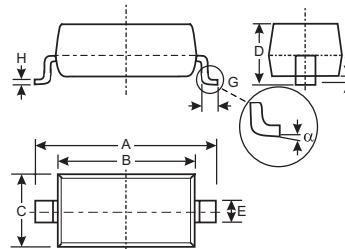


Features

- 500mW Power Dissipation
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- **Lead Free/RoHS Compliant (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Polarity: Cathode Band
- Ordering Information: See Page 2
- Marking: See Below
- Weight: 0.01 grams (approximate)



SOD-123		
Dim	Min	Max
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.45	0.65
	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I _F = 10mA	V _F	0.9	V
Power Dissipation (Note 1)	P _d	500	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	350	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	°C

- Notes: 1. Device mounted on ceramic PCB; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm².
2. No purposefully added lead.

Marking Information



XX = Product Type Marking Code (See Page 2)
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D



Electrical Characteristics @ T_A = 25°C unless otherwise specified

Type Number	Type Code	Zener Voltage Range (Note 4)			Test Current	Maximum Zener Impedance (Note 3)		Maximum Reverse Leakage Current (Note 4)	
		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				
MMSZ5221B	C1, <u>C</u> 1	2.4	2.28	2.52	20	30	1200	100	1.0
MMSZ5223B	C3, <u>C</u> 3	2.7	2.57	2.84	20	30	1300	75	1.0
MMSZ5225B	C5, <u>C</u> 5	3.0	2.85	3.15	20	30	1600	50	1.0
MMSZ5226B	G1, <u>G</u> 1	3.3	3.14	3.47	20	28	1600	25	1.0
MMSZ5227B	G2, <u>G</u> 2	3.6	3.42	3.78	20	24	1700	15	1.0
MMSZ5228B	G3, <u>G</u> 3	3.9	3.71	4.10	20	23	1900	10	1.0
MMSZ5229B	G4, <u>G</u> 4	4.3	4.09	4.52	20	22	2000	5.0	1.0
MMSZ5230B	G5, <u>G</u> 5	4.7	4.47	4.94	20	19	1900	5.0	2.0
MMSZ5231B	E1, <u>E</u> 1	5.1	4.85	5.36	20	17	1600	5.0	2.0
MMSZ5232B	E2, <u>E</u> 2	5.6	5.32	5.88	20	11	1600	5.0	3.0
MMSZ5233B	E3, <u>E</u> 3	6.0	5.70	6.30	20	7	1600	5.0	3.5
MMSZ5234B	E4, <u>E</u> 4	6.2	5.89	6.51	20	7	1000	5.0	4.0
MMSZ5235B	E5, <u>E</u> 5	6.8	6.46	7.14	20	5	750	3.0	5.0
MMSZ5236B	F1, <u>F</u> 1	7.5	7.13	7.88	20	6	500	3.0	6.0
MMSZ5237B	F2, <u>F</u> 2	8.2	7.79	8.61	20	8	500	3.0	6.5
MMSZ5238B	F3, <u>F</u> 3	8.7	8.27	9.14	20	8	600	3.0	6.5
MMSZ5239B	F4, <u>F</u> 4	9.1	8.65	9.56	20	10	600	3.0	7.0
MMSZ5240B	F5, <u>F</u> 5	10	9.50	10.50	20	17	600	3.0	8.0
MMSZ5241B	H1, <u>H</u> 1	11	10.45	11.55	20	22	600	2.0	8.4
MMSZ5242B	H2, <u>H</u> 2	12	11.40	12.60	20	30	600	1.0	9.1
MMSZ5243B	H3, <u>H</u> 3	13	12.35	13.65	9.5	13	600	0.5	9.9
MMSZ5245B	H5, <u>H</u> 5	15	14.25	15.75	8.5	16	600	0.1	11
MMSZ5246B	J1, <u>J</u> 1	16	15.20	16.80	7.8	17	600	0.1	12
MMSZ5248B	J3, <u>J</u> 3	18	17.10	18.90	7.0	21	600	0.1	14
MMSZ5250B	J5, <u>J</u> 5	20	19.00	21.00	6.2	25	600	0.1	15
MMSZ5251B	K1, <u>K</u> 1	22	20.90	23.10	5.6	29	600	0.1	17
MMSZ5252B	K2, <u>K</u> 2	24	22.80	25.20	5.2	33	600	0.1	18
MMSZ5254B	K4, <u>K</u> 4	27	25.65	28.35	5.0	41	600	0.1	21
MMSZ5255B	K5, <u>K</u> 5	28	26.60	29.40	4.5	44	600	0.1	21
MMSZ5256B	M1, <u>M</u> 1	30	28.50	31.50	4.2	49	600	0.1	23
MMSZ5257B	M2, <u>M</u> 2	33	31.35	34.65	3.8	58	700	0.1	25
MMSZ5258B	M3, <u>M</u> 3	36	34.20	37.80	3.4	70	700	0.1	27
MMSZ5259B	M4, <u>M</u> 4	39	37.05	40.95	3.2	80	800	0.1	30

- Notes: 3. f = 1KHz.
4. Short duration test pulse used to minimize self-heating effect.

Ordering Information (Note 5)

Device	Packaging	Shipping
(Type Number)-7-F*	SOD-123	3000/Tape & Reel

* Add "-7-F" to the appropriate type number in Table 1 above example: 6.2V Zener = MMSZ5234B-7-F.

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

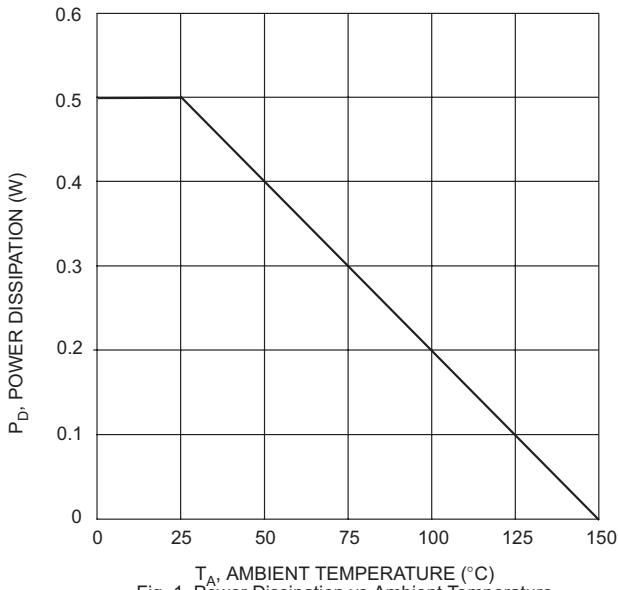


Fig. 1 Power Dissipation vs Ambient Temperature

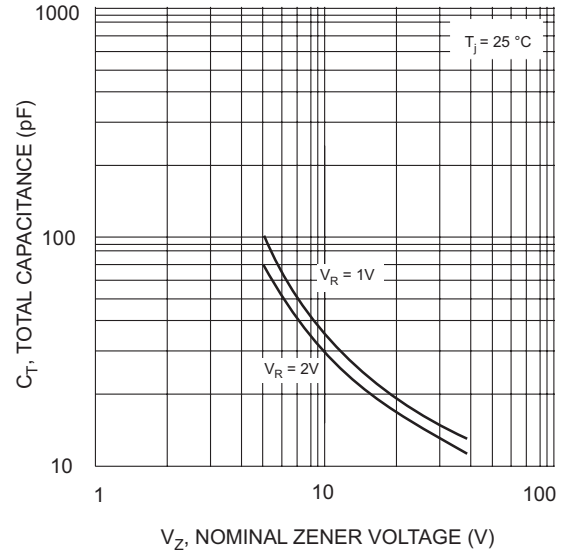


Fig. 2 Total Capacitance vs Nominal Zener Voltage

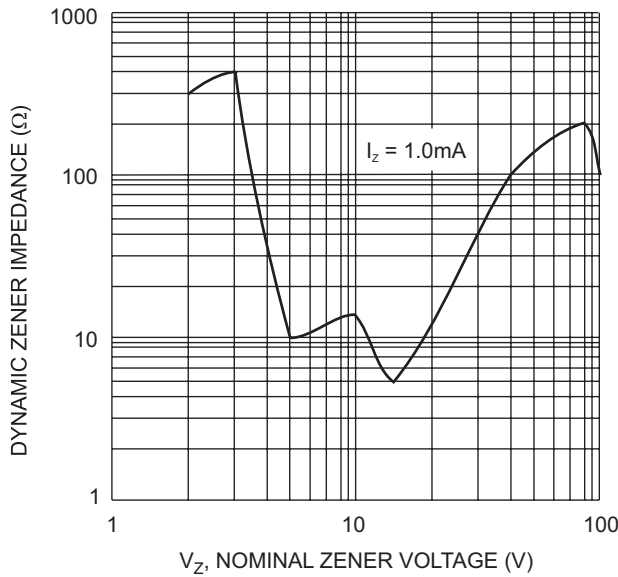


Fig. 3 Zener Voltage vs. Zener Impedance

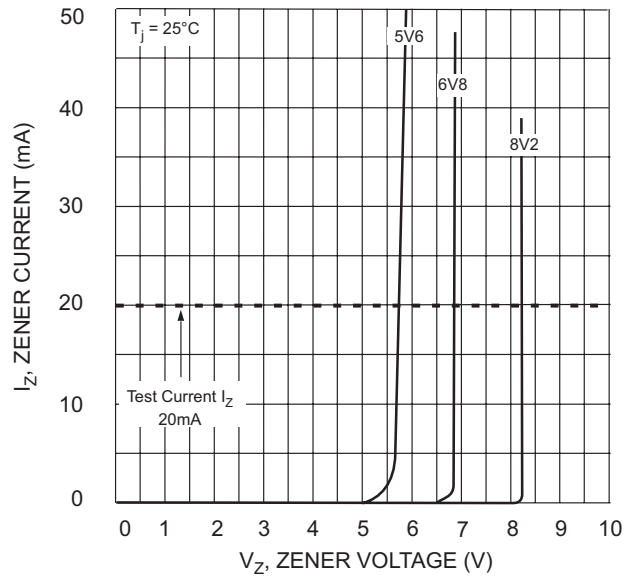


Fig. 4 Zener Breakdown Characteristics

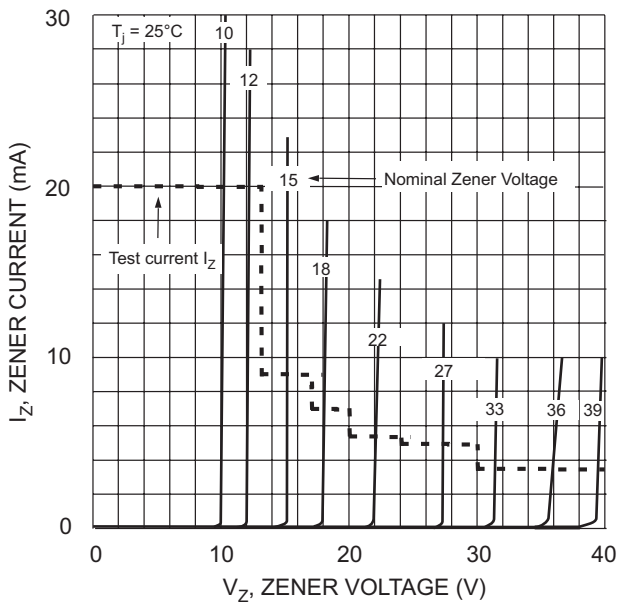


Fig. 5 Zener Breakdown Characteristics



IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes incorporated.