MMSZ5221BS thru MMSZ5259BS

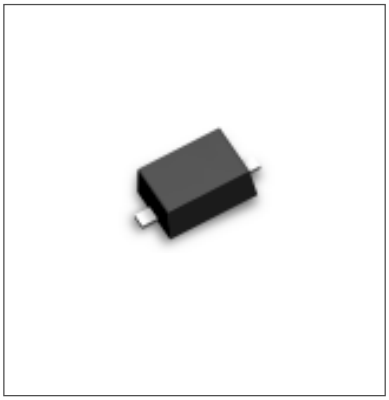
PANJIT SEMI CONDUCTOR

SURFACE MOUNT SILICON ZENER DIODES

VOLTAGE 2.4 - 39 Volts **POWER** 200 mWatts **PACKAGE** SOD-323

FEATURES

- Planar Die construction
- 200mW Power Dissipation
- Zener Voltages from 2.4V - 39V
- Ideally Suited for Automated Assembly Processes



MECHANICAL DATA

Case: SOD-323, Plastic

Terminals: Solderable per MIL-STD-202, Method 208

Approx. Weight: 0.008 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Power Dissipation (Notes A) at 25°C	P_D	200	mW
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Notes B)	I_{FSM}	2.0	Amps
Operating Junction and StorageTemperature Range	T_J	-55 to +150	°C

NOTES:

A. Mounted on 5.0mm2(.013mm thick) land areas.

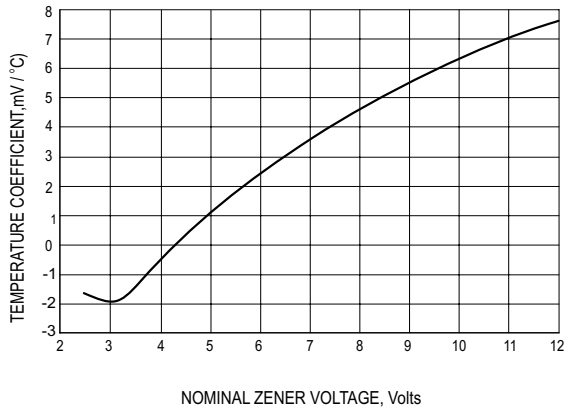
B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted) V_F=1.2V max, I_F=100mA for all types.

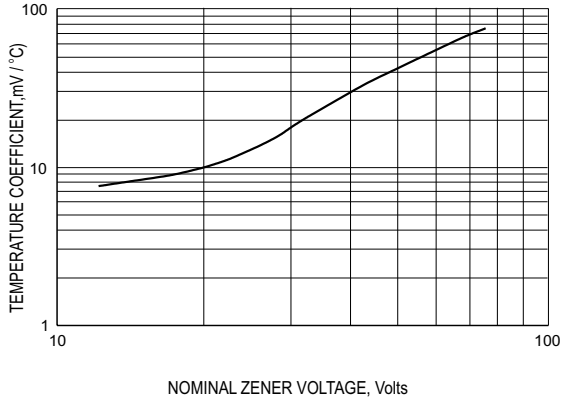
Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Package
	V_Z @ I_{ZT}			Z_{ZT} @ I_{ZT}		Z_{ZK} @ I_{ZK}		I_R @ V_R		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	µA	V	
200 mWatts Zener Diodes										
MMSZ5221BS	2.4	2.28	2.52	30	20	1200	0.25	100	1	SOD-323
MMSZ5222BS	2.5	2.38	2.63	30	20	1250	0.25	100	1	SOD-323
MMSZ5223BS	2.7	2.57	2.84	30	20	1300	0.25	75	1	SOD-323
MMSZ5225BS	3	2.85	3.15	30	20	1600	0.25	50	1	SOD-323
MMSZ5226BS	3.3	3.14	3.47	28	20	1600	0.25	25	1	SOD-323
MMSZ5227BS	3.6	3.42	3.78	24	20	1700	0.25	15	1	SOD-323
MMSZ5228BS	3.9	3.71	4.1	23	20	1900	0.25	10	1	SOD-323
MMSZ5229BS	4.3	4.09	4.52	22	20	2000	0.25	5	1	SOD-323
MMSZ5230BS	4.7	4.47	4.94	19	20	1900	0.25	5	2	SOD-323
MMSZ5231BS	5.1	4.85	5.36	17	20	1600	0.25	5	2	SOD-323
MMSZ5232BS	5.6	5.32	5.88	11	20	1600	0.25	5	3	SOD-323
MMSZ5234BS	6.2	5.89	6.51	7	20	1000	0.25	5	4	SOD-323
MMSZ5235BS	6.8	6.46	7.14	5	20	750	0.25	3	5	SOD-323
MMSZ5236BS	7.5	7.13	7.88	6	20	500	0.25	3	6	SOD-323
MMSZ5237BS	8.2	7.79	8.61	8	20	500	0.25	3	6	SOD-323
MMSZ5239BS	9.1	8.65	9.56	10	20	600	0.25	3	6.5	SOD-323
MMSZ5240BS	10	9.5	10.5	17	20	600	0.25	3	8	SOD-323
MMSZ5241BS	11	10.45	11.55	22	20	600	0.25	3	8.4	SOD-323
MMSZ5242BS	12	11.4	12.6	30	20	600	0.25	2	9.1	SOD-323
MMSZ5243BS	13	12.35	13.65	13	9.5	600	0.25	1	9.9	SOD-323
MMSZ5245BS	15	14.25	15.75	16	8.5	600	0.25	0.5	11	SOD-323
MMSZ5246BS	16	15.2	16.8	17	7.8	600	0.25	0.1	12	SOD-323
MMSZ5248BS	18	17.1	18.9	21	7	600	0.25	0.1	14	SOD-323
MMSZ5250BS	20	19	21	25	6.2	600	0.25	0.1	15	SOD-323
MMSZ5251BS	22	20.9	23.1	29	5.6	600	0.25	0.1	17	SOD-323
MMSZ5252BS	24	22.8	25.2	33	5.2	600	0.25	0.1	18	SOD-323
MMSZ5254BS	27	25.65	28.35	41	5	600	0.25	0.1	21	SOD-323
MMSZ5255BS	28	26.6	29.4	44	4.5	600	0.25	0.1	21	SOD-323
MMSZ5256BS	30	28.5	31.5	49	4.2	600	0.25	0.1	23	SOD-323
MMSZ5257BS	33	31.35	34.65	58	3.8	700	0.25	0.1	25	SOD-323
MMSZ5258BS	36	34.2	37.8	70	3.4	700	0.25	0.1	27	SOD-323
MMSZ5259BS	39	37.05	40.95	80	3.2	800	0.25	0.1	30	SOD-323

NOTE:

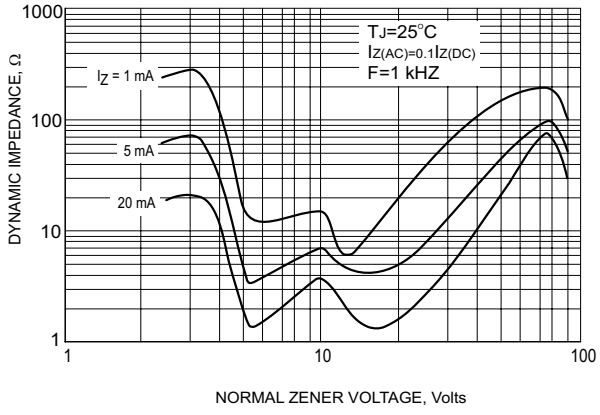
1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
2. Specials Available Include:
   A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
   B. Matched sets.
3. Zener Voltage (V_Z) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T_L) at 30°C, from the diode body.
4. Zener Impedance (Z_Z) 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_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}.
5. Surge Current (I_R) 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_{ZT}, per JEDEC registration; however, actual device capability is as described in Figure 5.



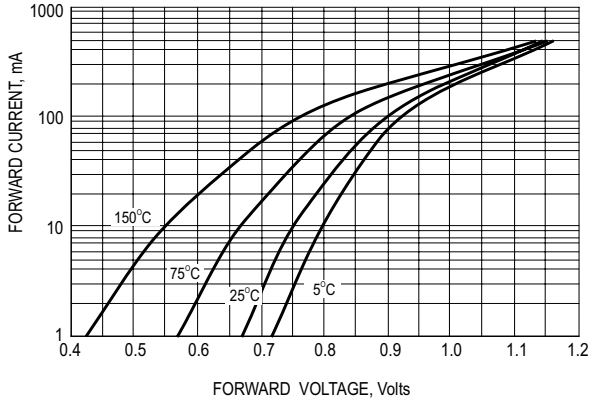
TYPICAL REVERSE CURRENT



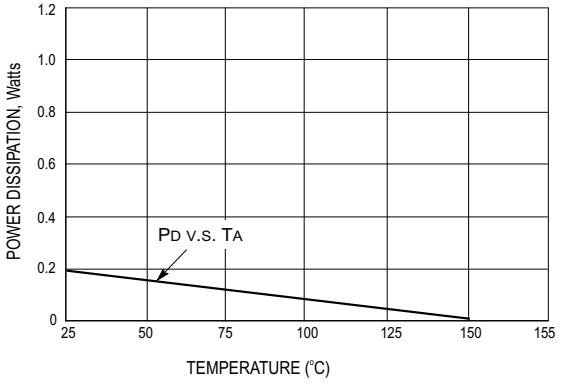
STEADY STATE POWER DERATING



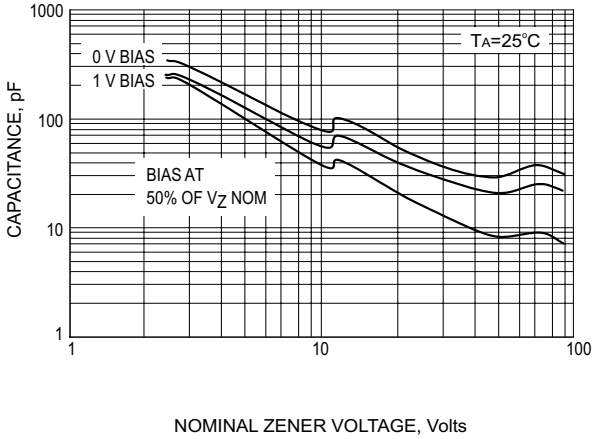
EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE



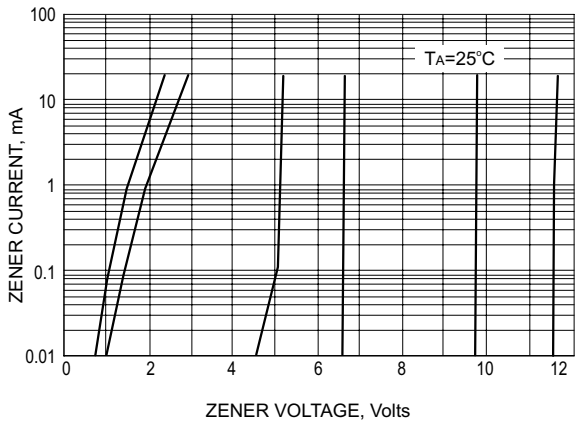
TYPICAL FORWARD VOLTAGE



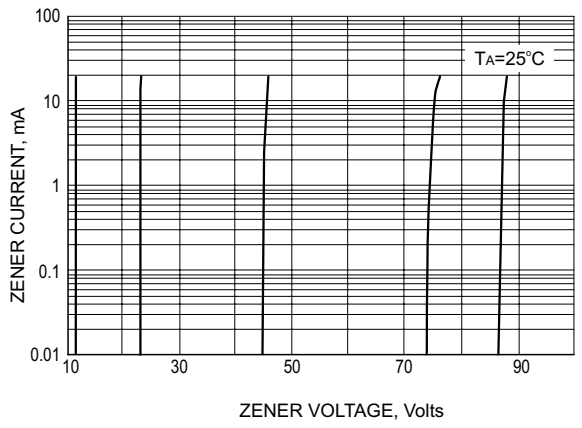
STEADY STATE POWER DERATING



TYPICAL CAPACITANCE



ZENER VOLTAGE V.S. ZENER CURRENT



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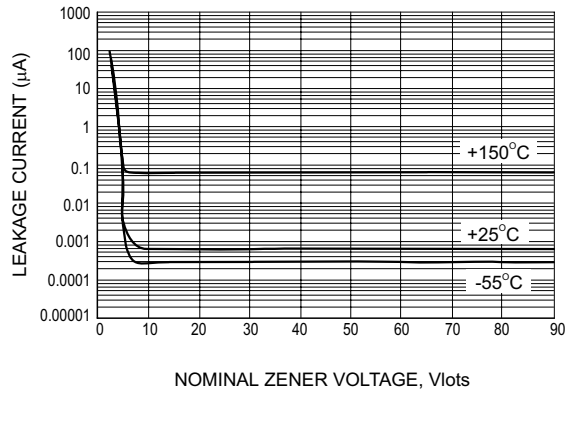
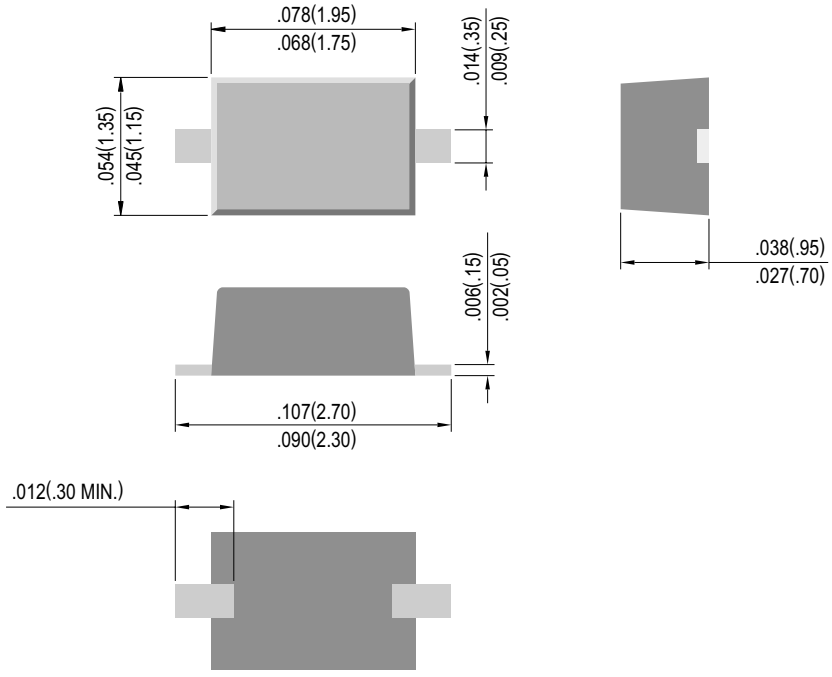


TYPICAL LEAKGE CURRENT

SOD-323



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