AZ23C2V7 - AZ23C51

300mW DUAL SURFACE MOUNT ZENER DIODE

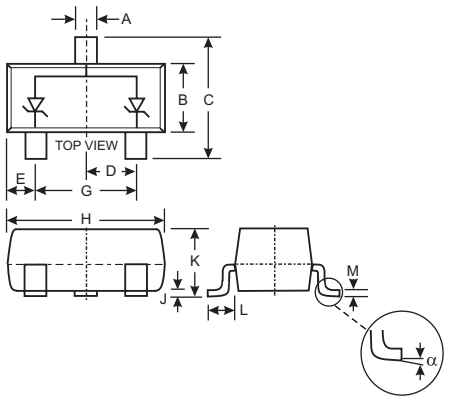
SPICE MODELS: AZ23C2V7 AZ23C3V0 AZ23C3V3 AZ23C3V6 AZ23C3V9 AZ23C4V3 AZ23C4V7 AZ23C5V1 AZ23C5V6 AZ23C6V2 AZ23C7V5 AZ23C8V2 AZ23C9V1 AZ23C10 AZ23C11 AZ23C12 AZ23C13 AZ23C15 AZ23C16 AZ23C18 AZ23C20 AZ23C22 AZ23C24 AZ23C27 AZ23C30 AZ23C33 AZ23C36 AZ23C39 AZ23C43 AZ23C47 AZ23C51

Features

- Dual Zeners in Common Anode Configuration
- 300 mW Power Dissipation Rating
- Ideally Suited for Automatic Insertion
- ΔV_Z For Both Diodes in One Case is $\leq 5\%$
- Common Cathode Style Available See DZ Series
- **Available in Lead Free/RoHS Compliant Version (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe). Please see Ordering Information, Note 4, on Page 1
- Polarity: See Diagram
- Marking: Marking Code (See Page 2)
- Approximate Weight: 0.008 grams



SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_d	300	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	417	°C/W
Operating and Storage Temperature Range	T_j ,T_{STG}	–65 to +150	°C

Ordering Information (Note 2)

Device	Packaging	Shipping
(Type Number)-7*	SOT-23	3000/Tape & Reel

* Add "-7" to the appropriate type number in Table on Page 2 example: 6.2V Zener = AZ23C6V2-7.

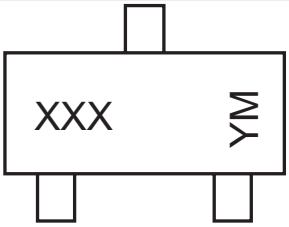
Note:
1. Mounted on FR4 PC Board with recommended pad layout which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
3. No purposefully added lead.
4. For Lead Free/RoHS Compliant version part number, please add "-F" suffix to part number above. Example: AZ23C51-7-F.

Electrical Characteristics @T_A = 25°C unless otherwise specified

Type Number	Marking Code	Zener Voltage Range (Note 5)	Maximum Zener Impedance (Note 6)		Typical Temperature Coefficient	Min. Reverse Voltage (Note 5)
		@ I_{ZT} = 5.0mA	Z_{ZT} @ I_{ZT} = 5.0mA	Z_{ZK} @ I_{ZK} = 1.0mA		@ I_R = 0.1µA
		V_Z (Volts)	Ohms	Ohms	T_C (%/°C)	V_R (Volts)
AZ23C2V7	KD1	2.5-2.9	83	500	-0.065	—
AZ23C3V0	KD2	2.8-3.2	95	500	-0.060	—
AZ23C3V3	KD3	3.1-3.5	95	500	-0.055	—
AZ23C3V6	KD4	3.4-3.8	95	500	-0.055	—
AZ23C3V9	KD5	3.7-4.1	95	500	-0.050	—
AZ23C4V3	KD6	4.0-4.6	95	500	-0.035	—
AZ23C4V7	KD7	4.4-5.0	78	500	-0.015	—
AZ23C5V1	KD8	4.8-5.4	60	480	+0.005	0.8
AZ23C5V6	KD9	5.2-6.0	40	400	+0.020	1.0
AZ23C6V2	KDA	5.8-6.6	10	200	+0.030	2.0
AZ23C6V8	KDB	6.4-7.2	8.0	150	+0.045	3.0
AZ23C7V5	KDC	7.0-7.9	7.0	50	+0.050	5.0
AZ23C8V2	KDD	7.7-8.7	7.0	50	+0.055	6.0
AZ23C9V1	KDE	8.5-9.6	10	50	+0.065	7.0
AZ23C10	KDF	9.4-10.6	15	70	+0.065	7.5
AZ23C11	KDG	10.4-11.6	20	70	+0.070	8.5
AZ23C12	KDH	11.4-12.7	20	90	+0.075	9.0
AZ23C13	KDI	12.4-14.1	25	110	+0.080	10.0
AZ23C15	KDJ	13.8-15.6	30	110	+0.080	11.0
AZ23C16	KDK	15.3-17.1	40	170	+0.090	12.0
AZ23C18	KDL	16.8-19.1	50	170	+0.090	14.0
AZ23C20	KDM	18.8-21.2	50	220	+0.090	15.0
AZ23C22	KDN	20.8-23.3	55	220	+0.090	17.0
AZ23C24	KDO	22.8-25.6	80	220	+0.090	18.0
AZ23C27	KDP	25.1-28.9	80	250	+0.090	20.0
AZ23C30	KDQ	28-32	80	250	+0.090	22.5
AZ23C33	KDR	31-35	80	250	+0.090	25.0
AZ23C36	KDS	34-38	90	250	+0.090	27.0
AZ23C39	KDT	37-41	90	300	+0.110	29.0
AZ23C43	D30	40-46	100	700	+0.110	32.0
AZ23C47	D31	44-50	100	750	+0.110	35.0
AZ23C51	D32	48-54	100	750	+0.110	38.0

Note: 5. Short duration test pulse used to minimize self-heating effect.
6. f = 1KHz.

Marking Information



XXX = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

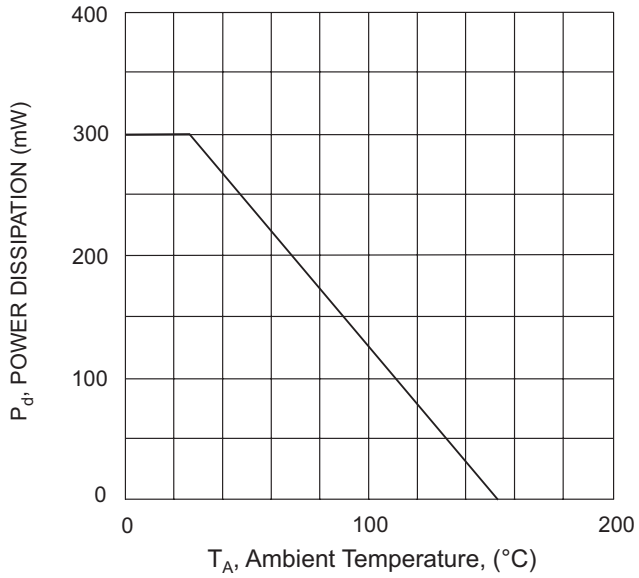


Fig. 1 Power Derating Curve

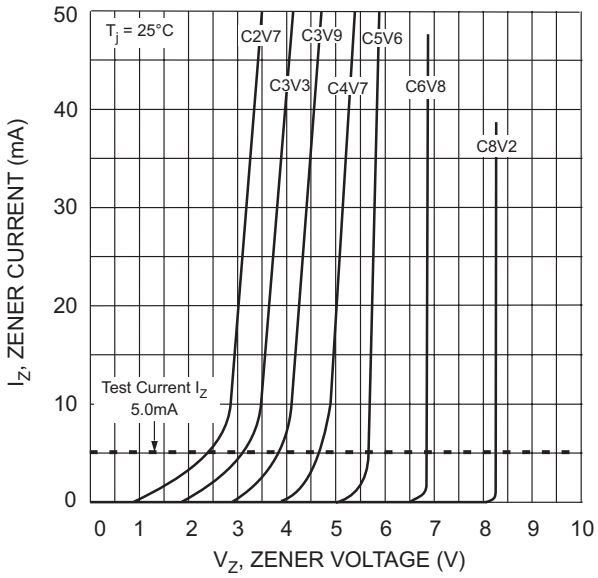


Fig. 2 Zener Breakdown Characteristics

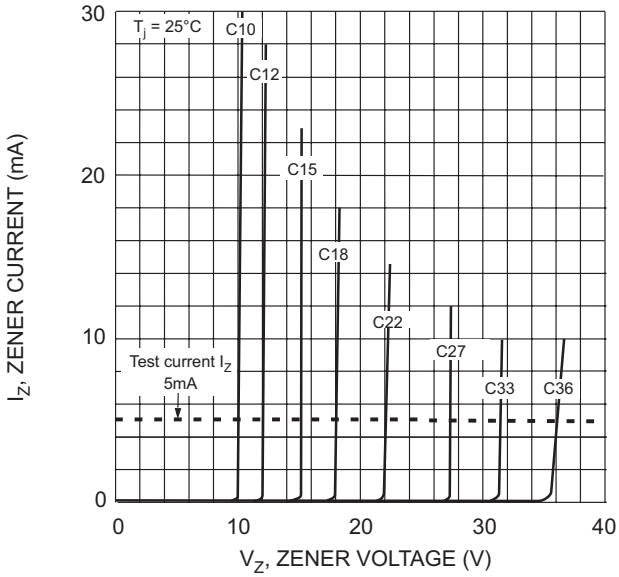


Fig. 3 Zener Breakdown Characteristics

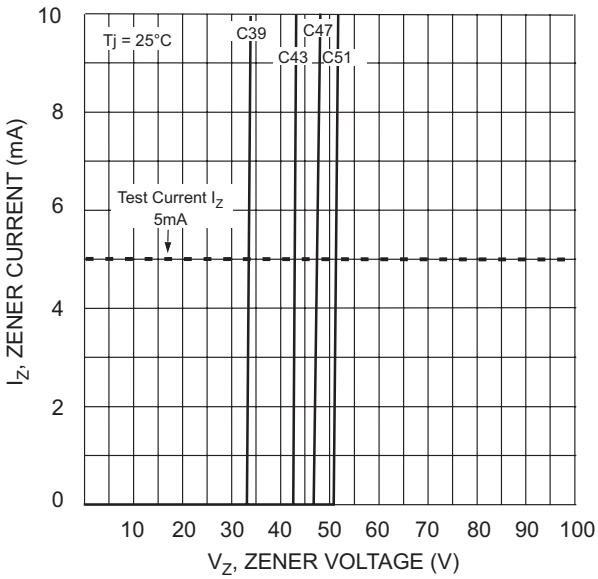


Fig. 4 Zener Breakdown Characteristics

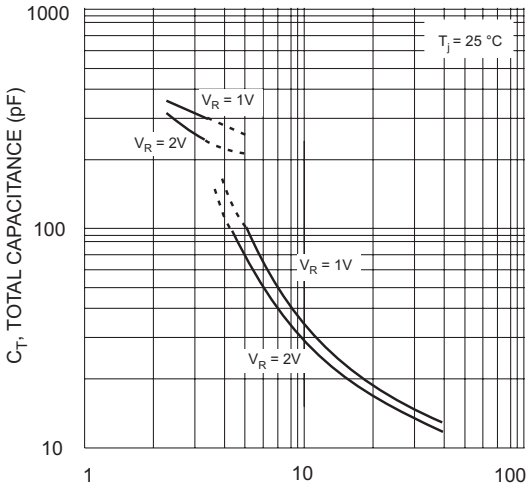


Fig. 5 Total Capacitance vs Nominal Zener Voltage