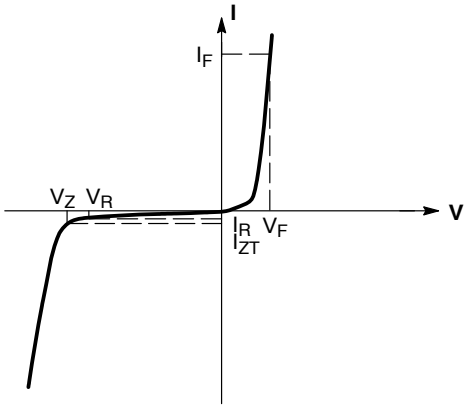
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 0.95 V Max. @ I_F = 10 mA)

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F



Zener Voltage Regulator

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 0.9 V Max. @ I_F = 10 mA)

Device	Device Marking	Zener Voltage (Notes 3 and 4)				Zener Impedance (Note 5)			Leakage Current	
		V_Z (Volts)			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R	
		Min	Nom	Max	mA	Ω	Ω	mA	μA	Volts
MMSZ5221BT1, G	***C1***	***2.28***	***2.4***	***2.52***	***20***	***30***	***1200***	***0.25***	***100***	***1***
MMSZ5222BT1, G	***C2***	***2.38***	***2.5***	***2.63***	***20***	***30***	***1250***	***0.25***	***100***	***1***
MMSZ5223BT1, G	C3	2.57	2.7	2.84	20	30	1300	0.25	75	1
MMSZ5224BT1, G	C4	2.66	2.8	2.94	20	30	1400	0.25	75	1
MMSZ5225BT1, G	***C5***	***2.85***	***3.0***	***3.15***	***20***	***29***	***1600***	***0.25***	***50***	***1***
MMSZ5226BT1, G	D1	3.14	3.3	3.47	20	28	1600	0.25	25	1
MMSZ5227BT1, G	D2	3.42	3.6	3.78	20	24	1700	0.25	15	1
MMSZ5228BT1, G	D3	3.71	3.9	4.10	20	23	1900	0.25	10	1
MMSZ5229BT1, G	***D4***	***4.09***	***4.3***	***4.52***	***20***	***22***	***2000***	***0.25***	***5***	***1***
MMSZ5230BT1, G	***D5***	***4.47***	***4.7***	***4.94***	***20***	***19***	***1900***	***0.25***	***5***	***2***
MMSZ5231BT1, G	***E1***	***4.85***	***5.1***	***5.36***	***20***	***17***	***1600***	***0.25***	***5***	***2***
MMSZ5232BT1, G	***E2***	***5.32***	***5.6***	***5.88***	***20***	***11***	***1600***	***0.25***	***5***	***3***
MMSZ5233BT1, G	E3	5.70	6.0	6.30	20	7	1600	0.25	5	3.5
MMSZ5234BT1, G	***E4***	***5.89***	***6.2***	***6.51***	***20***	***7***	***1000***	***0.25***	***5***	***4***
MMSZ5235BT1, G	E5	6.46	6.8	7.14	20	5	750	0.25	3	5
MMSZ5236BT1, G	F1	7.13	7.5	7.88	20	6	500	0.25	3	6
MMSZ5237BT1, G	F2	7.79	8.2	8.61	20	8	500	0.25	3	6.5
MMSZ5238BT1, G	F3	8.27	8.7	9.14	20	8	600	0.25	3	6.5
MMSZ5239BT1, G	F4	8.65	9.1	9.56	20	10	600	0.25	3	7
MMSZ5240BT1, G	***F5***	***9.50***	***10***	***10.50***	***20***	***17***	***600***	***0.25***	***3***	***8***
MMSZ5241BT1, G	H1	10.45	11	11.55	20	22	600	0.25	2	8.4
MMSZ5242BT1, G	***H2***	***11.40***	***12***	***12.60***	***20***	***30***	***600***	***0.25***	***1***	***9.1***
MMSZ5243BT1, G	H3	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5244BT1, G	H4	13.30	14	14.70	9.0	15	600	0.25	0.1	10
MMSZ5245BT1, G	***H5***	***14.25***	***15***	***15.75***	***8.5***	***16***	***600***	***0.25***	***0.1***	***11***
MMSZ5246BT1, G	***J1***	***15.20***	***16***	***16.80***	***7.8***	***17***	***600***	***0.25***	***0.1***	***12***
MMSZ5247BT1, G	J2	16.15	17	17.85	7.4	19	600	0.25	0.1	13
MMSZ5248BT1, G	***J3***	***17.10***	***18***	***18.90***	***7.0***	***21***	***600***	***0.25***	***0.1***	***14***
MMSZ5249BT1, G	J4	18.05	19	19.95	6.6	23	600	0.25	0.1	14
MMSZ5250BT1, G	J5	19.00	20	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251BT1, G	K1	20.90	22	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252BT1, G	***K2***	***22.80***	***24***	***25.20***	***5.2***	***33***	***600***	***0.25***	***0.1***	***18***
MMSZ5253BT1, G	K3	23.75	25	26.25	5.0	35	600	0.25	0.1	19
MMSZ5254BT1, G	K4	25.65	27	28.35	4.6	41	600	0.25	0.1	21
MMSZ5255BT1, G	K5	26.60	28	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256BT1, G	M1	28.50	30	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257BT1, G	M2	31.35	33	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258BT1, G	M3	34.20	36	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259BT1, G	M4	37.05	39	40.95	3.2	80	800	0.25	0.1	30
MMSZ5260BT1, G	M5	40.85	43	45.15	3.0	93	900	0.25	0.1	33
MMSZ5261BT1, G	***N1***	***44.65***	***47***	***49.35***	***2.7***	***105***	***1000***	***0.25***	***0.1***	***36***
MMSZ5262BT1, G	N2	48.45	51	53.55	2.5	125	1100	0.25	0.1	39
MMSZ5263BT1, G	N3	53.20	56	58.80	2.2	150	1300	0.25	0.1	43
MMSZ5264BT1, G	N4	57.00	60	63.00	2.1	170	1400	0.25	0.1	46
MMSZ5265BT1, G	N5	58.90	62	65.10	2.0	185	1400	0.25	0.1	47
MMSZ5266BT1, G	P1	64.60	68	71.40	1.8	230	1600	0.25	0.1	52
MMSZ5267BT1, G	P2	71.25	75	78.75	1.7	270	1700	0.25	0.1	56
MMSZ5268BT1, G	P3	77.90	82	86.10	1.5	330	2000	0.25	0.1	62
MMSZ5269BT1	P4	82.65	87	91.35	1.4	370	2200	0.25	0.1	68
MMSZ5270BT1, G	P5	86.45	91	95.55	1.4	400	2300	0.25	0.1	69
MMSZ5272BT1, G	R2	104.5	110	115.5	1.1	750	3000	0.25	0.1	84

3. The type numbers shown have a standard tolerance of ±5% on the nominal Zener voltage.
4. Nominal Zener voltage is measured with the device junction in thermal equilibrium at T_L = 30°C ±1°C.
5. Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the ac current applied. The specified limits are for $I_{Z(AC)}$ = 0.1 $I_{Z(dc)}$ with the AC frequency = 1 KHz.

*The "G" suffix indicates Pb−Free package available.

TYPICAL CHARACTERISTICS

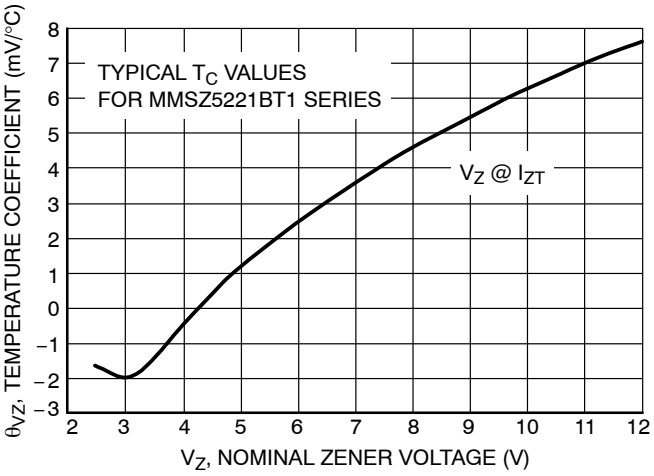


Figure 1. Temperature Coefficients (Temperature Range −55°C to +150°C)

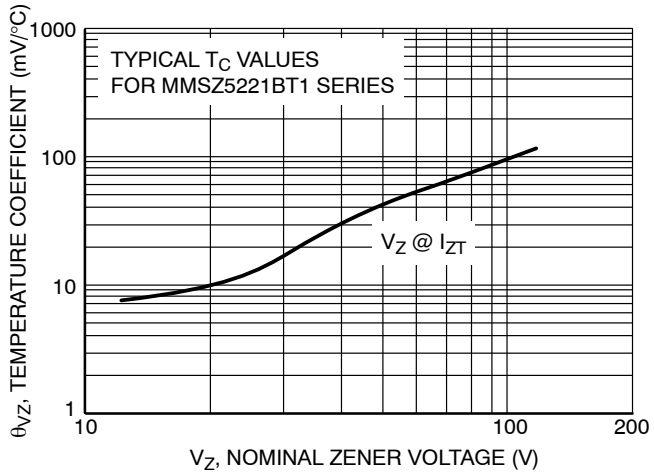


Figure 2. Temperature Coefficients (Temperature Range −55°C to +150°C)

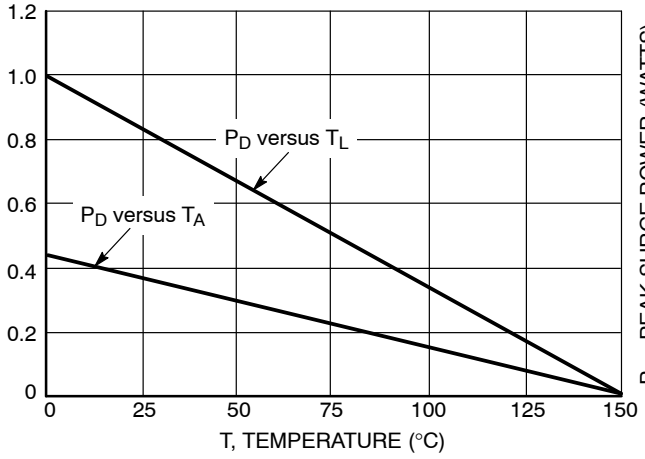


Figure 3. Steady State Power Derating

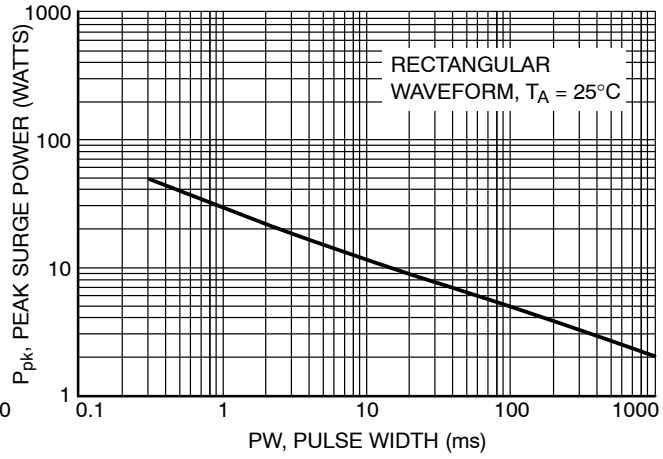


Figure 4. Maximum Nonrepetitive Surge Power

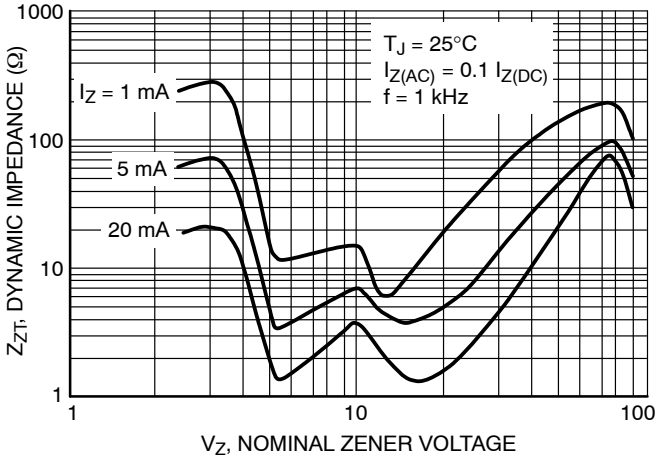


Figure 5. Effect of Zener Voltage on Zener Impedance

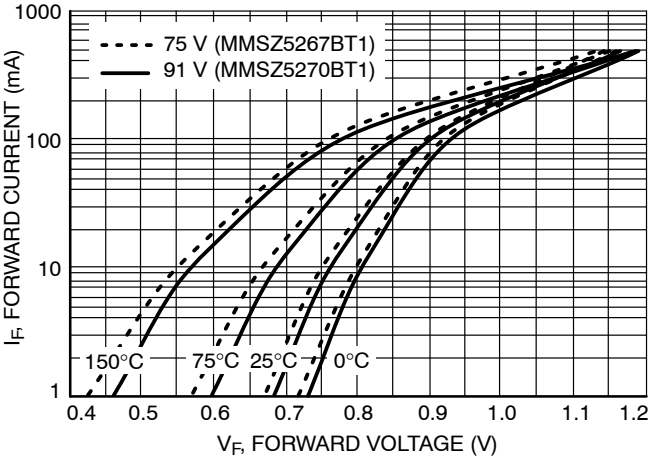


Figure 6. Typical Forward Voltage

TYPICAL CHARACTERISTICS

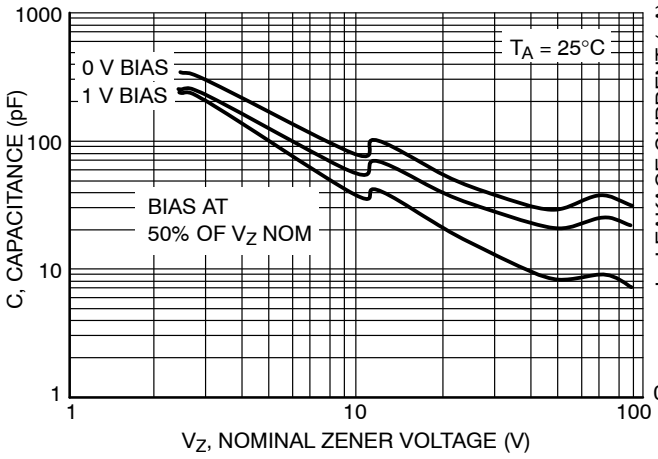


Figure 7. Typical Capacitance

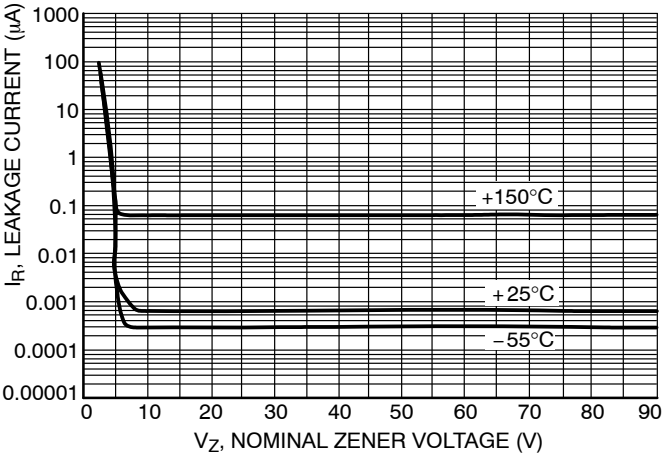


Figure 8. Typical Leakage Current

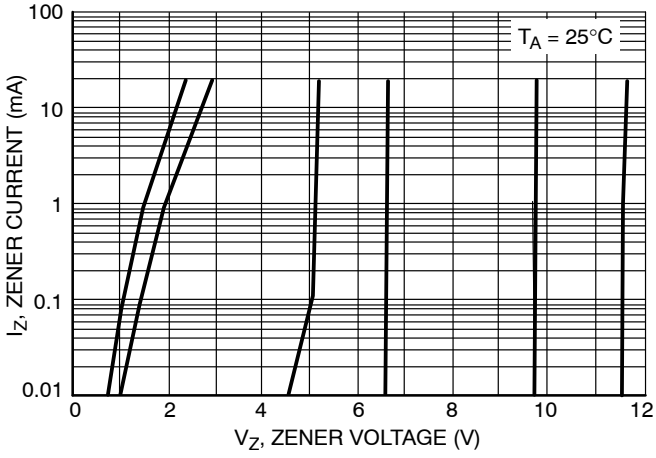


Figure 9. Zener Voltage versus Zener Current (V_Z Up to 12 V)

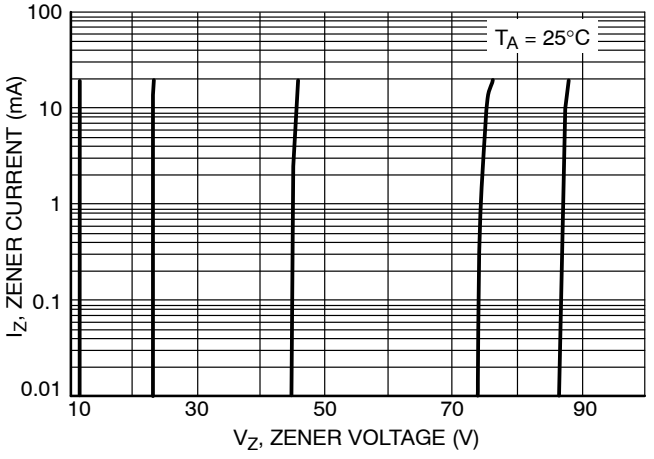
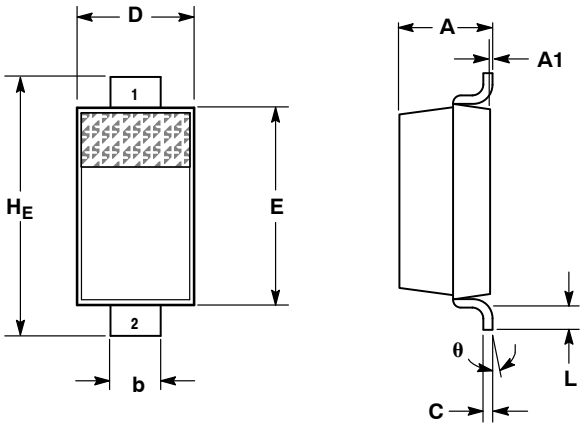


Figure 10. Zener Voltage versus Zener Current (12 V to 91 V)

PACKAGE DIMENSIONS

SOD−123
CASE 425−04
ISSUE G

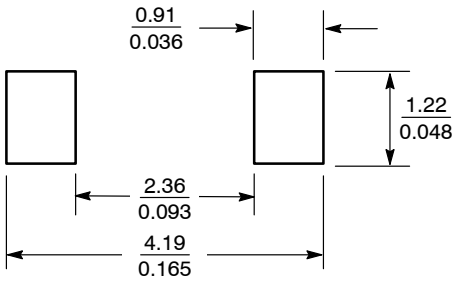


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.94	1.17	1.35	0.037	0.046	0.053
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.51	0.61	0.71	0.020	0.024	0.028
c	---	---	0.15	---	---	0.006
D	1.40	1.60	1.80	0.055	0.063	0.071
E	2.54	2.69	2.84	0.100	0.106	0.112
H_E	3.56	3.68	3.86	0.140	0.145	0.152
L	0.25	---	---	0.010	---	---
θ	0°	---	10°	0°	---	10°

STYLE 1:
PIN 1. CATHODE
2. ANODE

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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