Elektronische Bauelemente

MMBZ52xxx Series

300 mW SOT-23 Series

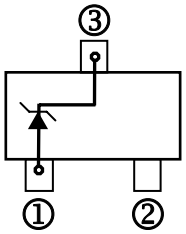
Surface Mount Zener Voltage Regulator Diodes

RoHS Compliant Product

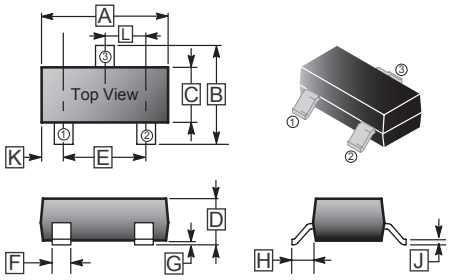
A suffix of "-C" specifies halogen & lead-free

FEATURES

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



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			

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)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Maximum Forward Voltage Diode at I_F = 100 mA	V_F	1.0	V
Maximum Power Dissipation (Notes 1) at 25°C	P_D	300	mW
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) (Notes 2)	I_{FSM}	4.0	Amps
Operating Junction and Storage Temperature Range	T_J	-55~150	℃

1. Mounted on 5.0 mm^2 (.013mm thick) land areas. 2. Alumina = 0.4 X 0.3 X 0.024 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_Z @ I_{ZT}			Z_{ZT} @ I_{ZT}		Z_{ZK} @ I_{ZK}		I_R @ V_R	
		Nom (V)	Min (V)	Max (V)	Ω	mA	Ω	mA	μA	V
300 mW Zener Diodes										
MMBZ5221B	C1 / KC1	2.4	2.28	2.52	30	20.0	1200	0.25	100	1.0
MMBZ5222B	C2	2.5	2.38	2.63	30	20.0	1250	0.25	100	1.0
MMBZ5223B	C3 / KC3	2.7	2.57	2.84	30	20.0	1300	0.25	75	1.0
MMBZ5225B	C5 / KC5	3	2.85	3.15	30	20.0	1600	0.25	50	1.0
MMBZ5226B	D1 / KG1	3.3	3.14	3.47	28	20.0	1600	0.25	25	1.0
MMBZ5227B	D2 / KG2	3.6	3.42	3.78	24	20.0	1700	0.25	15	1.0
MMBZ5228B	D3 / KG3	3.9	3.71	4.10	23	20.0	1900	0.25	10	1.0
MMBZ5229B	D4 / KG4	4.3	4.09	4.52	22	20.0	2000	0.25	5.0	1.0
MMBZ5230B	D5 / KG5	4.7	4.47	4.94	19	20.0	1900	0.25	5.0	2.0
MMBZ5231B	E1 / KE1	5.1	4.85	5.36	17	20.0	1600	0.25	5.0	2.0
MMBZ5232B	E2 / KE2	5.6	5.32	5.88	11	20.0	1600	0.25	5.0	3.0
MMBZ5233B	E3 / KE3	6	5.7	6.3	7	20.0	1600	0.25	5.0	3.5
MMBZ5234B	8J / KE4	6.2	5.89	6.51	7	20.0	1000	0.25	5.0	4.0
MMBZ5235B	E5 / KE5	6.8	6.46	7.14	5	20.0	750	0.25	3.0	5.0
MMBZ5236B	F1 / KF1	7.5	7.13	7.88	6	20.0	500	0.25	3.0	6.0
MMBZ5237B	F2 / KF2	8.2	7.79	8.61	8	20.0	500	0.25	3.0	6.0
MMBZ5238B	F3 / KF3	8.7	8.27	9.14	8	20.0	600	0.25	3.0	6.5
MMBZ5239B	F4 / KF4	9.1	8.65	9.56	10	20.0	600	0.25	3.0	6.5
MMBZ5240B	F5 / KF5	10	9.50	10.50	17	20.0	600	0.25	3.0	8.0
MMBZ5241B	H1 / KH1	11	10.45	11.55	22	20.0	600	0.25	3.0	8.4
MMBZ5242B	H2 / KH2	12	11.40	12.60	30	20.0	600	0.25	2.0	9.1
MMBZ5243B	H3 / KH3	13	12.35	13.65	13	9.5	600	0.25	1.0	9.9
MMBZ5245B	H5 / KH5	15	14.25	15.75	16	8.5	600	0.25	0.5	11.0

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_Z @ I_{ZT}			Z_{ZT} @ I_{ZT}		Z_{ZK} @ I_{ZK}		I_R @ V_R	
		Nom (V)	Min (V)	Max (V)	Ω	mA	Ω	mA	μA	V
300 mW Zener Diodes										
MMBZ5246B	J1 / KJ1	16	15.20	16.80	17	7.8	600	0.25	0.1	12.0
MMBZ5247B	J2	17	16.15	17.85	19	7.4	600	0.25	0.1	13.0
MMBZ5248B	J3 / KJ3	18	17.10	18.90	21	7.0	600	0.25	0.1	14.0
MMBZ5249B	J4	19	18.05	19.95	23	6.6	600	0.25	0.1	14.0
MMBZ5250B	J5 / KJ5	20	19.00	21.00	25	6.2	600	0.25	0.1	15.0
MMBZ5251B	K1 / KK1	22	20.90	23.10	29	5.6	600	0.25	0.1	17.0
MMBZ5252B	K2 / KK2	24	22.80	25.20	33	5.2	600	0.25	0.1	18.0
MMBZ5253B	K3	25	23.75	26.25	35	5	600	0.25	0.1	19.0
MMBZ5254B	K4 / KK4	27	25.65	28.35	41	5.0	600	0.25	0.1	21.0
MMBZ5255B	K5 / KK5	28	26.60	29.40	44	4.5	600	0.25	0.1	21.0
MMBZ5256B	M1 / KM1	30	28.50	31.50	49	4.2	600	0.25	0.1	23.0
MMBZ5257B	M2 / KM2	33	31.35	34.65	58	3.8	700	0.25	0.1	25.0
MMBZ5258B	M3 / KM3	36	34.20	37.80	70	3.4	700	0.25	0.1	27.0
MMBZ5259B	M4 / KM4	39	37.05	40.95	80	3.2	800	0.25	0.1	30.0

CHARACTERISTIC CURVES

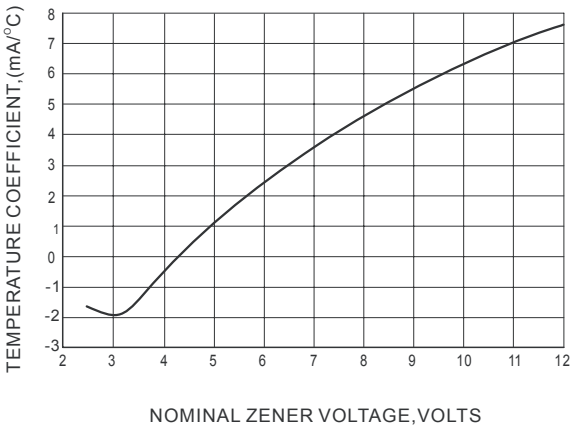


Fig.1 TEMPERATURE COEFFICENTS

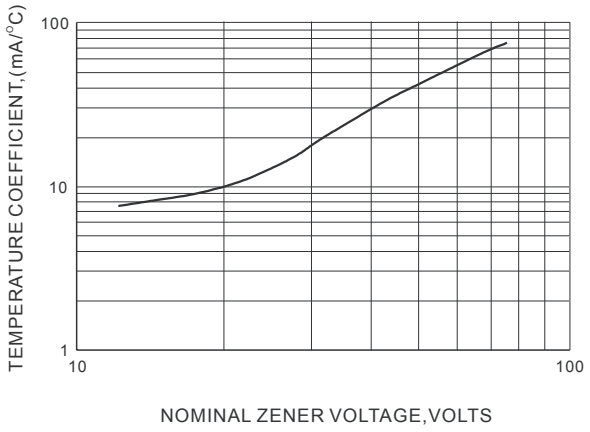


Fig.2 TEMPERATURE COEFFICENTS

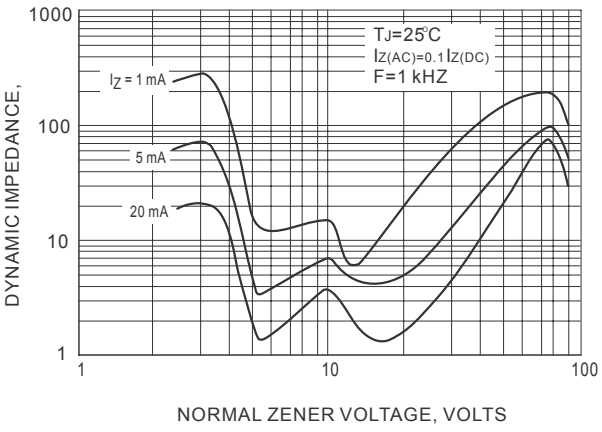


Fig.3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

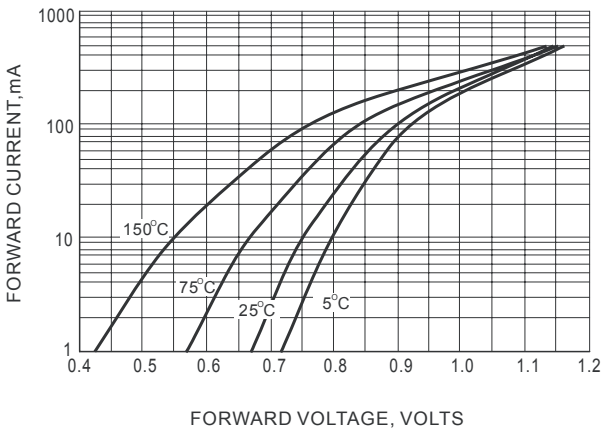


Fig.4 TYPICAL FORWARD VOLTAGE

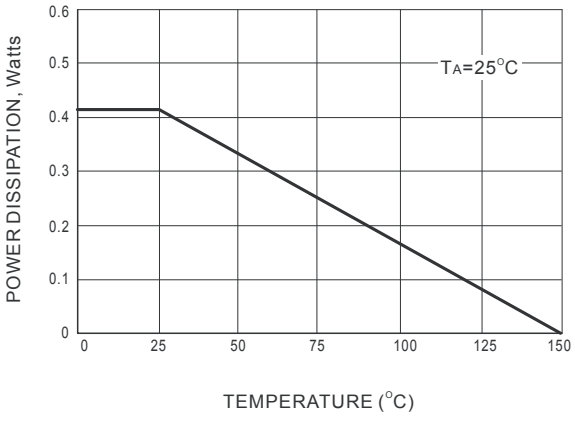


Fig.5 STEADY STATE POWER DERATING

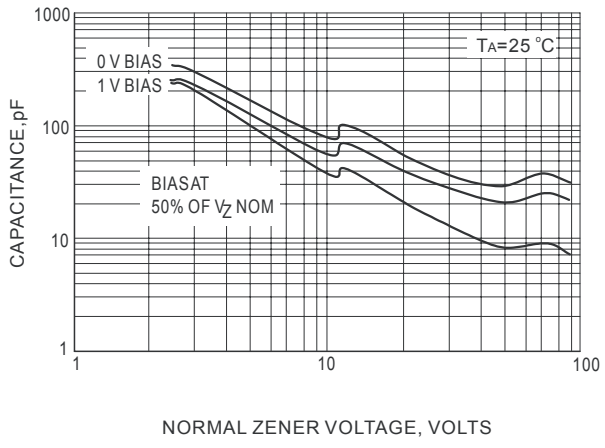


Fig.6 TYPICAL CAPACITANCE

CHARACTERISTIC CURVES (cont'd)

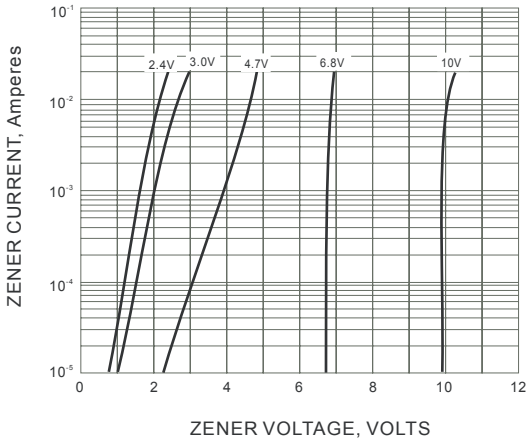


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

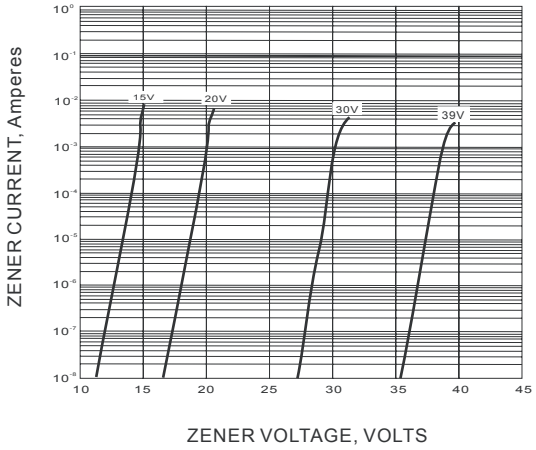


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

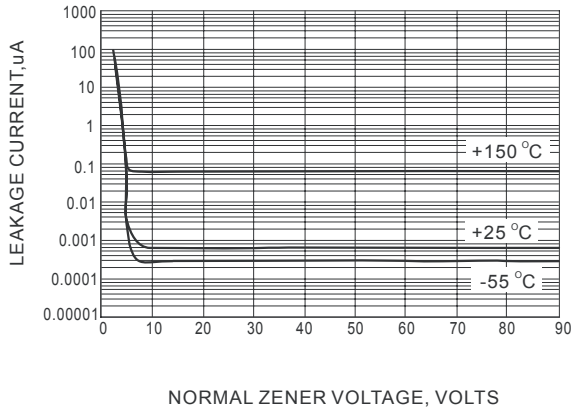


Fig.9 TYPICAL LEAKAGE CURRENT