

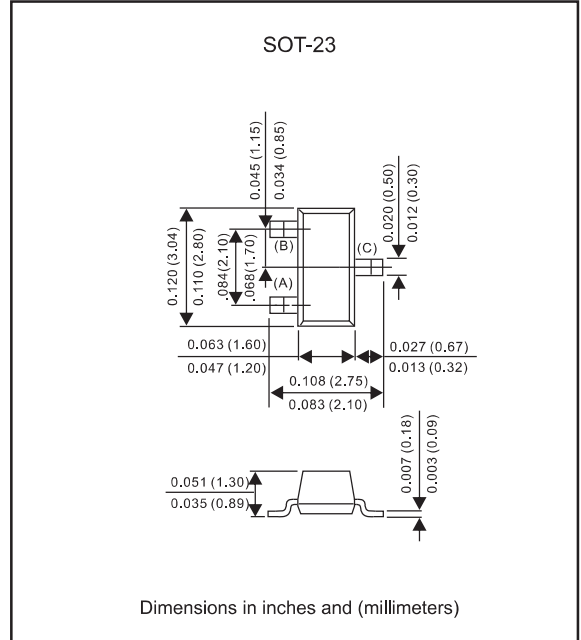
Features

- Dual zeners common anode configuration.
- Wide zener reverse voltage range 2.7V to 47V.
- Small package size for high density applications.
- Ideally suited for automated assembly processes.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

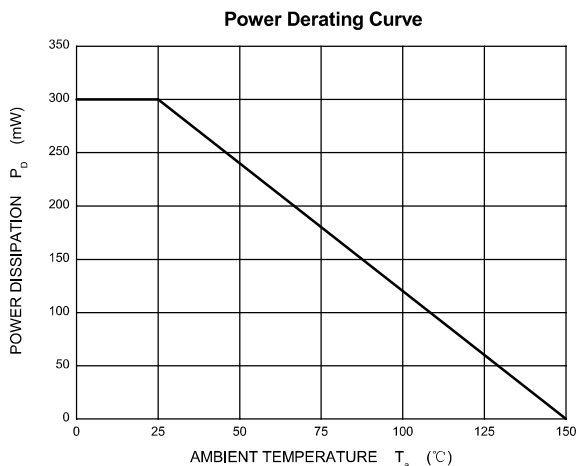
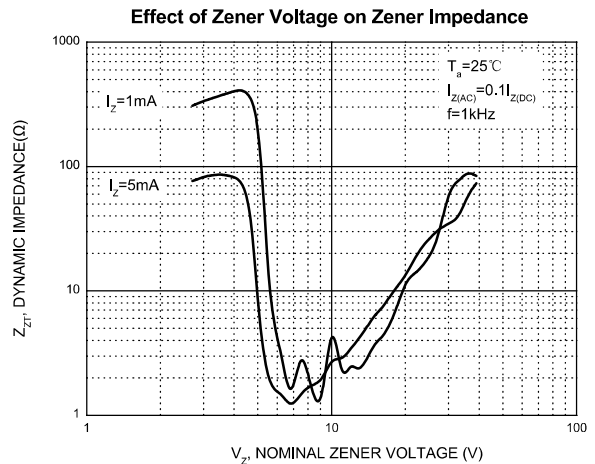
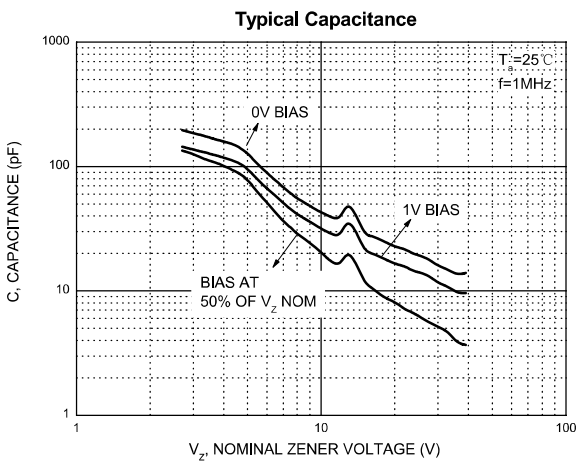
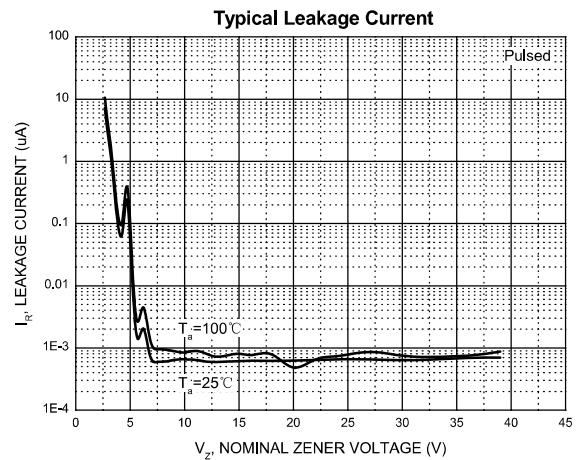
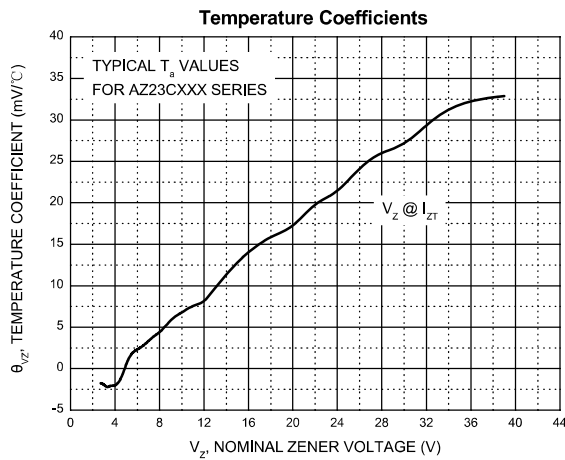
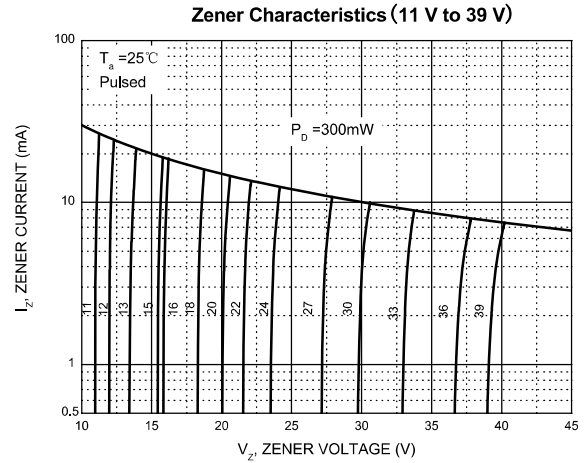
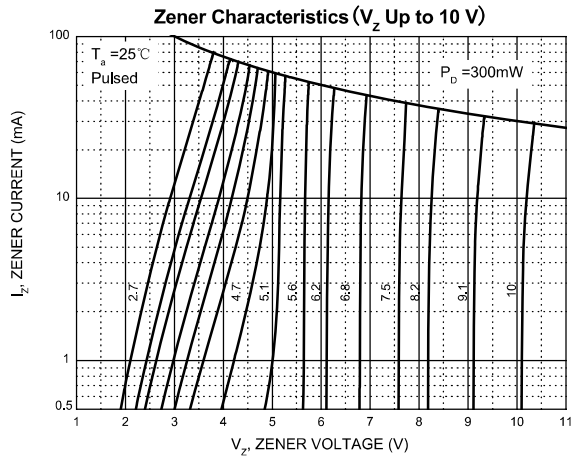
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Power Dissipation at $T_A=25^\circ\text{C}$	Mounted on Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.	P_D			300	mW
Thermal Resistance	Junction to Ambient	$R_{\theta JA}$		417		$^\circ\text{C}/\text{W}$
Operating junction temperature range		T_J	-55		+150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55		+150	$^\circ\text{C}$

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

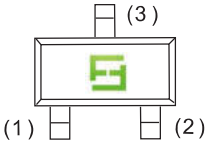
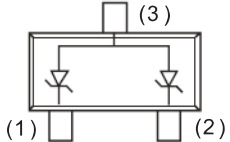
Type Number	Marking Code	Nominal Zener Voltage			Maximum Zener Impedance				Min Reverse Leakage Current	
		V _Z (V)@ I _{ZT}			Z _{ZT} @I _{ZT}		Z _{ZK} @I _{ZK}		I _R @ V _R	
		Min.	Typ.	Max.	Ω	mA	Ω	mA	uA	V
MMBZ2V7ALT1G	KD1	2.5	2.7	2.9	100	5	600	1	20	1
MMBZ3V0ALT1G	KD2	2.8	3.0	3.2	95	5	600	1	10	1
MMBZ3V3ALT1G	KD3	3.1	3.3	3.5	95	5	600	1	5	1
MMBZ3V6ALT1G	KD4	3.4	3.6	3.8	90	5	600	1	5	1
MMBZ3V9ALT1G	KD5	3.7	3.9	4.1	90	5	600	1	3	1
MMBZ4V3ALT1G	KD6	4.0	4.3	4.6	90	5	600	1	3	1
MMBZ4V7ALT1G	KD7	4.4	4.7	5.0	80	5	500	1	3	2
MMBZ5V1ALT1G	KD8	4.8	5.1	5.4	60	5	480	1	2	2
MMBZ5V6ALT1G	KD9	5.2	5.6	6.0	40	5	400	1	1	2
MMBZ6V2ALT1G	KDA	5.8	6.2	6.6	10	5	150	1	3	4
MMBZ6V8ALT1G	KDB	6.4	6.8	7.2	15	5	80	1	2	4
MMBZ7V5ALT1G	KDC	7.0	7.5	7.9	15	5	80	1	1	5
MMBZ8V2ALT1G	KDD	7.7	8.2	8.7	15	5	80	1	0.7	5
MMBZ9V1ALT1G	KDE	8.5	9.1	9.6	15	5	100	1	0.5	6
MMBZ10VALT1G	KDF	9.4	10	10.6	20	5	150	1	0.2	7
MMBZ11VALT1G	KDG	10.4	11	11.6	20	5	150	1	0.1	8
MMBZ12VALT1G	KDH	11.4	12	12.7	25	5	150	1	0.1	8
MMBZ13VALT1G	KDI	12.4	13	14.1	30	5	170	1	0.1	8
MMBZ15VALT1G	KDJ	13.8	15	15.6	30	5	200	1	0.1	10.5
MMBZ16VALT1G	KDK	15.3	16	17.1	40	5	200	1	0.1	11.2
MMBZ18VALT1G	KDL	16.8	18	19.1	45	5	225	1	0.1	12.6
MMBZ20VALT1G	KDM	18.8	20	21.2	55	5	225	1	0.1	14
MMBZ22VALT1G	KDN	20.8	22	23.3	55	5	250	1	0.1	15.4
MMBZ24VALT1G	KDO	22.8	24	25.6	70	5	250	1	0.1	16.8
MMBZ27VALT1G	KDP	25.1	27	28.9	80	2	300	1	0.1	18.9
MMBZ30VALT1G	KDQ	28	30	32	80	2	300	1	0.1	21.0
MMBZ33VALT1G	KDR	31	33	35	80	2	325	1	0.1	23.1
MMBZ36VALT1G	KDS	34	36	38	90	2	350	1	0.1	25.2
MMBZ39VALT1G	KDT	37	39	41	130	2	350	1	0.1	27.3
MMBZ43VALT1G	D30	40.85	43	45.15	150	5	375	1	0.1	30.1
MMBZ47VALT1G	D31	44.65	47	49.35	170	5	375	1	0.1	32.9

Notes: 1. Short duration test pulse used to minimize self-heating effect.
2. f=1kHz

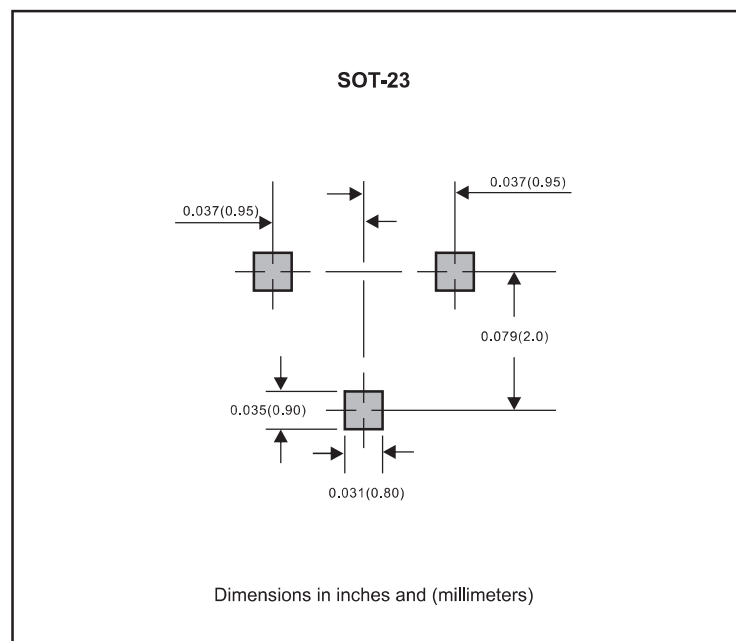
Rating and characteristic curves



Pinning information

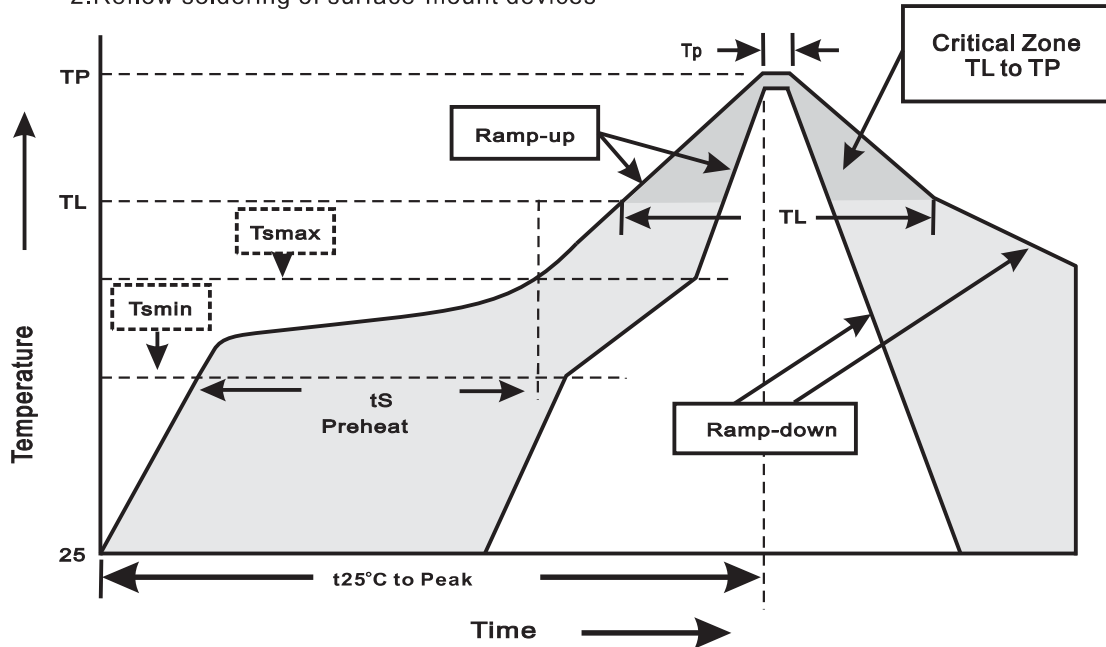
Pin	Simplified outline	Symbol
Pin1 Pin2 Pin3		

Suggested solder pad layout



Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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