

**MMBZ5223B-  
MMBZ5259B**

**SURFACE MOUNT ZENER DIODE**

**VOLTAGE RANGE 2.7 to 39 Volts POWER RATING 350 mWatts**

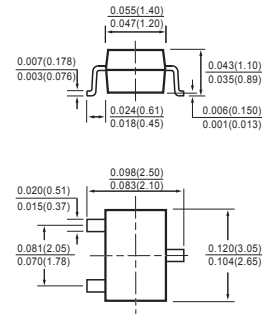
**FEATURES**

- \* Planar Die Construction
- \* 350 mW Power Dissipation
- \* Zener Volages from 2.7V-39V
- \* Ldeally Suited for Automated Assembly Processes

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: UL 94V-O rate flame retardant
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.008 gram

SOT-23



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.

MAXIMUM RATINGS ( @ TA = 25°C unless otherwise noted )

RATINGS	SYMBOL	VALUE	UNITS
Max. Steady State Power Dissipation @TA=25°C	P <sub>D</sub>	350	mW
Max. Operating Temperature Range	T <sub>J</sub>	-65 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

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

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	R <sub>qJA</sub>	-	-	357	°C/W
Max. Instantaneous Forward Voltage at I <sub>F</sub> = 10mA	V <sub>F</sub>	-	-	0.9	Volts

Note 1.Valid provided that device terminals are kept at ambient temperature.

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## ELECTRICAL CHARACTERISTICS (@TA=25°C unless otherwise specified)

TYPE	Zener voltage Range(Note 1) Vz (V) @ IZT			Test current  IZT (mA)	Maximum Zener impedance			Maximum reverse leakage current	
	Nom	Min	Max		ZzT at IZT (W)	Zzk (W)	at Izk (mA)	IR (uA)	at VR (V)
	Volts	Volts	Volts						
MMBZ5223B	2.7	2.57	2.84	20	30	1300	0.25	75	1.0
MMBZ5225B	3.0	2.85	3.15	20	30	1600	0.25	50	1.0
MMBZ5226B	3.3	3.14	3.47	20	28	1600	0.25	25	1.0
MMBZ5227B	3.6	3.42	3.78	20	24	1700	0.25	15	1.0
MMBZ5228B	3.9	3.71	4.10	20	23	1900	0.25	10	1.0
MMBZ5229B	4.3	4.09	4.52	20	22	2000	0.25	5.0	1.0
MMBZ5230B	4.7	4.47	4.94	20	19	1900	0.25	5.0	2.0
MMBZ5231B	5.1	4.85	5.36	20	17	1600	0.25	5.0	2.0
MMBZ5232B	5.6	5.32	5.88	20	11	1600	0.25	5.0	3.0
MMBZ5234B	6.2	5.89	6.51	20	7	1000	0.25	5.0	4.0
MMBZ5235B	6.8	6.46	7.14	20	5	750	0.25	3.0	5.0
MMBZ5236B	7.5	7.13	7.88	20	6	500	0.25	3.0	6.0
MMBZ5237B	8.2	7.79	8.61	20	8	500	0.25	3.0	6.5
MMBZ5239B	9.1	8.65	9.56	20	10	600	0.25	3.0	7.0
MMBZ5240B	10	9.50	10.50	20	17	600	0.25	3.0	8.0
MMBZ5241B	11	10.45	11.55	20	22	600	0.25	2.0	8.4
MMBZ5242B	12	11.40	12.60	20	30	600	0.25	1.0	9.1
MMBZ5243B	13	12.35	13.65	9.5	13	600	0.25	0.5	9.9
MMBZ5245B	15	14.25	15.75	8.5	16	600	0.25	0.1	11
MMBZ5246B	16	15.20	16.80	7.8	17	600	0.25	0.1	12
MMBZ5248B	18	17.10	18.90	7.0	21	600	0.25	0.1	14
MMBZ5250B	20	19.00	21.00	6.2	25	600	0.25	0.1	15
MMBZ5251B	22	20.90	23.10	5.6	29	600	0.25	0.1	17
MMBZ5252B	24	22.80	25.20	5.2	33	600	0.25	0.1	18
MMBZ5254B	27	25.65	28.35	5.0	41	600	0.25	0.1	21
MMBZ5255B	28	26.60	29.40	4.5	44	600	0.25	0.1	21
MMBZ5256B	30	28.50	31.50	4.2	49	600	0.25	0.1	23
MMBZ5257B	33	31.35	34.65	3.8	58	700	0.25	0.1	25
MMBZ5258B	36	34.20	37.80	3.4	70	700	0.25	0.1	27
MMBZ5259B	39	37.05	40.95	3.2	80	800	0.25	0.1	30

Note 1. Tested with pulses, Tp<1.0ms.

# RATING AND CHARACTERISTICS CURVES(MMBZ5223B-MMBZ5259B)

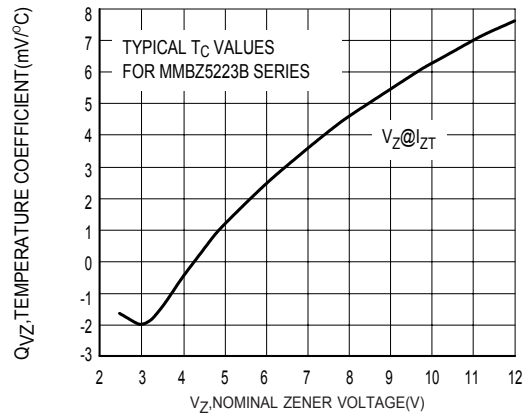


Figure 1 Temperature Coefficients

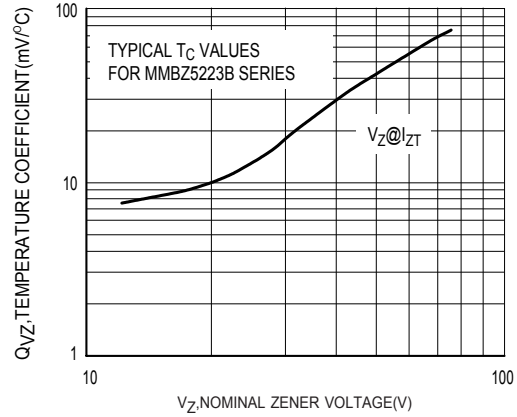


Figure 2 Temperature Coefficients

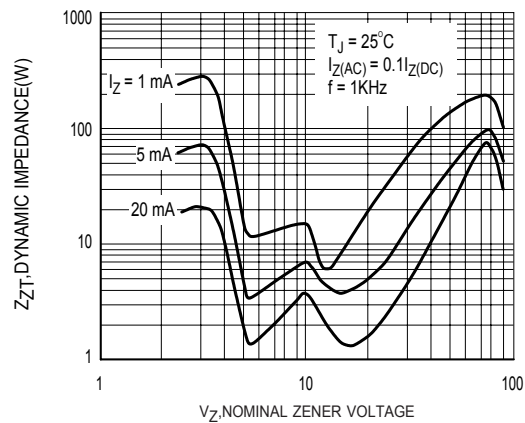


Figure 3 Effect of Zener Voltage on Zener Impedance

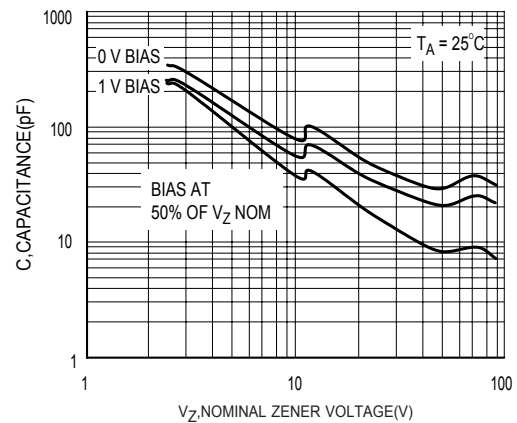


Figure 4 Typical Capacitance

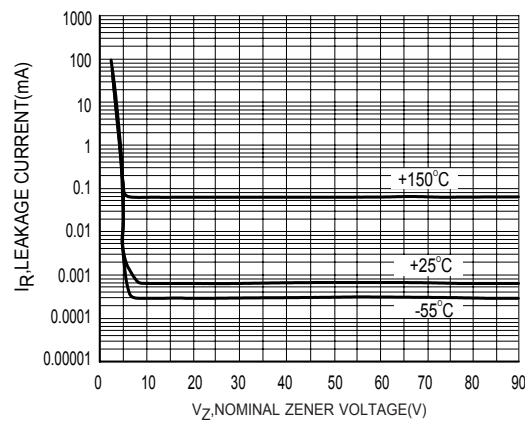


Figure 5 Typical Leakage Current

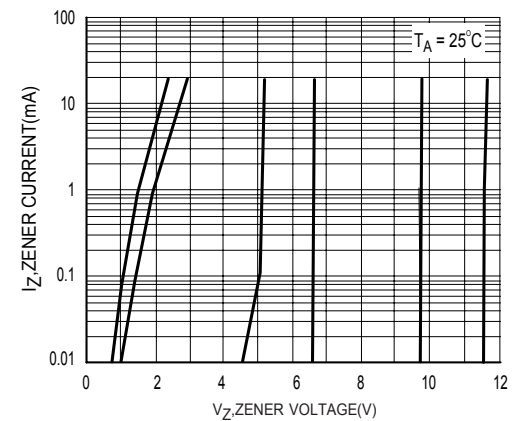


Figure 6 Zener Voltage versus Zener Current ( $V_Z$  Up to 91V)

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