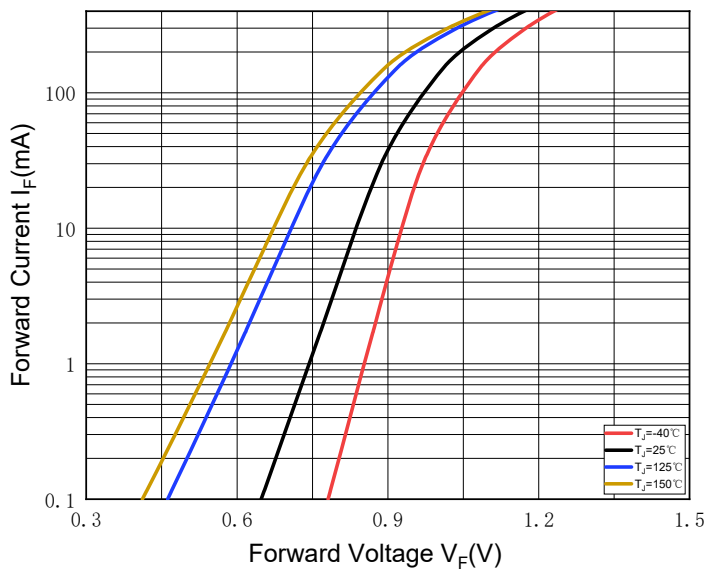
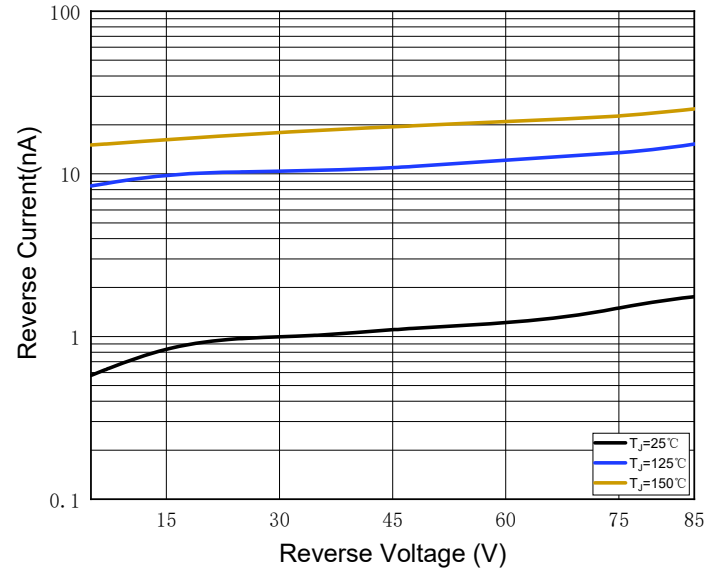
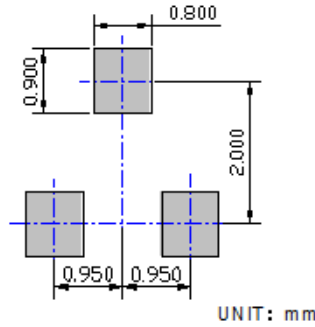
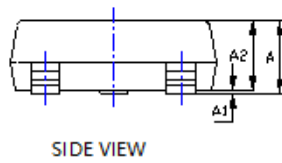
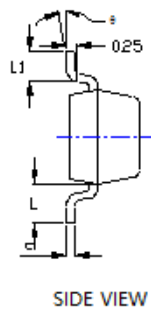
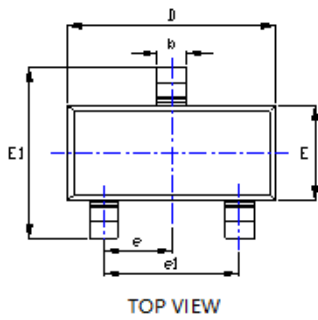


Fig.4: Reverse Characteristics



## ■ Outline Dimensions

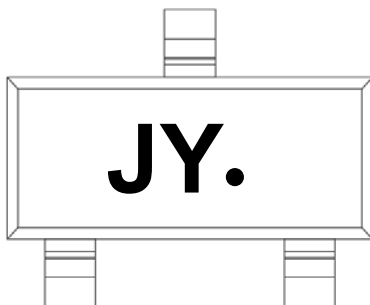


UNIT: mm

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	0.020	0.300	0.500
s	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. JY is Marking Code
4. Body color: Black



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