



SM Technology Co., Limited

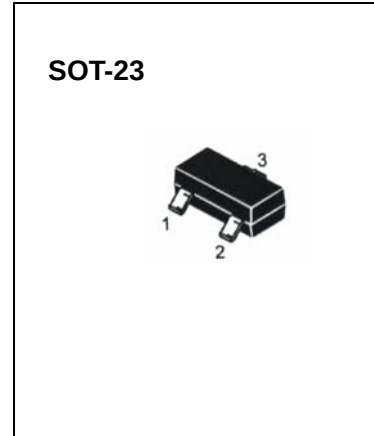
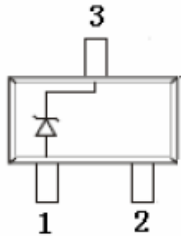
SOT-23 Plastic-Encapsulate Diode

MMBZ5221B-MMBZ5259B ZENER DIODE

FEATURES:

- Planar Die Construction
- 350mW Power Dissipation on FR-4 PCB
- General purpose, Medium Current
- Ideally Suited for Automated Assembly

Marking: see table on page2 The first code



Maximum Ratings @ Ta= 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation	P_d	300	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	417	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Type Number	Marking Code	Zener Voltage Range (Note 1)			Test Current	Maximum Zener Impedance (Note 2)		Maximum Reverse Leakage Current (Note 1)	
		V _Z @ I _{ZT}				I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK} = 0.25mA	I _R
		Nom (V)	Min (V)	Max (V)	mA	Ω		μA	V
MMBZ5221B	KC1	2.4	2.28	2.52	20	30	1200	100	1.0
MMBZ5223B	KC3	2.7	2.57	2.84	20	30	1300	75	1.0
MMBZ5225B	KC5	3.0	2.85	3.15	20	30	1600	50	1.0
MMBZ5226B	KG1	3.3	3.14	3.47	20	28	1600	25	1.0
MMBZ5227B	KG2	3.6	3.42	3.78	20	24	1700	15	1.0
MMBZ5228B	KG3	3.9	3.71	4.10	20	23	1900	10	1.0
MMBZ5229B	KG4	4.3	4.09	4.52	20	22	2000	5.0	1.0
MMBZ5230B	KG5	4.7	4.4 7	4.94	20	19	1900	5.0	2.0
MMBZ5231B	KE1	5.1	4.85	5.36	20	17	1600	5.0	2.0
MMBZ5232B	KE2	5.6	5.32	5.88	20	11	1600	5.0	3.0
MMBZ5233B	KE3	6.0	5.70	6.30	20	7	1600	5.0	3.5
MMBZ5234B	KE4	6.2	5.89	6.51	20	7	1000	5.0	4.0
MMBZ5235B	KE5	6.8	6.46	7.14	20	5	750	3.0	5.0
MMBZ5236B	KF1	7.5	7.13	7.88	20	6	500	3.0	6.0
MMBZ5237B	KF2	8.2	7.79	8.61	20	8	500	3.0	6.5
MMBZ5238B	KF3	8.7	8.27	9.14	20	8	600	3.0	6.5
MMBZ5239B	KF4	9.1	8.65	9.56	20	10	600	3.0	7.0
MMBZ5240B	KF5	10	9.50	10.50	20	17	600	3.0	8.0
MMBZ5241B	KH1	11	10.45	11.55	20	22	600	2.0	8.4
MMBZ5242B	KH2	12	11.40	12.60	20	30	600	1.0	9.1
MMBZ5243B	KH3	13	12.35	13.65	9.5	13	600	0.5	9.9
MMBZ5245B	KH5	15	14.25	15.75	8.5	16	600	0.1	11
MMBZ5246B	KJ1	16	15.20	16.80	7.8	17	600	0.1	12
MMBZ5248B	KJ3	18	17.10	18.90	7.0	21	600	0.1	14
MMBZ5250B	KJ5	20	19.00	21.00	6.2	25	600	0.1	15
MMBZ5251B	KK1	22	20.90	23.10	5.6	29	600	0.1	17
MMBZ5252B	KK2	24	22.80	25.20	5.2	33	600	0.1	18
MMBZ5254B	KK4	27	25.65	28.35	5.0	41	600	0.1	21
MMBZ5255B	KK5	28	26.60	29.40	4.5	44	600	0.1	21
MMBZ5256B	KM1	30	28.50	31.50	4.2	49	600	0.1	23
MMBZ5257B	KM2	33	31.35	34.65	3.8	58	700	0.1	25
MMBZ5258B	KM3	36	34.20	37.80	3.4	70	700	0.1	27
MMBZ5259B	KM4	39	37.05	40.95	3.2	80	800	0.1	30

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

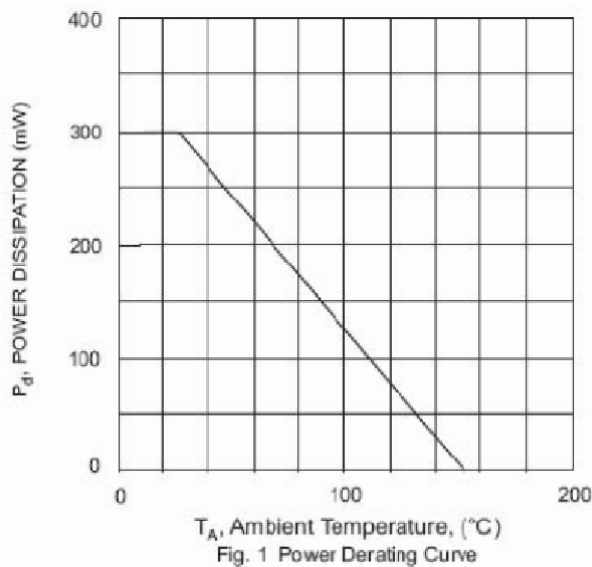


Fig. 1 Power Derating Curve

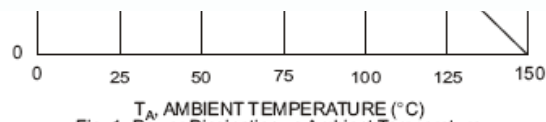


Fig. 1 Power Dissipation vs Ambient Temperature

MMBZ5221B-MMBZ5259B

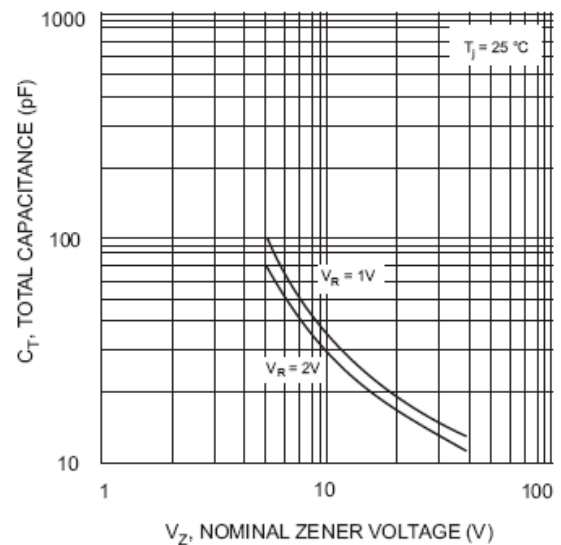


Fig. 2 Total Capacitance vs Nominal Zener Voltage

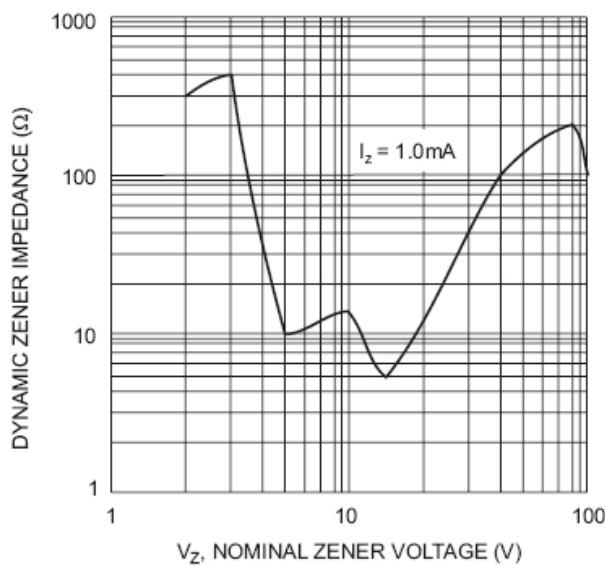


Fig. 3 Zener Voltage vs. Zener Impedance

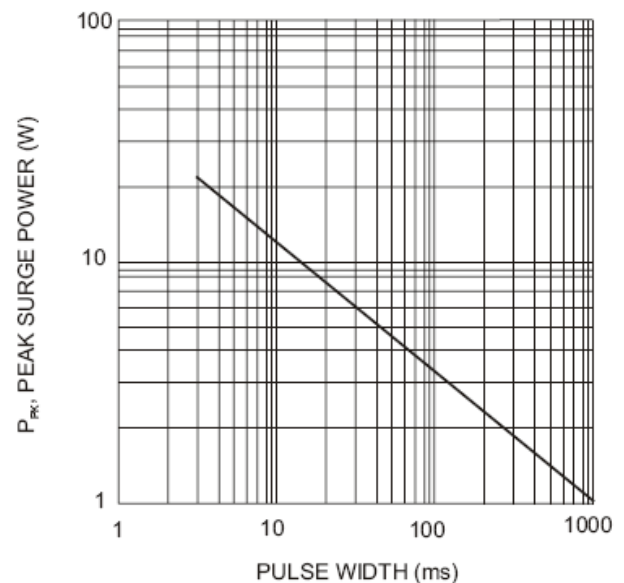


Fig. 4 Maximum Non-repetitive Surge Power

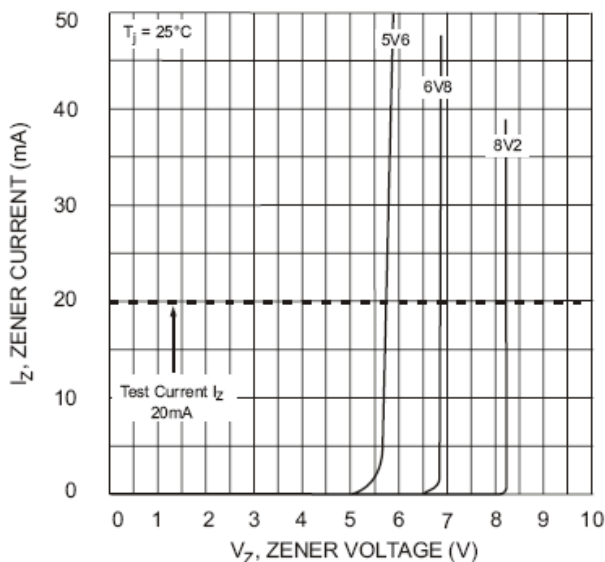


Fig. 5 Zener Breakdown Characteristics

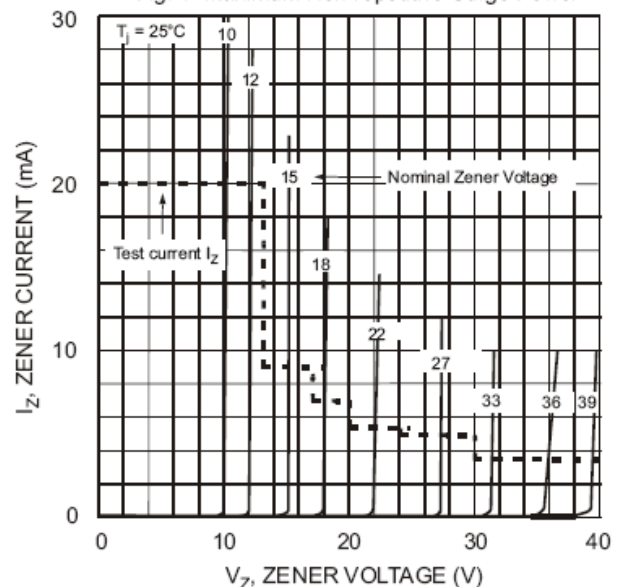


Fig. 6 Zener Breakdown Characteristics