



MMBZ5221B – MMBZ5259B

Surface Mount Zener Diode



Voltage Range
2.4 to 39 Volts
350m Watts Power Dissipation

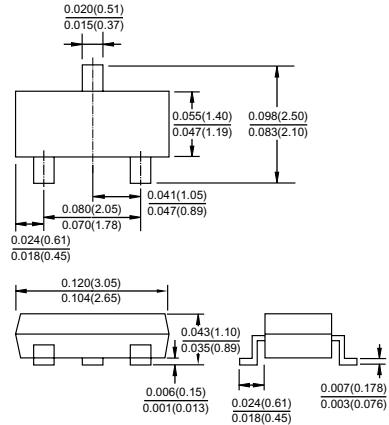
SOT-23

Features

- ✧ Planar die construction
- ✧ 350mW power dissipation on FR-4 PCB
- ✧ general purpose, medium current
- ✧ Ideally suited for automated assembly processes
- ✧ Standard zener voltage tolerance is $\pm 5\%$ tolerance with a :B: suffix

Mechanical Data

- ✧ Case: SOT-23, Molded plastic
- ✧ Terminals: Solderable per MIL-STD-202, Method 208
- ✧ Polarity: See diagram
- ✧ Marking: Marking Code (see table on Page 2)
- ✧ Weight: 0.008 grams (approx.)



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Forward Voltage @ IF = 10mA	VF	0.9	V
Power Dissipation (Note 1)	Pd	350	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R θ JA	357	K/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to + 150	°C

- Notes: 1. Valid Provided that Terminals are Kept at Ambient Temperature.
2. Tested with Pulses, Tp \leq 1.0ms.

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device (Note 1)	Device Marking Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance		Maximum Reverse Leakage Current	
		Vz @ Izt			IZT	ZZT @ IZT	Zzk @ Izk = 0.25mA	IR @ VR	
		Nom (V)	Min (V)	Max (V)				mA	Ohms
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	4.47	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: Valid provided that device terminals are kept at ambient temperature.

2. Tested with pulses, Tp ≤ 1.0ms.

RATINGS AND CHARACTERISTIC CURVES (MMBZ5221B - MMBZ5259B)

FIG. 1- POWER DISSIPATION VS AMBIENT TEMPERATURE

