

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

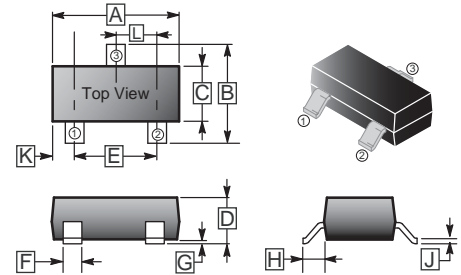
**FEATURES**

- Planar Die Construction
- 300 mW Power Dissipation on FR-4 PCB
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Process

**MECHANICAL DATA**

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams
- Weight: 0.008 grams (approx.)
- Marking : Marking Code (See Table On Page 2)

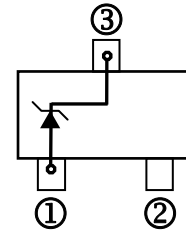
**SOT-23**



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.80	3.04	G	0.09	0.18
B	2.10	2.55	H	0.45	0.60
C	1.20	1.40	J	0.08	0.177
D	0.89	1.15	K	0.6 REF.	
E	1.78	2.04	L	0.89	1.02
F	0.30	0.50			

**PACKAGE INFORMATION**

Package	MPQ	Leader Size
SOT-23	3K	7 inch



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Ratings	Unit
Maximum Forward Voltage Diode at $I_F = 100 \text{ mA}$	$V_F$	1.0	V
Maximum Power Dissipation @ $25^\circ\text{C}$ <sup>1</sup>	$P_D$	300	mW
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) <sup>2</sup>	$I_{FSM}$	4.0	A
Operating Junction and Storage Temperature Range	$T_J$	-55~150	$^\circ\text{C}$

Note:

1. Mounted on  $5.0 \text{ mm}^2$  (.013mm thick) land areas. 2. Alumina =  $0.4 \times 0.3 \times 0.024 \text{ in}$ . 99.5% alumina.
2. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

**ELECTRICAL RATINGS** (Rating 25°C ambient temperature unless otherwise specified)

Part Number	Marking Code	Nominal Zener Voltage			Max. Zener Impedance				Max. Reverse Leakage Current	
		V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>	
		Nom (V)	Min (V)	Max (V)	Ω	mA	Ω	mA	μA	V
<b>300 mW Zener Diodes</b>										
MMBZ5221B	C1 / KC1 / 18A	2.4	2.28	2.52	30	20.0	1200	0.25	100	1.0
MMBZ5222B	C2 / KC2 / 18B	2.5	2.38	2.63	30	20.0	1250	0.25	100	1.0
MMBZ5223B	C3 / KC3 / 18C	2.7	2.57	2.84	30	20.0	1300	0.25	75	1.0
MMBZ5224B	18D	2.8	2.66	2.94	30	20.0	1400	0.25	75	1.0
MMBZ5225B	C5 / KC5 / 18E	3	2.85	3.15	30	20.0	1600	0.25	50	1.0
MMBZ5226B	D1 / KG1 / 8A	3.3	3.14	3.47	28	20.0	1600	0.25	25	1.0
MMBZ5227B	D2 / KG2 / 8B	3.6	3.42	3.78	24	20.0	1700	0.25	15	1.0
MMBZ5228B	D3 / KG3 / 8C	3.9	3.71	4.10	23	20.0	1900	0.25	10	1.0
MMBZ5229B	D4 / KG4 / 8D	4.3	4.09	4.52	22	20.0	2000	0.25	5.0	1.0
MMBZ5230B	D5 / KG5 / 8E	4.7	4.47	4.94	19	20.0	1900	0.25	5.0	2.0
MMBZ5231B	E1 / KE1 / 8F	5.1	4.85	5.36	17	20.0	1600	0.25	5.0	2.0
MMBZ5232B	E2 / KE2 / 8G	5.6	5.32	5.88	11	20.0	1600	0.25	5.0	3.0
MMBZ5233B	E3 / KE3 / 8H	6	5.7	6.3	7	20.0	1600	0.25	5.0	3.5
MMBZ5234B	8J / KE4 / 8J	6.2	5.89	6.51	7	20.0	1000	0.25	5.0	4.0
MMBZ5235B	E5 / KE5 / 8K	6.8	6.46	7.14	5	20.0	750	0.25	3.0	5.0
MMBZ5236B	F1 / KF1 / 8L	7.5	7.13	7.88	6	20.0	500	0.25	3.0	6.0
MMBZ5237B	F2 / KF2 / 8M	8.2	7.79	8.61	8	20.0	500	0.25	3.0	6.0
MMBZ5238B	F3 / KF3 / 8N	8.7	8.27	9.14	8	20.0	600	0.25	3.0	6.5
MMBZ5239B	F4 / KF4 / 8P	9.1	8.65	9.56	10	20.0	600	0.25	3.0	6.5
MMBZ5240B	F5 / KF5 / 8Q	10	9.50	10.50	17	20.0	600	0.25	3.0	8.0
MMBZ5241B	H1 / KH1 / 8R	11	10.45	11.55	22	20.0	600	0.25	3.0	8.4
MMBZ5242B	H2 / KH2 / 8S	12	11.40	12.60	30	20.0	600	0.25	2.0	9.1
MMBZ5243B	H3 / KH3 / 8T	13	12.35	13.65	13	9.5	600	0.25	1.0	9.9
MMBZ5244B	8U	14	13.30	14.70	15	9	600	0.25	0.1	10
MMBZ5245B	H5 / KH5 / 8V	15	14.25	15.75	16	8.5	600	0.25	0.5	11.0
MMBZ5246B	J1 / KJ1 / 8W	16	15.20	16.80	17	7.8	600	0.25	0.1	12.0
MMBZ5247B	J2 / 8X	17	16.15	17.85	19	7.4	600	0.25	0.1	13.0
MMBZ5248B	J3 / KJ3 / 8Y	18	17.10	18.90	21	7.0	600	0.25	0.1	14.0
MMBZ5249B	J4 / 8Z	19	18.05	19.95	23	6.6	600	0.25	0.1	14.0

**ELECTRICAL RATINGS** (Rating 25°C ambient temperature unless otherwise specified)

Part Number	Marking Code	Nominal Zener Voltage			Max. Zener Impedance				Max. Reverse Leakage Current	
		V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>	
		Nom (V)	Min (V)	Max (V)	Ω	mA	Ω	mA	μA	V
<b>300 mW Zener Diodes</b>										
MMBZ5250B	J5 / KJ5 / 81A	20	19.00	21.00	25	6.2	600	0.25	0.1	15.0
MMBZ5251B	K1 / KK1 / 81B	22	20.90	23.10	29	5.6	600	0.25	0.1	17.0
MMBZ5252B	K2 / KK2 / 81C	24	22.80	25.20	33	5.2	600	0.25	0.1	18.0
MMBZ5253B	K3 / 81D	25	23.75	26.25	35	5	600	0.25	0.1	19.0
MMBZ5254B	K4 / KK4 / 81E	27	25.65	28.35	41	5.0	600	0.25	0.1	21.0
MMBZ5255B	K5 / KK5 / 81F	28	26.60	29.40	44	4.5	600	0.25	0.1	21.0
MMBZ5256B	M1 / KM1 / 81G	30	28.50	31.50	49	4.2	600	0.25	0.1	23.0
MMBZ5257B	M2 / KM2 / 81H	33	31.35	34.65	58	3.8	700	0.25	0.1	25.0
MMBZ5258B	M3 / KM3 / 81J	36	34.20	37.80	70	3.4	700	0.25	0.1	27.0
MMBZ5259B	M4 / KM4 / 81K	39	37.05	40.95	80	3.2	800	0.25	0.1	30.0

**CHARACTERISTIC CURVES**

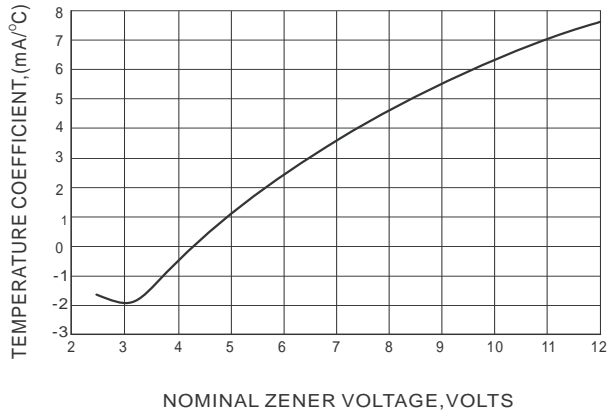


Fig.1 TEMPERATURE COEFFICIENTS

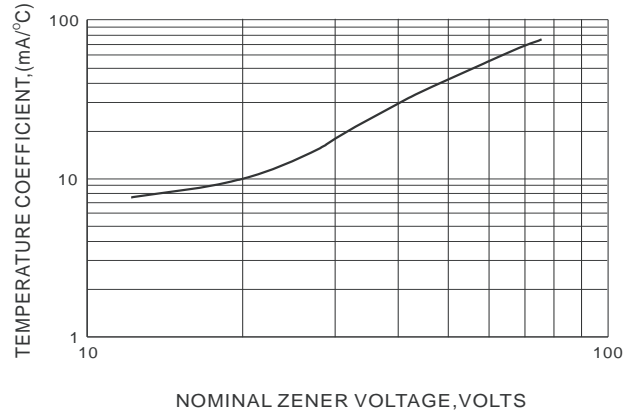


Fig.2 TEMPERATURE COEFFICIENTS

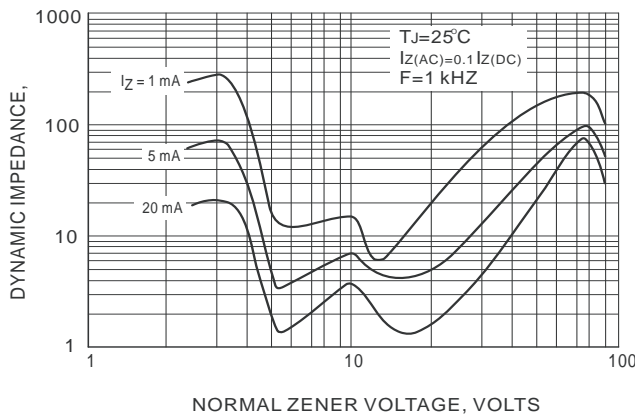


Fig.3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

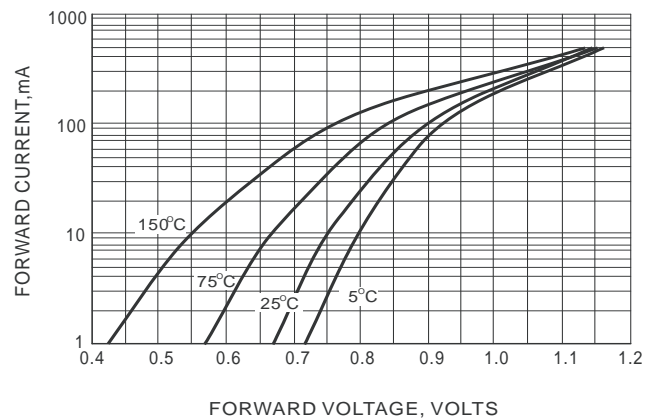


Fig.4 TYPICAL FORWARD VOLTAGE

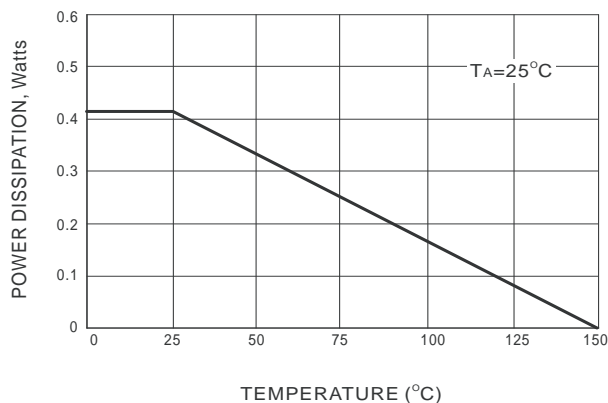


Fig.5 STEADY STATE POWER DERATING

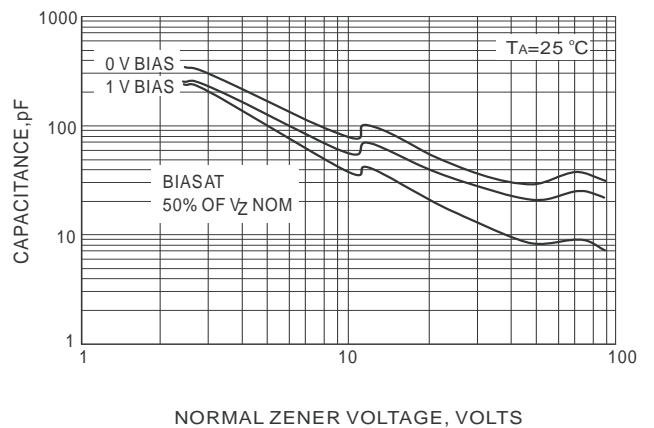


Fig.6 TYPICAL CAPACITANCE

**CHARACTERISTIC CURVES (cont'd)**

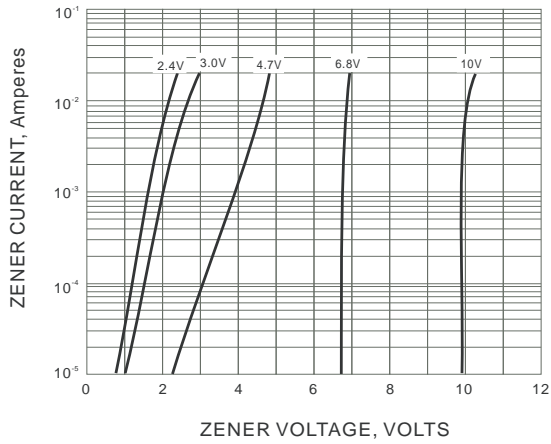


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

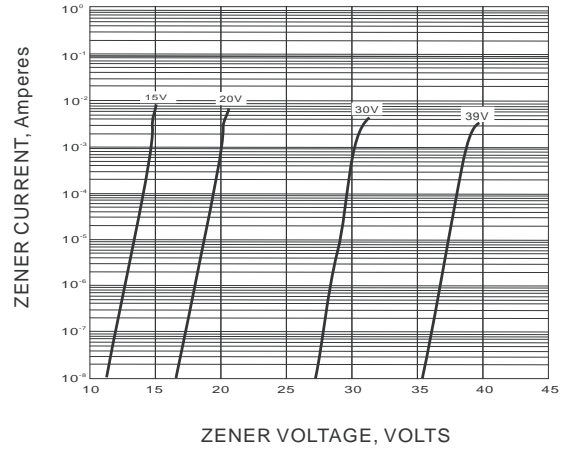


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

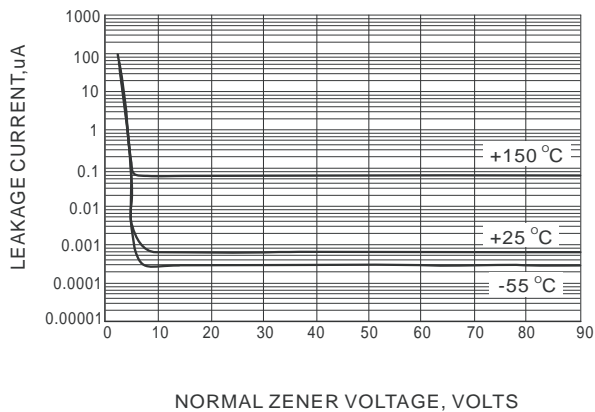


Fig.9 TYPICAL LEAKAGE CURRENT