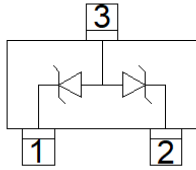


Small Signal Zener Diode



SOT-23

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Zener Voltage 2.4V~47V
- V_z -tolerance for both diodes in one case is $\leq 5\%$
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- General regulation functions

Mechanical Data

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

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

Characteristic	Symbol	Value	Units
Power Dissipation	$P_D^{[1]}$	300	mW
Maximum Forward Voltage ($I_F=10\text{mA}$)	V_F	0.9	V
Maximum Regulator Current	$I_{ZM}^{[1]}$	P_D / V_z	mA
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$
Operation Temperature	T_J	-55~+150	$^\circ\text{C}$

[1] Single diode loaded

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
AZ23C2V4Q THRU AZ23C47Q	F2	Approximate 0.01	3000	30000	120000	7" reel



AZ23C2V4Q THRU AZ23C47Q

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

Type Number	Device Marking	V _z at I _{zt} (V)			I _{zt} mA	Z _{zt} (Ω)		Z _{zk} (Ω)		I _R (μA)@V _R		Typical Temperature Coefficient@ I _{ZTC} mV/°C		Test Current I _{ZTC} mA	Typical Junction Capacitance pF
		min.	typ.	max.		I _{zt} (mA)	max.	I _{zk} (mA)	max.	uA	V _R (V)	Min.	Max.		
AZ23C2V4Q	KD0	2.28	2.4	2.56	5	5	100	1.0	600	50	1.0	-3.5	0	5	116
AZ23C2V7Q	KD1	2.5	2.7	2.9	5	5	100	1.0	600	20	1.0	-3.5	0	5	111
AZ23C3V0Q	KD2	2.8	3.0	3.2	5	5	95	1.0	600	10	1.0	-3.5	0	5	129
AZ23C3V3Q	KD3	3.1	3.3	3.5	5	5	95	1.0	600	5	1.0	-3.5	0	5	123
AZ23C3V6Q	KD4	3.4	3.6	3.8	5	5	90	1.0	600	5	1.0	-3.5	0	5	120
AZ23C3V9Q	KD5	3.7	3.9	4.1	5	5	90	1.0	600	3	1.0	-3.5	0	5	118
AZ23C4V3Q	KD6	4.0	4.3	4.6	5	5	90	1.0	600	3	1.0	-3.5	0	5	105
AZ23C4V7Q	KD7	4.4	4.7	5.0	5	5	80	1.0	500	3	2.0	-3.5	0.2	5	96
AZ23C5V1Q	KD8	4.8	5.1	5.4	5	5	60	1.0	480	2	2.0	-2.7	1.2	5	72
AZ23C5V6Q	KD9	5.2	5.6	6.0	5	5	40	1.0	400	1	2.0	-2	2.5	5	62
AZ23C6V2Q	KDA	5.8	6.2	6.6	5	5	10	1.0	150	3	4.0	0.4	3.7	5	54
AZ23C6V8Q	KDB	6.4	6.8	7.2	5	5	15	1.0	80	2	4.0	1.2	4.5	5	49
AZ23C7V5Q	KDC	7.0	7.5	7.9	5	5	15	1.0	80	1	5.0	2.5	5.3	5	44
AZ23C8V2Q	KDD	7.7	8.2	8.7	5	5	15	1.0	80	0.7	5.0	3.2	6.2	5	40
AZ23C9V1Q	KDE	8.5	9.1	9.6	5	5	15	1.0	100	0.5	6.0	3.8	7.0	5	38
AZ23C10Q	KDF	9.4	10	10.6	5	5	20	1.0	150	0.2	7.0	4.5	8.0	5	33
AZ23C11Q	KDG	10.4	11	11.6	5	5	20	1.0	150	0.1	8.0	5.4	9.0	5	30
AZ23C12Q	KDH	11.4	12	12.7	5	5	25	1.0	150	0.1	8.0	6.0	10.0	5	28
AZ23C13Q	KDI	12.4	13	14.1	5	5	30	1.0	170	0.1	8.0	7.0	11.0	5	25
AZ23C15Q	KDJ	13.8	15	15.6	5	5	30	1.0	200	0.1	10.5	9.2	13.0	5	23
AZ23C16Q	KDK	15.3	16	17.1	5	5	40	1.0	200	0.1	11.2	10.4	14.0	5	22
AZ23C18Q	KDL	16.8	18	19.1	5	5	45	1.0	225	0.1	12.6	12.4	16.0	5	19
AZ23C20Q	KDM	18.8	20	21.2	5	5	55	1.0	225	0.1	14.0	14.4	18.0	5	18
AZ23C22Q	KDN	20.8	22	23.3	5	5	55	1.0	250	0.1	15.4	16.4	20.0	5	17
AZ23C24Q	KDO	22.8	24	25.6	5	5	70	1.0	250	0.1	16.8	18.4	22.0	5	16
AZ23C27Q	KDP	25.1	27	28.9	2	2	80	0.5	300	0.1	18.9	21.4	25.3	2	15
AZ23C30Q	KDQ	28	30	32	2	2	80	0.5	300	0.1	21.0	24.4	29.4	2	14
AZ23C33Q	KDR	31	33	35	2	2	80	0.5	325	0.1	23.1	27.4	33.4	2	14
AZ23C36Q	KDS	34	36	38	2	2	90	0.5	350	0.1	25.2	30.4	37.4	2	13
AZ23C39Q	KDT	37	39	41	2	2	130	0.5	350	0.1	27.3	33.4	41.2	2	13
AZ23C43Q	D30	40	43	46	2	2	100	0.5	700	0.1	32	37.6	50.6	2	13
AZ23C47Q	D31	44	47	50	2	2	100	0.5	750	0.1	35	42.0	55.8	2	12



■ Characteristics (Typical)

Fig1: ZENER VOLTAGE VERSUS ZENER CURRENT

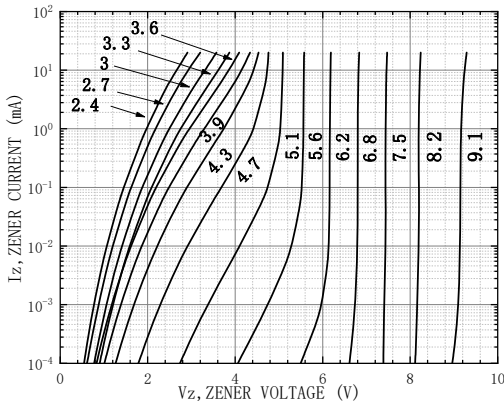


Fig2: ZENER VOLTAGE VERSUS ZENER CURRENT

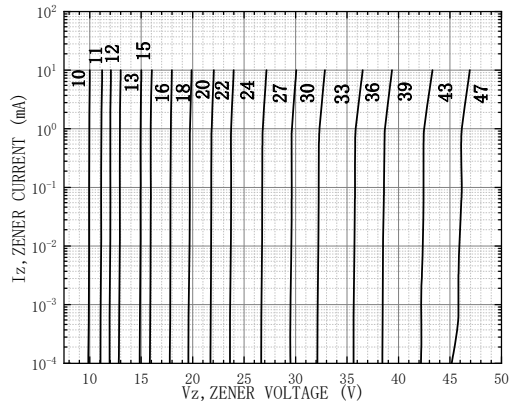


Fig3: TYPICAL TEMPERATURE COEFFICIENT

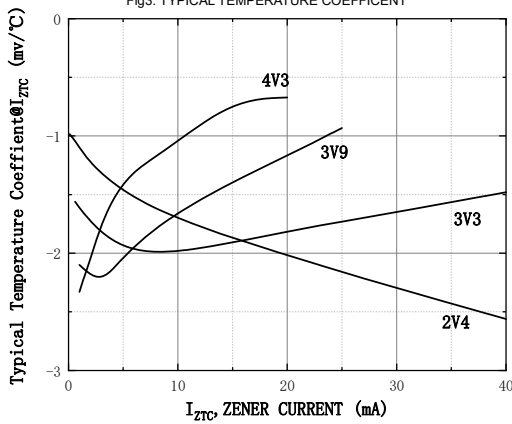


Fig4: TYPICAL TEMPERATURE COEFFICIENT

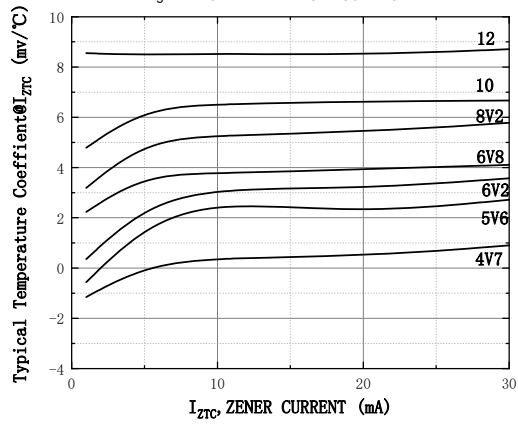


Fig5: TYPICAL CAPACITANCE

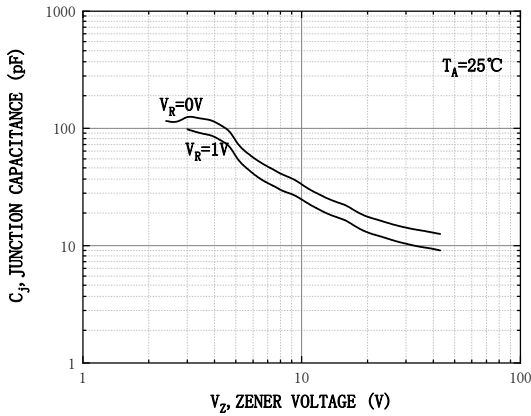


Fig6: STEADY STATE POWER DERATING

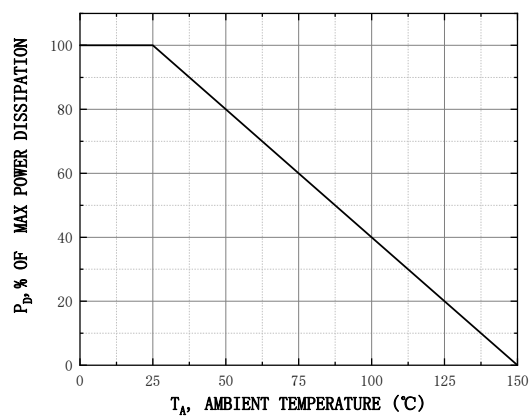
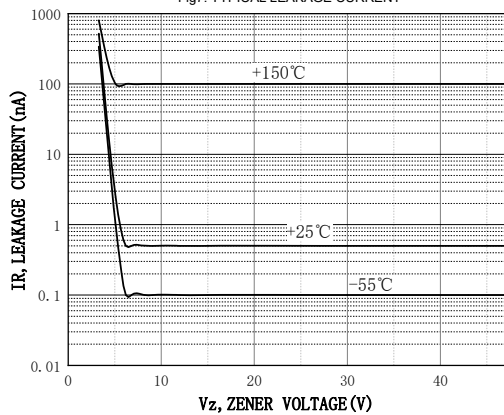


Fig7: TYPICAL LEAKAGE CURRENT

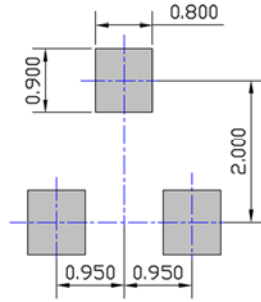
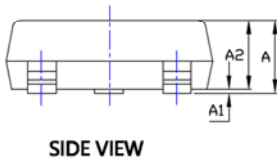
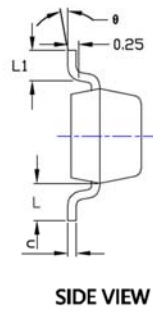
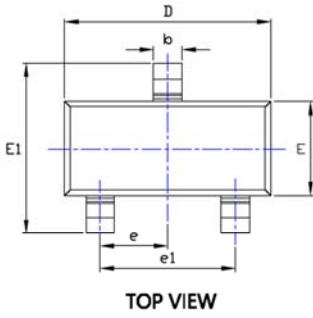




AZ23C2V4Q THRU AZ23C47Q

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■ Outline Dimensions



UNIT: mm

SYMBOL	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	0.200	0.300	0.500
theta	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.



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