

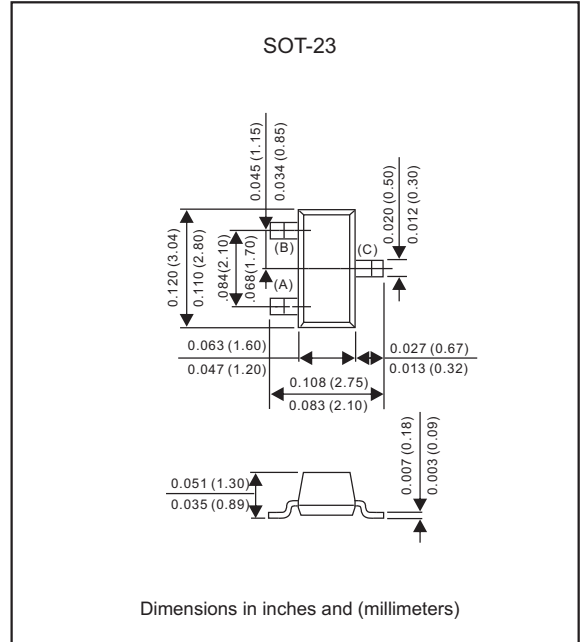
Features

- Silicon epitaxial planar chip structure.
- Wide zener reverse voltage range 2.4V to 75V.
- Small package size for high density applications.
- Ideally suited for automated assembly processes.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Halogen-free

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°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Power Dissipation at T _A =25°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 _{θJA}		417		°C/W
Operating junction temperature range		T _J	-55		+150	°C
Storage temperature range		T _{STG}	-55		+150	°C

Electrical characteristics (at T =25°C unless otherwise noted)

Part No.	Marking code	Zener voltage			Zener impedance				Leakage current		θVz (mV/k) @ I _{ZT}		C @VR=0V f=1MHz
		Vz @ I _{ZT} (Volts)			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _r	V _R	Min.	Max.	
		Min.	Nom.	Max.	mA	(Ω)Max	(Ω)Max	mA	(uA)Max	Volts			
MMBZ5221BLT1G	Z11	2.28	2.4	2.52	5.0	100	600	1	50	1.0	-3.5	0	450
MMBZ5223BLT1G	Z12	2.57	2.7	2.84	5.0	100	600	1	20	1.0	-3.5	0	450
MMBZ5225BLT1G	Z13	2.85	3.0	3.15	5.0	95	600	1	10	1.0	-3.5	0	450
MMBZ5226BLT1G	Z14	3.14	3.3	3.47	5.0	95	600	1	5	1.0	-3.5	0	450
MMBZ5227BLT1G	Z15	3.42	3.6	3.78	5.0	90	600	1	5	1.0	-3.5	0	450
MMBZ5228BLT1G	Z16	3.71	3.9	4.1	5.0	90	600	1	3	1.0	-3.5	-2.5	450
MMBZ5229BLT1G	W9	4.09	4.3	4.52	5.0	90	600	1	3	1.0	-3.5	0	450
MMBZ5230BLT1G	Z1	4.47	4.7	4.94	5.0	80	500	1	3	2.0	-3.5	0.2	260
MMBZ5231BLT1G	Z2	4.85	5.1	5.36	5.0	60	480	1	2	2.0	-2.7	1.2	225
MMBZ5232BLT1G	Z3	5.32	5.6	5.88	5.0	40	400	1	1	2.0	-2.0	2.5	200
MMBZ5234BLT1G	Z4	5.89	6.2	6.51	5.0	10	150	1	3	4.0	0.4	3.7	185
MMBZ5235BLT1G	Z5	6.46	6.8	7.14	5.0	15	80	1	2	4.0	1.2	4.5	155
MMBZ5236BLT1G	Z6	7.13	7.5	7.88	5.0	15	80	1	1	5.0	2.5	5.3	140
MMBZ5237BLT1G	Z7	7.79	8.2	8.61	5.0	15	80	1	0.7	5.0	3.2	6.2	135
MMBZ5239BLT1G	Z8	8.65	9.1	9.56	5.0	15	100	1	0.5	6.0	3.8	7.0	130
MMBZ5240BLT1G	Z9	9.50	10	10.50	5.0	20	150	1	0.2	7.0	4.5	8.0	130
MMBZ5241BLT1G	Y1	10.45	11	11.55	5.0	20	150	1	0.1	8.0	5.4	9.0	130
MMBZ5242BLT1G	Y2	11.40	12	12.60	5.0	25	150	1	0.1	8.0	6.0	10	130
MMBZ5243BLT1G	Y3	12.35	13	13.65	5.0	30	170	1	0.1	8.0	7.0	11	120
MMBZ5245BLT1G	Y4	14.25	15	15.75	5.0	30	200	1	0.1	10.5	9.2	13	110
MMBZ5246BLT1G	Y5	15.20	16	16.80	5.0	40	200	1	0.1	11.2	10.4	14	105
MMBZ5248BLT1G	Y6	17.10	18	18.90	5.0	45	225	1	0.1	12.6	12.4	16	100
MMBZ5250BLT1G	Y7	19.00	20	21.00	5.0	55	225	1	0.1	14.0	14.4	18	85
MMBZ5251BLT1G	Y8	20.90	22	23.10	5.0	55	250	1	0.1	15.4	16.4	20	85
MMBZ5252BLT1G	Y9	22.80	24	25.20	5.0	70	250	1	0.1	16.8	18.4	22	80
MMBZ5254BLT1G	Y10	25.65	27	28.35	2.0	80	300	0.5	0.1	18.9	21.4	25.3	70
MMBZ5256BLT1G	Y11	28.50	30	31.50	2.0	80	300	0.5	0.1	21.0	24.4	29.4	70
MMBZ5257BLT1G	Y12	31.35	33	34.65	2.0	80	325	0.5	0.1	23.1	27.4	33.4	70
MMBZ5258BLT1G	Y13	34.20	36	37.80	2.0	90	350	0.5	0.1	25.2	30.4	37.4	70
MMBZ5259BLT1G	Y14	37.05	39	40.95	2.0	130	350	0.5	0.1	27.3	33.4	41.2	45
MMBZ5260BLT1G	Y15	40.85	43	45.15	2.0	150	375	0.5	0.1	30.1	37.6	46.6	40
MMBZ5261BLT1G	Y16	44.65	47	49.35	2.0	170	375	0.5	0.1	32.9	42.0	51.8	40
MMBZ5262BLT1G	Y17	48.45	51	53.55	2.0	180	400	0.5	0.1	35.7	46.6	57.2	40
MMBZ5263BLT1G	Y18	53.20	56	58.80	2.0	200	425	0.5	0.1	39.2	52.2	63.8	40
MMBZ5265BLT1G	Y19	58.90	62	65.10	2.0	215	450	0.5	0.1	43.4	58.8	71.6	35
MMBZ5266BLT1G	Y20	64.60	68	71.40	2.0	240	475	0.5	0.1	47.6	65.6	79.8	35
MMBZ5267BLT1G	Y21	71.25	75	78.75	2.0	255	500	0.5	0.1	52.5	73.4	88.6	35

Note : 1. 5% tolerance of Zener voltage
 2. Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C.

Rating and characteristic curves

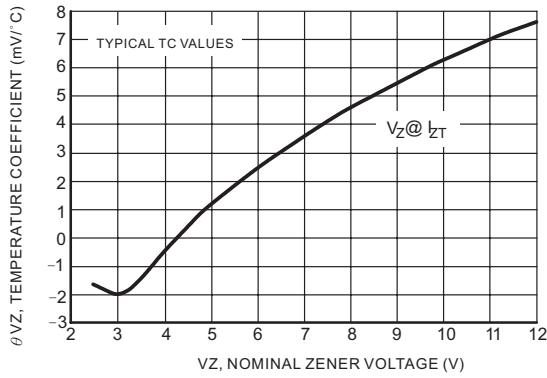


Figure 1. Temperature Coefficients
(Temperature Range -55°C to +150°C)

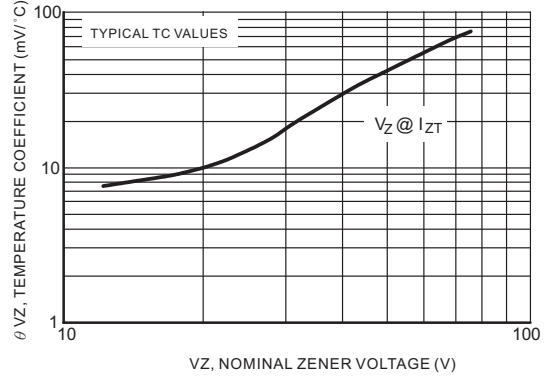


Figure 2. Temperature Coefficients
(Temperature Range -55°C to +150°C)

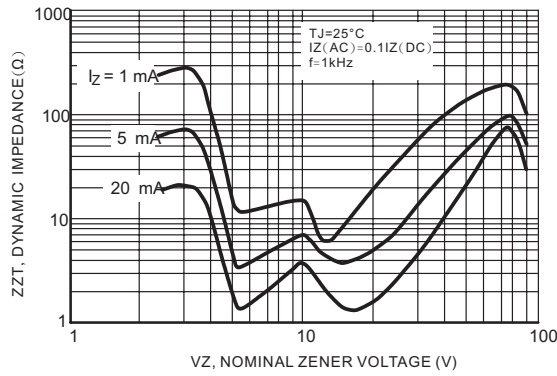


Figure 3. Effect of Zener Voltage on Zener Impedance

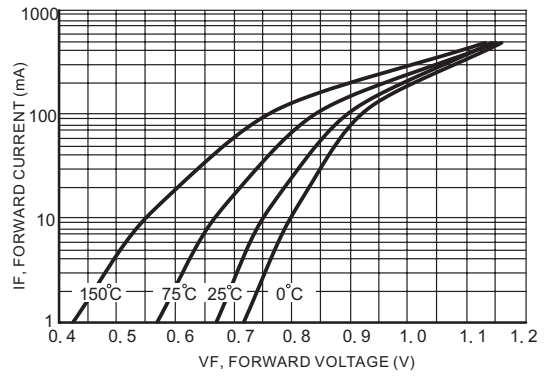


Figure 4. Typical Forward Voltage

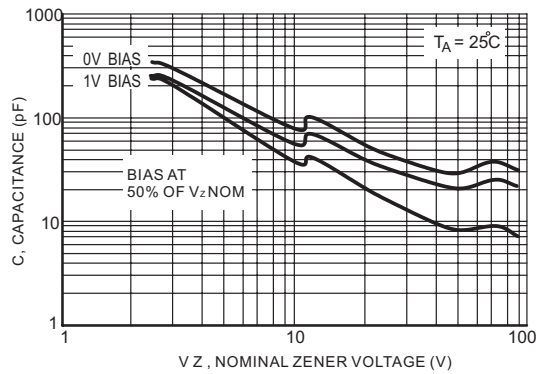


Figure 5. Typical Capacitance

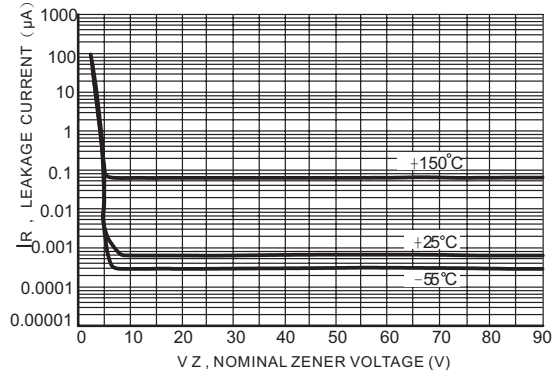


Figure 6. Typical Leakage Current

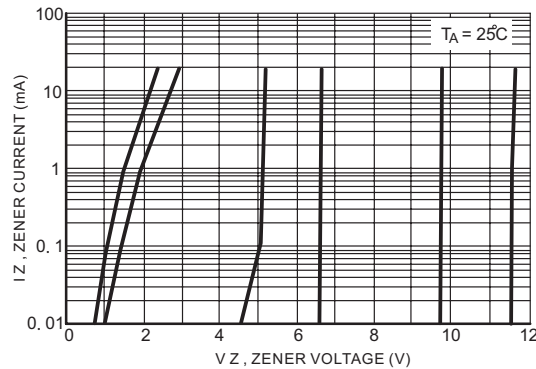


Figure 7. Zener Voltage versus Zener Current
(V_Z Up to 12 V)

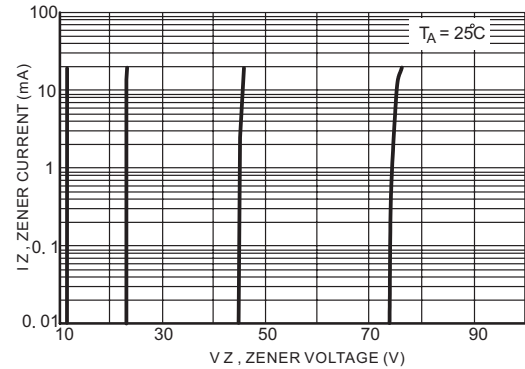
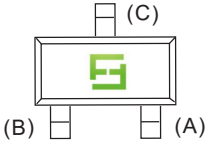
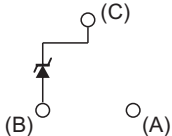
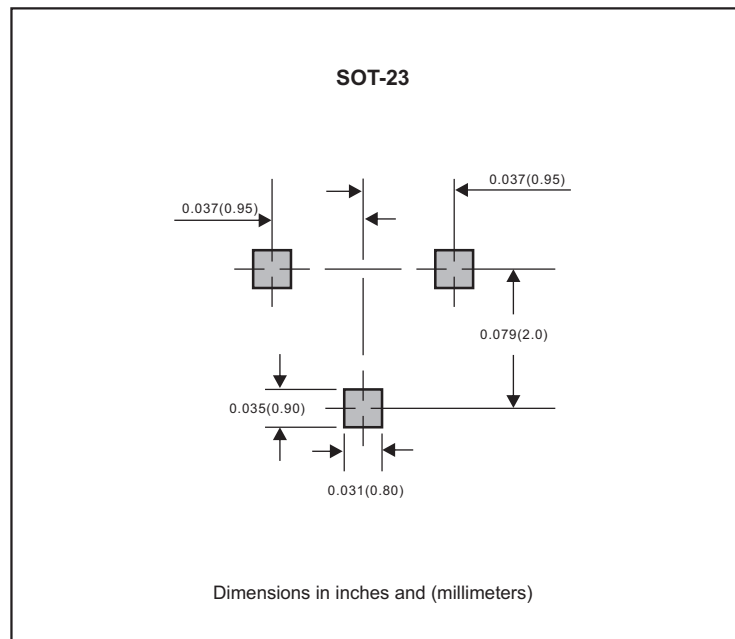


Figure 8. Zener Voltage versus Zener Current
(12V to 75V)

Pinning information

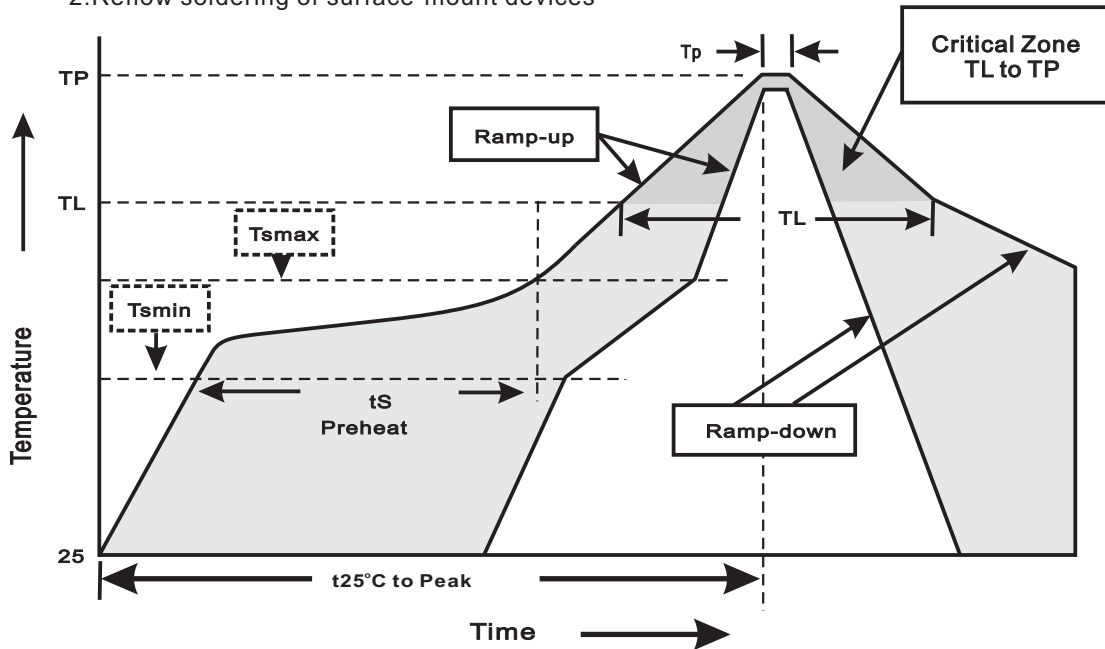
Pin	Simplified outline	Symbol
PinA no connection PinB anode PinC cathode		

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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