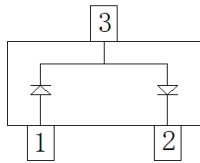


High Speed Switching Diode



SOT-323



Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_{BR} 85V
- I_{FAV} 160mA@ Single diode loaded
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- Low-Leakage
- Automotive

Mechanical Data

- **Case:** SOT-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K52

■ 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		160
Non-Repetitive Peak Forward Surge Current	I_{FSM}	A	$t_p=1\ \mu\text{s}$	4
Power Dissipation	P_D	mW		200
Thermal Resistance Junction to Ambient	R_{thJA}	$^\circ\text{C}/\text{W}$		625
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	$V_R=V_F=0\ \text{V}$, $f=1\ \text{MHz}$			4
Reverse Recovery Time	t_{rr}	μs	$I_F=I_R=10\ \text{mA}$, $I_{rr}=0.1I_R$, $R_L=100\ \Omega$			3



Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAV199WTQ	F2	Approximate 0.006	3000	30000	120000	7" reel

Characteristics (Typical)

Fig.1: P_D-T_A

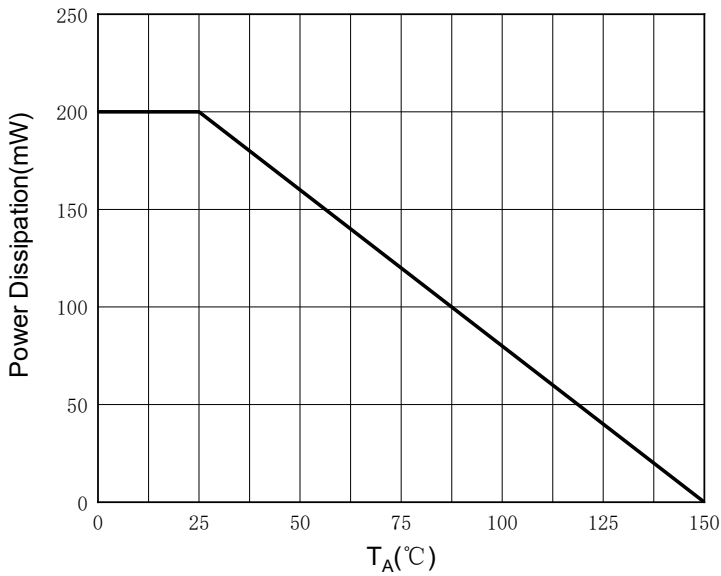


Fig.2: Capacitance Characteristics

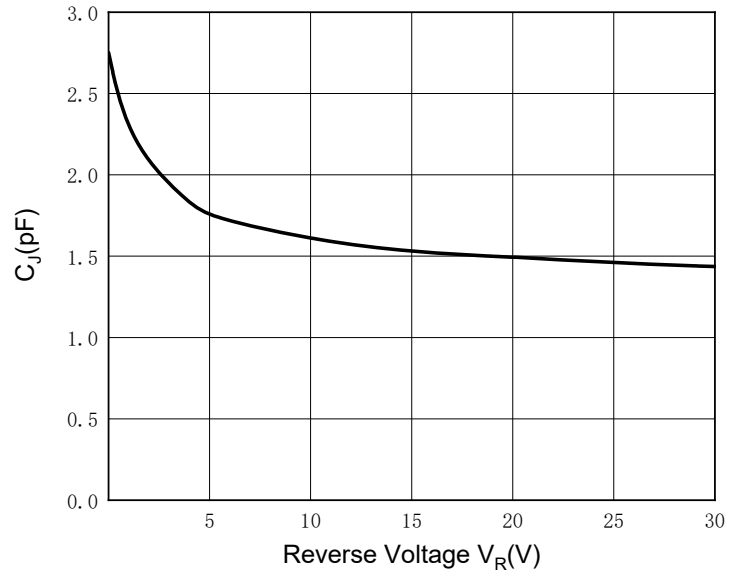


Fig.3: Forward Characteristics

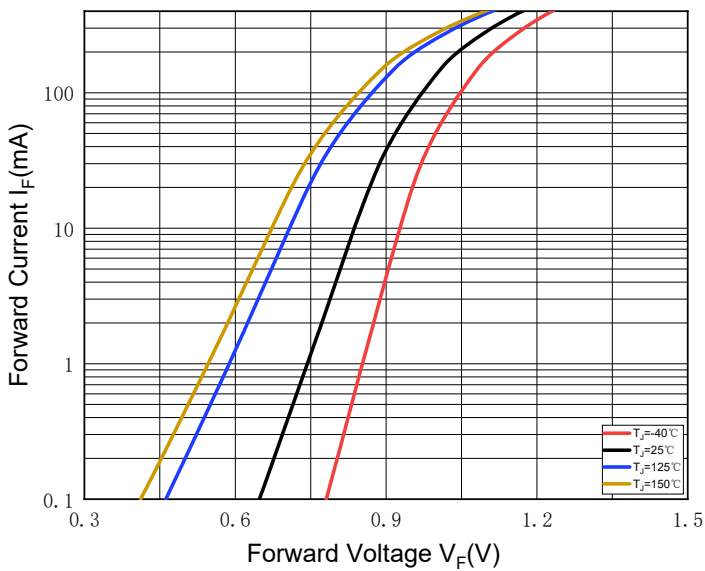
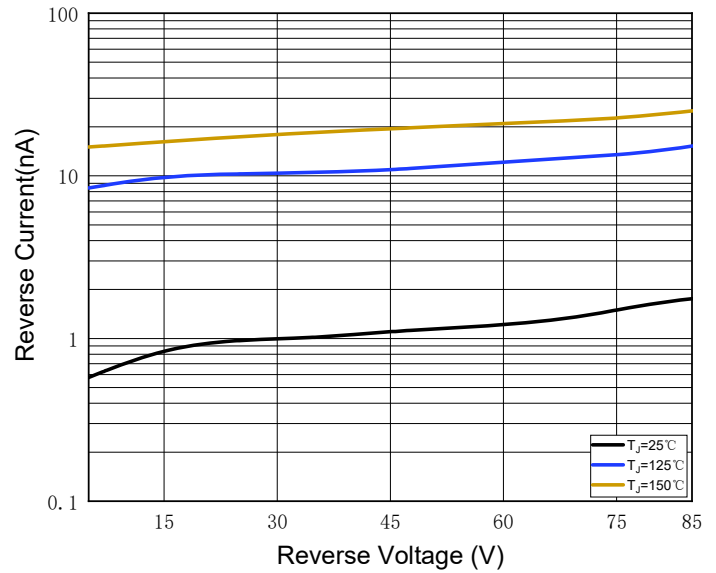
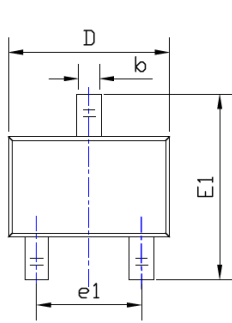


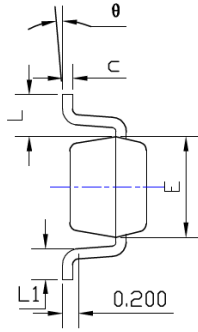
Fig.4: Reverse Characteristics



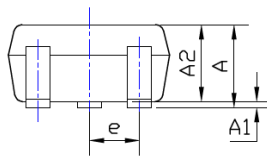
■ Outline Dimensions



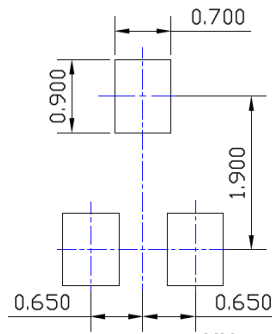
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

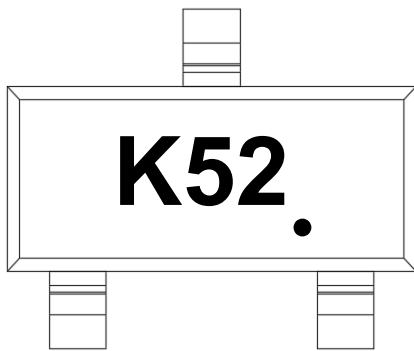
NOTE:

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



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