

Dual SMD Zener Diodes

FEATURES

- Zener voltage range selection: 2.7V to 51V
- Ideally suited for automated assembly processes
- Moisture sensitivity : Level 1 per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_Z	2.7-51	V
P_D	300	mW
T_J Max.	150	°C
Package	SOT-23	

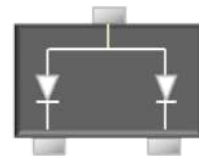
APPLICATIONS

- Low voltage stabilizers or voltage references
- Adapters
- Lighting application
- On-board DC/DC converter



MECHANICAL DATA

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 8.85mg (approximately)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_D	300	mW
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	420	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)										
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE				ZENER IMPEDANCE			LEAKAGE CURRENT	
		$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$	
		V			mA	Ω	Ω	mA	μA	V
		Min	Nom	Max		Max	Max		Max	
AZ23C2V7	KD1	2.5	2.7	2.9	5	83	500	1	0.1	-
AZ23C3V0	KD2	2.8	3.0	3.2	5	95	500	1	0.1	-
AZ23C3V3	KD3	3.1	3.3	3.5	5	95	500	1	0.1	-
AZ23C3V6	KD4	3.4	3.6	3.8	5	95	500	1	0.1	-
AZ23C3V9	KD5	3.7	3.9	4.1	5	95	500	1	0.1	-
AZ23C4V3	KD6	4.0	4.3	4.6	5	95	500	1	0.1	-
AZ23C4V7	KD7	4.4	4.7	5.0	5	78	500	1	0.1	-
AZ23C5V1	KD8	4.8	5.1	5.4	5	60	480	1	0.1	0.8
AZ23C5V6	KD9	5.2	5.6	6.0	5	40	400	1	0.1	1.0
AZ23C6V2	KDA	5.8	6.2	6.6	5	10	200	1	0.1	2.0
AZ23C6V8	KDB	6.4	6.8	7.2	5	8	150	1	0.1	3.0
AZ23C7V5	KDC	7.0	7.5	7.9	5	7	50	1	0.1	5.0
AZ23C8V2	KDD	7.7	8.2	8.7	5	7	50	1	0.1	6.0
AZ23C9V1	KDE	8.5	9.1	9.6	5	10	50	1	0.1	7.0
AZ23C10	KDF	9.4	10	10.6	5	15	70	1	0.1	7.5
AZ23C11	KDG	10.4	11	11.6	5	20	70	1	0.1	8.5
AZ23C12	KDH	11.4	12	12.7	5	20	90	1	0.1	9.0
AZ23C13	KDI	12.4	13	14.1	5	25	110	1	0.1	10.0
AZ23C15	KDJ	13.8	15	15.6	5	30	110	1	0.1	11.0
AZ23C16	KDK	15.3	16	17.1	5	40	170	1	0.1	12.0
AZ23C18	KDL	16.8	18	19.1	5	50	170	1	0.1	14.0
AZ23C20	KDM	18.8	20	21.2	5	50	220	1	0.1	15.0
AZ23C22	KDN	20.8	22	23.3	5	55	220	1	0.1	17.0
AZ23C24	KDO	22.8	24	25.6	5	80	220	1	0.1	18.0
AZ23C27	KDP	25.1	27	28.9	5	80	250	1	0.1	20.0
AZ23C30	KDQ	28	30	32	5	80	250	1	0.1	22.5
AZ23C33	KDR	31	33	35	5	80	250	1	0.1	25.0
AZ23C36	KDS	34	36	38	5	90	250	1	0.1	27.0
AZ23C39	KDT	37	39	41	5	90	300	1	0.1	29.0
AZ23C43	KDU	40	43	46	5	100	700	1	0.1	32.0
AZ23C47	KDV	44	47	50	5	100	750	1	0.1	35.0
AZ23C51	KDW	48	51	54	5	100	750	1	0.1	38.0

Notes:

1. The zener Voltage (V_Z) is tested under pulse condition of 5ms.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of $\leq \pm 5\%$.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Taiwan Semiconductor representative.

ORDERING INFORMATION		
ORDERING CODE (Note 1, 2)	PACKAGE	PACKING
AZ23Cxxx RF	SOT-23	3K / 7" Reel
AZ23Cxxx RFG	SOT-23	3K / 7" Reel
AZ23Cxxx-D0 RF	SOT-23	3K / 7" Reel
AZ23Cxxx-D0 RFG	SOT-23	3K / 7" Reel

Note 1:

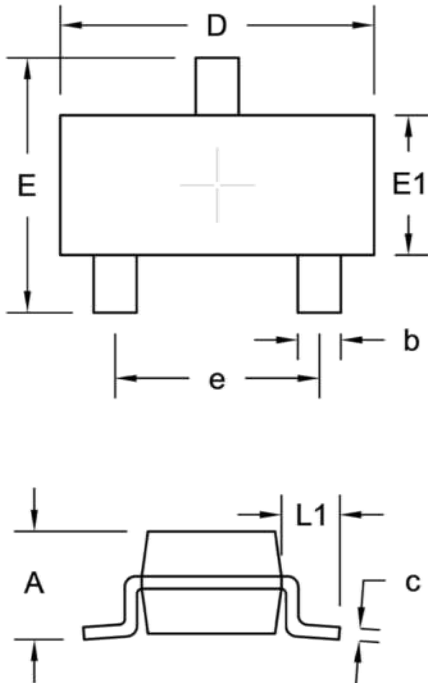
"xxx" defines voltage from 2.7V (AZ23C2V7) to 51V (AZ23C51)

Note 2:

"G" means green compound (halogen free)

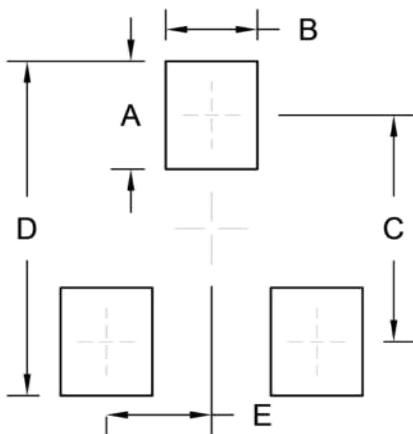
PACKAGE OUTLINE DIMENSION

SOT-23



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.89	1.12	0.035	0.044
b	0.30	0.50	0.012	0.020
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	1.90 BSC		0.075 BSC	
L1	0.54 REF.		0.021 REF.	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.00	0.039
B	0.85	0.033
C	2.10	0.083
D	3.10	0.122
E	0.98	0.039

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