

**SURFACE MOUNT SILICON ZENER DIODES**

**VOLTAGE** 2.4 to 39 Volts      **POWER** 500 mWatts

**FEATURES**

- Planar Die construction
- 500mW Power Dissipation
- Zener Voltages from 2.4V - 39V
- Ideally Suited for Automated Assembly Processes

**MECHANICAL DATA**

- Case: SOD-123, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram Below
- Approx. Weight: 0.008 grams
- Mounting Position: Any



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Value	Units
Power Dissipation (Notes A) at 75°C	P <sub>D</sub>	500	mW
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Notes B)	I <sub>FSM</sub>	4.0	Amps
Operating Junction and Storage Temperature Range	T <sub>J</sub>	-55 to +150	°C

NOTES:

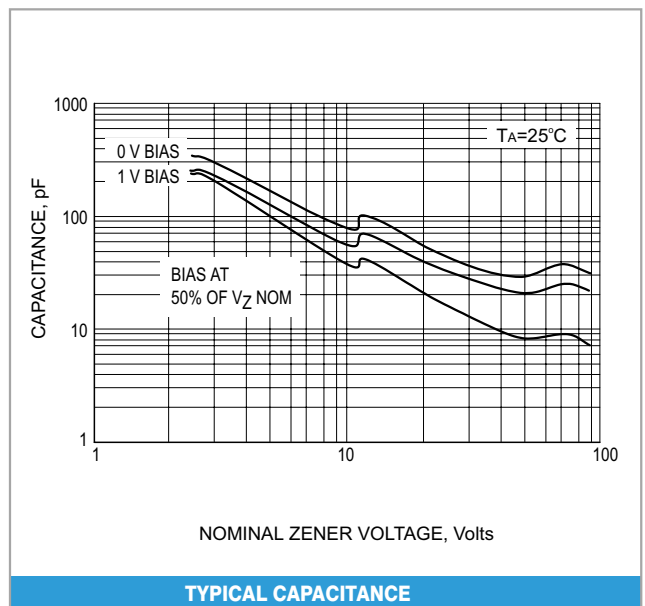
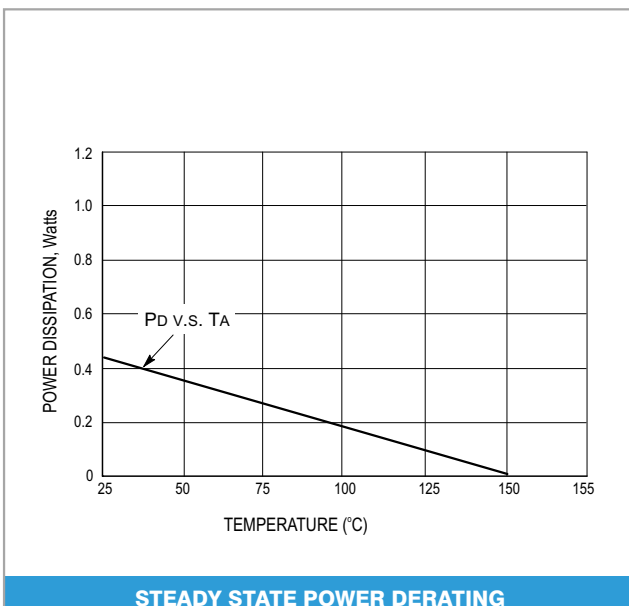
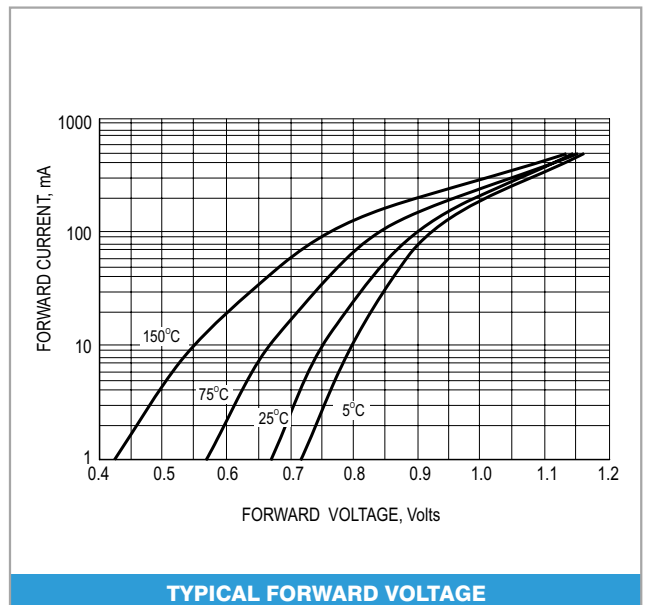
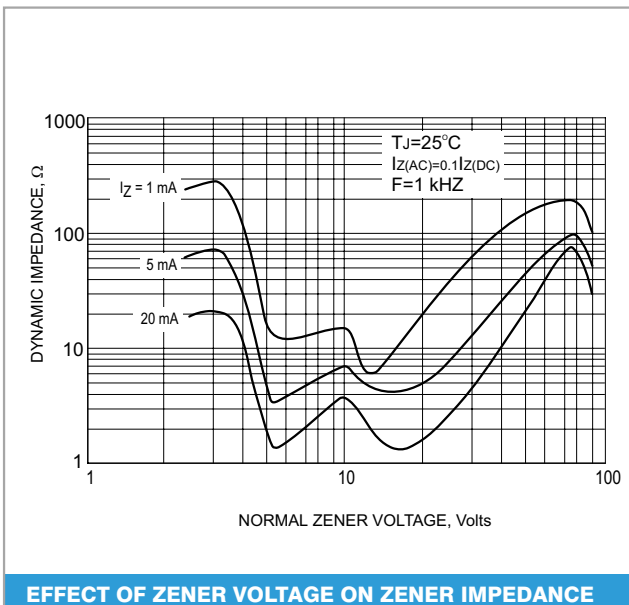
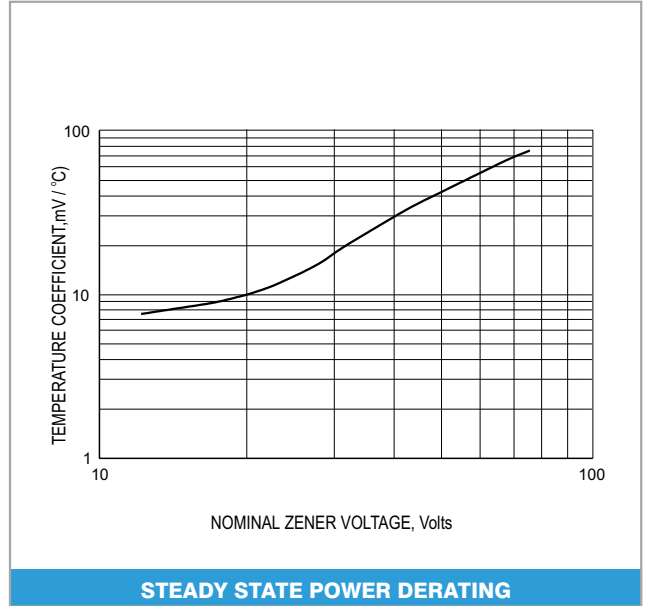
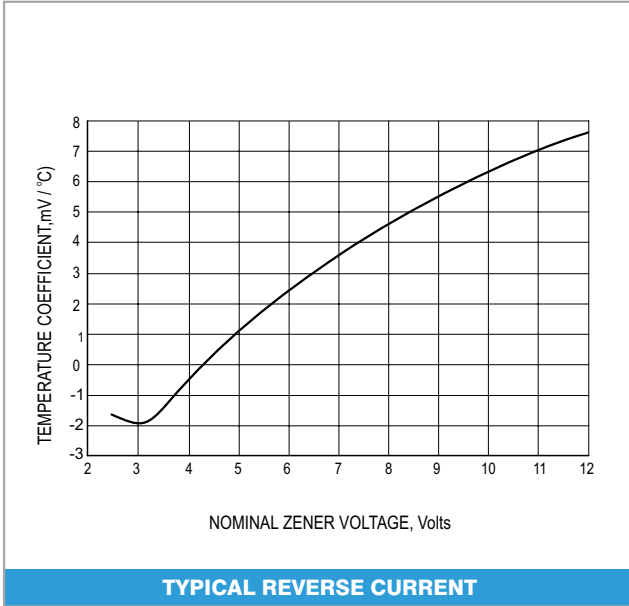
- A. Mounted on 5.0mm<sup>2</sup>(.013mm thick) land areas.
- B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

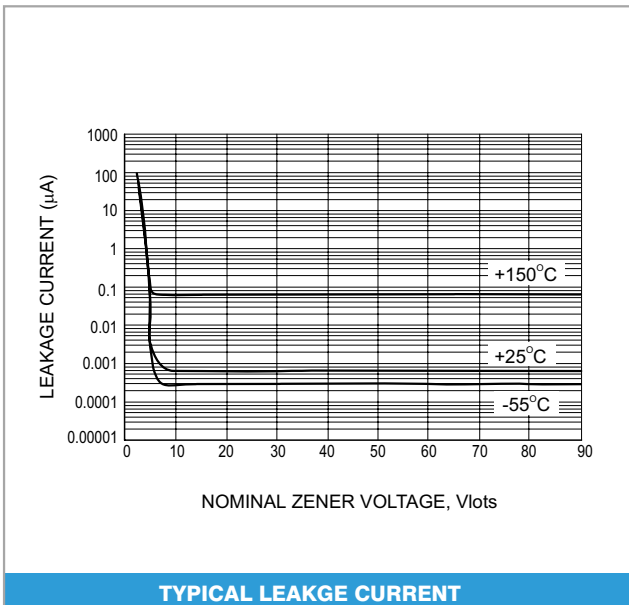
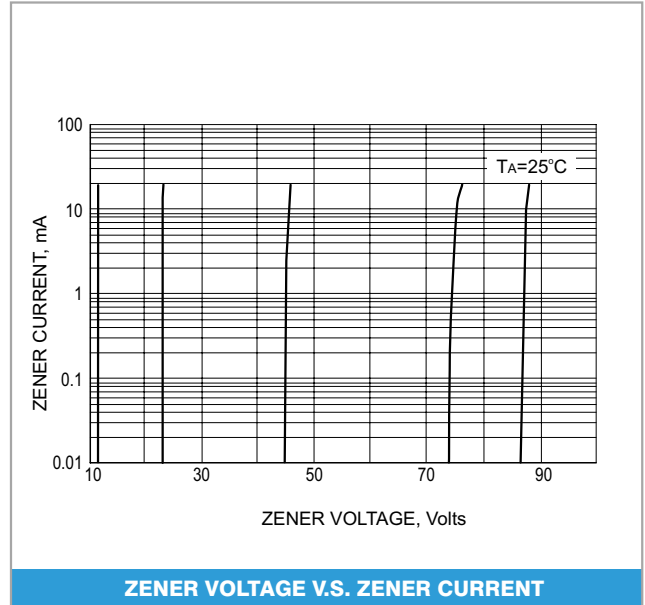
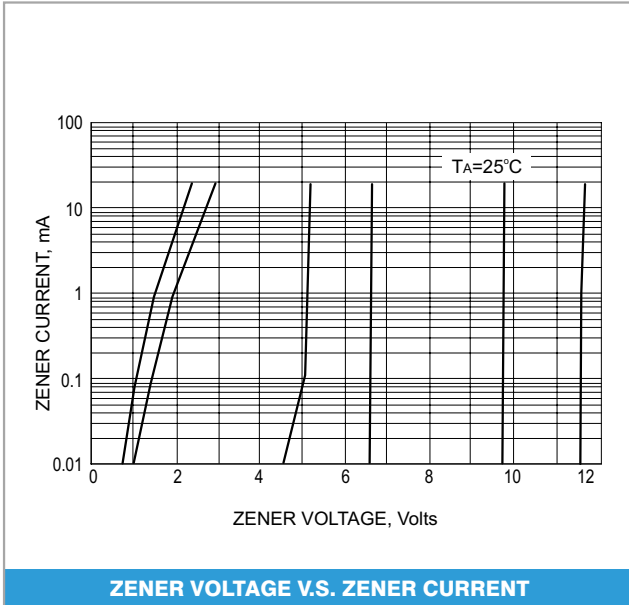
ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted) V<sub>F</sub>=1.2V max, I<sub>F</sub>=100mA for all types.

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Max. Zener Current	Package
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>VT</sub> @ I <sub>ZT</sub>		Z <sub>VK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		I <sub>ZM</sub> @T <sub>a</sub>	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	nA	V	mA	
<b>500 mWatts Zener Diodes</b>											
MMSZ5221B	2.4	2.28	2.52	30	20	1200	0.25	100	1.0	188	SOD-123
MMSZ5222B	2.5	2.38	2.63	30	20	1250	0.25	100	1.0	180	SOD-123
MMSZ5223B	2.7	2.57	2.84	30	20	1300	0.25	75	1.0	167	SOD-123
MMSZ5225B	3	2.85	3.15	30	20	1600	0.25	50	1.0	150	SOD-123
MMSZ5226B	3.3	3.14	3.47	28	20	1600	0.25	25	1.0	138	SOD-123
MMSZ5227B	3.6	3.42	3.78	24	20	1700	0.25	15	1.0	126	SOD-123
MMSZ5228B	3.9	3.71	4.1	23	20	1900	0.25	10	1.0	115	SOD-123
MMSZ5229B	4.3	4.09	4.52	22	20	2000	0.25	5.0	1.0	106	SOD-123
MMSZ5230B	4.7	4.47	4.94	19	20	1900	0.25	5.0	2.0	97	SOD-123
MMSZ5231B	5.1	4.85	5.36	17	20	1600	0.25	5.0	2.0	89	SOD-123
MMSZ5232B	5.6	5.32	5.88	11	20	1600	0.25	5.0	3.0	81	SOD-123
MMSZ5234B	6.2	5.89	6.51	7.0	20	1000	0.25	5.0	4.0	73	SOD-123
MMSZ5235B	6.8	6.46	7.14	5.0	20	750	0.25	3.0	5.0	67	SOD-123
MMSZ5236B	7.5	7.13	7.88	6.0	20	500	0.25	3.0	6.0	61	SOD-123
MMSZ5237B	8.2	7.79	8.61	8.0	20	500	0.25	3.0	6.0	55	SOD-123
MMSZ5239B	9.1	8.65	9.56	10	20	600	0.25	3.0	6.5	50	SOD-123
MMSZ5240B	10	9.5	10.5	17	20	600	0.25	3.0	8	45	SOD-123
MMSZ5241B	11	10.45	11.55	22	20	600	0.25	3.0	8.4	41	SOD-123
MMSZ5242B	12	11.4	12.6	30	20	600	0.25	2.0	9.1	38	SOD-123
MMSZ5243B	13	12.35	13.65	13	9.5	600	0.25	1.0	9.9	35	SOD-123
MMSZ5245B	15	14.25	15.75	16	8.5	600	0.25	0.5	11	30	SOD-123
MMSZ5246B	16	15.2	16.8	17	7.8	600	0.25	0.1	12	28	SOD-123
MMSZ5248B	18	17.1	18.9	21	7	600	0.25	0.1	14	25	SOD-123
MMSZ5250B	20	19	21	25	6.2	600	0.25	0.1	15	23	SOD-123
MMSZ5251B	22	20.9	23.1	29	5.6	600	0.25	0.1	17	21	SOD-123
MMSZ5252B	24	22.8	25.2	33	5.2	600	0.25	0.1	18	19.1	SOD-123
MMSZ5254B	27	25.65	28.35	41	5	600	0.25	0.1	21	16.8	SOD-123
MMSZ5255B	28	26.6	29.4	44	4.5	600	0.25	0.1	21	16.2	SOD-123
MMSZ5256B	30	28.5	31.5	49	4.2	600	0.25	0.1	23	15.1	SOD-123
MMSZ5257B	33	31.35	34.65	58	3.8	700	0.25	0.1	25	13.8	SOD-123
MMSZ5258B	36	34.2	37.8	70	3.4	700	0.25	0.1	27	12.6	SOD-123
MMSZ5259B	39	37.05	40.95	80	3.2	800	0.25	0.1	30	11.6	SOD-123

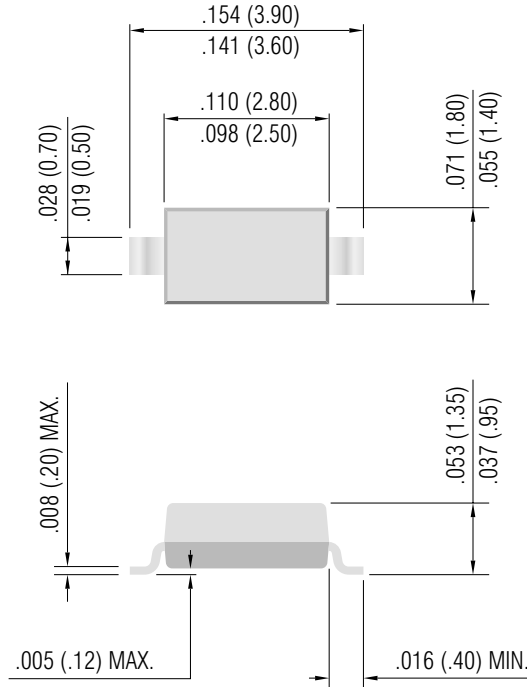
NOTE:

- Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
- Specials Available Include:
  - Nominal zener voltages between the voltages shown and tighter voltage tolerances.
  - Matched sets.
- Zener Voltage (V<sub>Z</sub>) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T<sub>L</sub>) at 30°C, from the diode body.
- Zener Impedance (Z<sub>Z</sub>) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an AC current having an rms value equal to 10% of the dc zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>.
- Surge Current (I<sub>R</sub>) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I<sub>ZT</sub>, per JEDEC registration; however, actual device capability is as described in Figure 5.





**SOD-123**



Dimensions in inches and (millimeters)

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