



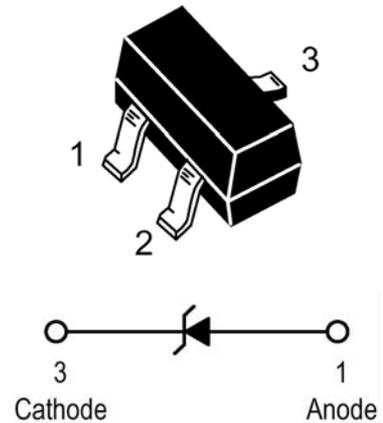
Zener diode

Features

- 1. High reliability
- 2. Wide voltage range available
- 3. Low reverse current level
- 4. Small outline package for space savings
- 5. Surface mount package

Applications

Voltage stabilization



Absolute Maximum Ratings

T_j=25°C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	T _{amb} ≤ 75°C		P _V	410	mW
Z-current			I _Z	P _V /V _Z	mA
Junction temperature			T _j	150	°C
Storage temperature range			T _{stg}	-55~+150	°C

Maximum Thermal Resistance

T_j=25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	l=9.5mm(3/8") T _L =constant	R _{thJA}	300	K/W

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

Electrical Characteristics

T_j=25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I _F =10mA		V _F			0.9	V



Type	Marking	$V_{Znom}^{1)}$	I_{ZT}	for	r_{zIT}	r_{zIK}	at	I_{ZK}	I_R	at	V_R	TK_{VZ}
		V	mA	Ω	Ω	mA	μA	V	%/K			
MMBZ5221B	18A	2.4	20	<30	<1200	0.25	<100	1.0	<-0.085			
MMBZ5222B	18B	2.5	20	<30	<1250	0.25	<100	1.0	<-0.085			
MMBZ5223B	18C	2.7	20	<30	<1300	0.25	<75	1.0	<-0.080			
MMBZ5224B	18D	2.8	20	<30	<1400	0.25	<75	1.0	<-0.080			
MMBZ5225B	18E	3.0	20	<29	<1600	0.25	<50	1.0	<-0.075			
MMBZ5226B	8A	3.3	20	<28	<1600	0.25	<25	1.0	<-0.070			
MMBZ5227B	8B	3.6	20	<24	<1700	0.25	<15	1.0	<-0.065			
MMBZ5228B	8C	3.9	20	<23	<1900	0.25	<10	1.0	<-0.060			
MMBZ5229B	8D	4.3	20	<22	<2000	0.25	<5	1.0	<+0.055			
MMBZ5230B	8E	4.7	20	<19	<1900	0.25	<5	2.0	<+0.030			
MMBZ5231B	8F	5.1	20	<17	<1600	0.25	<5	2.0	<+0.030			
MMBZ5232B	8G	5.6	20	<11	<1600	0.25	<5	3.0	<+0.038			
MMBZ5233B	8H	6.0	20	<7	<1600	0.25	<5	3.5	<+0.038			
MMBZ5234B	8J	6.2	20	<7	<1000	0.25	<5	4.0	<+0.045			
MMBZ5235B	8K	6.8	20	<5	<750	0.25	<3	5.0	<+0.050			
MMBZ5236B	8L	7.5	20	<6	<500	0.25	<3	6.0	<+0.058			
MMBZ5237B	8M	8.2	20	<8	<500	0.25	<3	6.5	<+0.062			
MMBZ5238B	8N	8.7	20	<8	<600	0.25	<3	6.5	<+0.065			
MMBZ5239B	8P	9.1	20	<10	<600	0.25	<3	7.0	<+0.068			
MMBZ5240B	8Q	10	20	<17	<600	0.25	<3	8.0	<+0.075			
MMBZ5241B	8R	11	20	<22	<600	0.25	<2	8.4	<+0.076			
MMBZ5242B	8S	12	20	<30	<600	0.25	<1	9.1	<+0.077			
MMBZ5243B	8T	13	9.5	<13	<600	0.25	<0.5	9.9	<+0.079			
MMBZ5244B	8U	14	9.0	<15	<600	0.25	<0.1	10	<+0.082			
MMBZ5245B	8V	15	8.5	<16	<600	0.25	<0.1	11	<+0.082			
MMBZ5246B	8W	16	7.8	<17	<600	0.25	<0.1	12	<+0.083			
MMBZ5247B	8X	17	7.4	<19	<600	0.25	<0.1	13	<+0.084			
MMBZ5248B	8Y	18	7.0	<21	<600	0.25	<0.1	14	<+0.085			
MMBZ5249B	8Z	19	6.6	<23	<600	0.25	<0.1	15	<+0.086			
MMBZ5250B	81A	20	6.2	<25	<600	0.25	<0.1	16	<+0.086			
MMBZ5251B	81B	22	5.6	<29	<600	0.25	<0.1	17	<+0.087			
MMBZ5252B	81C	24	5.2	<33	<600	0.25	<0.1	18	<+0.088			
MMBZ5253B	81D	25	5.0	<35	<600	0.25	<0.1	19	<+0.089			
MMBZ5254B	81E	27	4.6	<41	<600	0.25	<0.1	21	<+0.090			
MMBZ5255B	81F	28	4.5	<44	<600	0.25	<0.1	21	<+0.091			
MMBZ5256B	81G	30	4.2	<49	<600	0.25	<0.1	23	<+0.091			
MMBZ5257B	81H	33	3.8	<58	<700	0.25	<0.1	25	<+0.092			
MMBZ5258B	81J	36	3.4	<70	<700	0.25	<0.1	27	<+0.093			
MMBZ5259B	81K	39	3.2	<80	<800	0.25	<0.1	30	<+0.094			
MMBZ5260B	18F	43	3.0	<93	<900	0.25	<0.1	33	<+0.095			
MMBZ5261B	81M	47	2.7	<105	<1000	0.25	<0.1	36	<+0.095			
MMBZ5262B	81N	51	2.5	<125	<1100	0.25	<0.1	39	<+0.096			
MMBZ5263B	81P	56	2.2	<150	<1300	0.25	<0.1	43	<+0.096			
MMBZ5264B	81Q	60	2.1	<170	<1400	0.25	<0.1	46	<+0.097			
MMBZ5265B	81R	62	2.0	<185	<1400	0.25	<0.1	47	<+0.097			
MMBZ5266B	81S	68	1.8	<230	<1600	0.25	<0.1	52	<+0.097			
MMBZ5267B	81T	75	1.7	<270	<1700	0.25	<0.1	58	<+0.098			

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature(T_L)at 30°C, 9.5mm(3/8") from the diode body.

Excel Semiconductor



Characteristics ($T_j=25^\circ\text{C}$ unless otherwise specified)

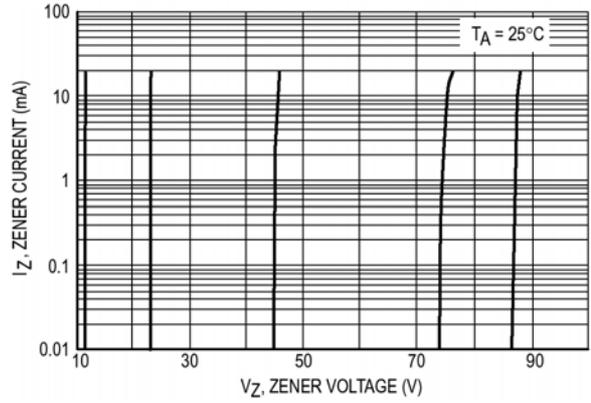
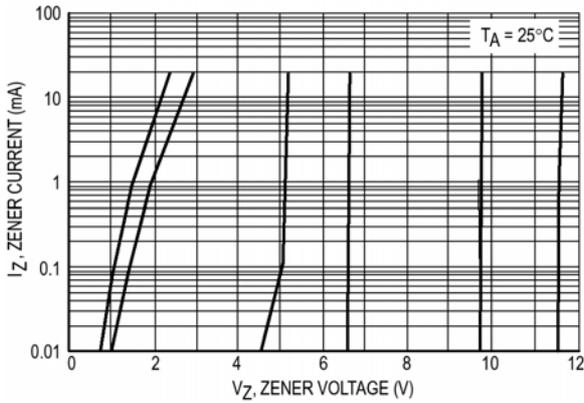


Figure 1. Zener voltage versus zener current

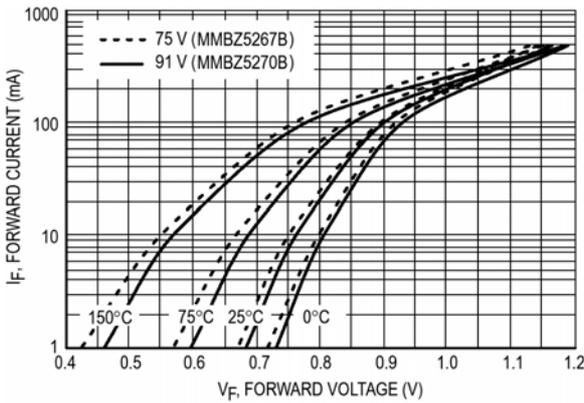


Figure 2. Typical forward voltage

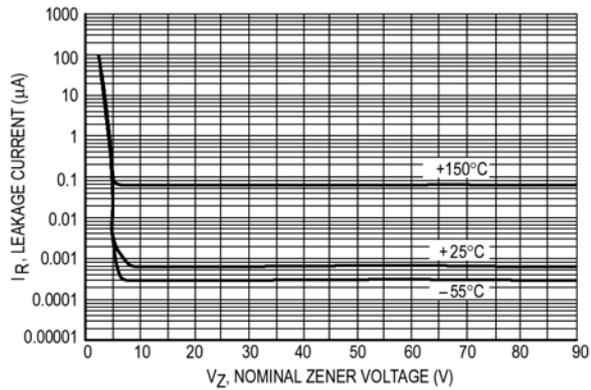


Figure 3. Typical leakage current

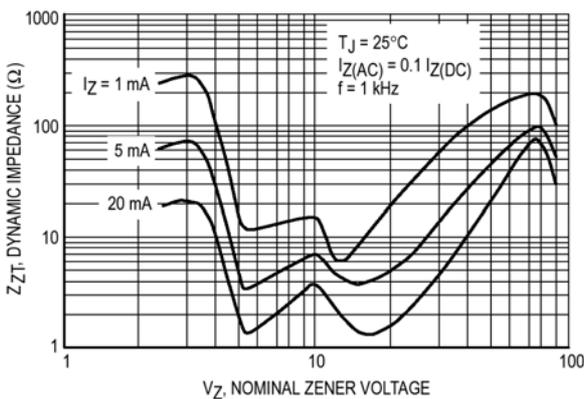


Figure 4. Effect of zener voltage on zener impedance

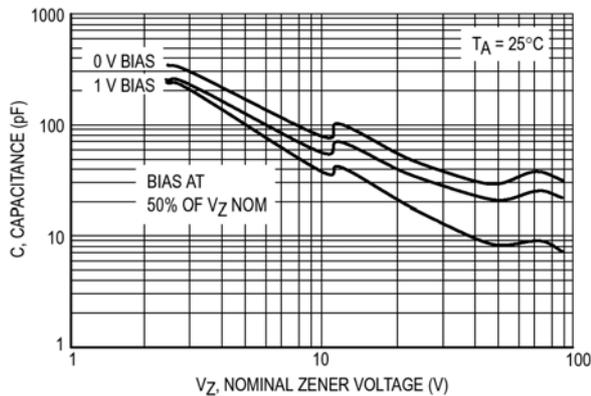
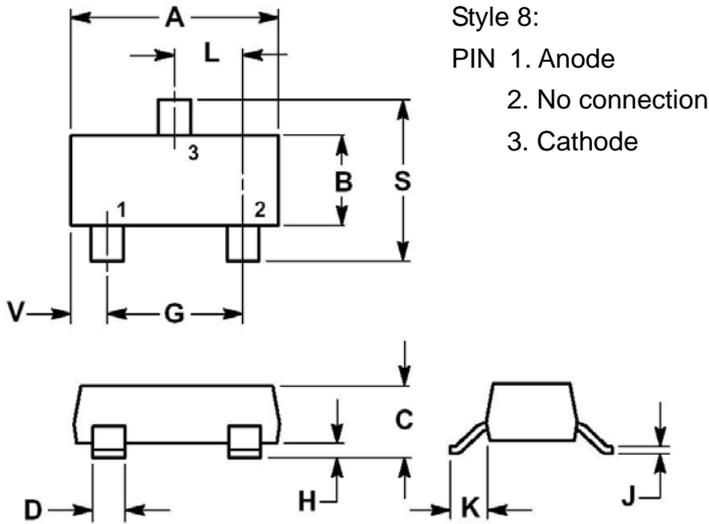


Figure 5. Typical capacitance



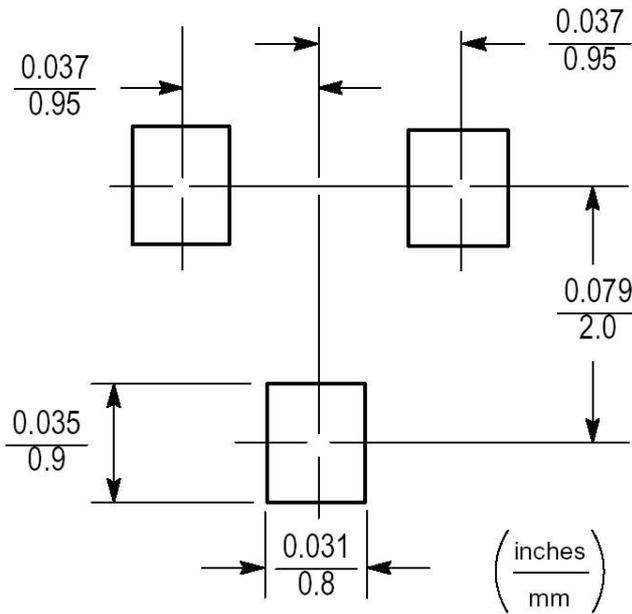
Dimensions



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0180	0.0236	0.45	0.60
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.0984	2.10	2.50
V	0.0177	0.0236	0.45	0.60

Notes:

1. Dimensioning and tolerance per ANSI Y14.5M, 1982.
2. Controlling dimension: inch.
3. Maximum lead thickness includes lead finish thickness. Minimum lead thickness is the minimum thickness of base material.



SOT-23 Footprint