

**SURFACE MOUNT ZENER DIODE**

**VOLTAGE RANGE 2.7 to 39 Volts POWER RATING 200 mWatts**

**FEATURES**

- \* Planar Die Construction
- \* 200mW Power Dissipation on FR-4 PCB
- \* General purpose, Medium Current
- \* Ideally Suited for Automated Assembly

**MECHANICAL DATA**

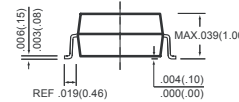
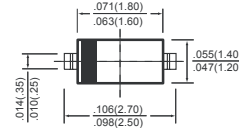
- \* Case: Molded plastic
- \* Epoxy: UL 94V-O rate flame retardant
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.004 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.



**SOD-323**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS** (@ TA = 25°C unless otherwise noted )

RATINGS	SYMBOL	VALUE	UNITS
Max. Steady State Power Dissipation @TA=25°C (Note 1)	P <sub>D</sub>	200	mW
Max. Operating Temperature Range	T <sub>J</sub>	+150	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

**ELECTRICAL CHARACTERISTICS** (@ TA = 25°C unless otherwise noted )

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient (Note 1)	R θ <sub>JA</sub>	-	-	625	°C/W
Max. Instantaneous Forward Voltage at I <sub>F</sub> = 10mA	V <sub>F</sub>	-	-	0.9	Volts

Notes 1. Valid provided that device terminals are kept at ambient temperature.  
 2. "Fully RoHS Compliant", "100% Sn plating (Pb-free)".

## ELECTRICAL CHARACTERISTICS (@TA=25°C unless otherwise specified)

TYPE	Zener voltage Range (Note 1) Vz (V) @ IZT			Test current  IZT (mA)	Maximum Zener impedance			Maximum reverse leakage current	
	Nom	Min	Max		ZzT at IZT (Ω)	Zzk (Ω)	at Izk (mA)	IR (uA)	at VR (V)
	Volts	Volts	Volts						
MMSZ5223BS	2.7	2.57	2.84	20	30	1300	0.25	75	1.0
MMSZ5225BS	3.0	2.85	3.15	20	30	1600	0.25	50	1.0
MMSZ5226BS	3.3	3.14	3.47	20	28	1600	0.25	25	1.0
MMSZ5227BS	3.6	3.42	3.78	20	24	1700	0.25	15	1.0
MMSZ5228BS	3.9	3.71	4.10	20	23	1900	0.25	10	1.0
MMSZ5229BS	4.3	4.09	4.52	20	22	2000	0.25	5.0	1.0
MMSZ5230BS	4.7	4.47	4.94	20	19	1900	0.25	5.0	2.0
MMSZ5231BS	5.1	4.85	5.36	20	17	1600	0.25	5.0	2.0
MMSZ5232BS	5.6	5.32	5.88	20	11	1600	0.25	5.0	3.0
MMSZ5233BS	6.0	5.70	6.30	20	7	1600	0.25	5.0	3.5
MMSZ5234BS	6.2	5.89	6.51	20	7	1000	0.25	5.0	4.0
MMSZ5235BS	6.8	6.46	7.14	20	5	750	0.25	3.0	5.0
MMSZ5236BS	7.5	7.13	7.88	20	6	500	0.25	3.0	6.0
MMSZ5237BS	8.2	7.79	8.61	20	8	500	0.25	3.0	6.5
MMSZ5238BS	8.7	8.27	9.14	20	8	600	0.25	3.0	6.5
MMSZ5239BS	9.1	8.65	9.56	20	10	600	0.25	3.0	7.0
MMSZ5240BS	10	9.50	10.50	20	17	600	0.25	3.0	8.0
MMSZ5241BS	11	10.45	11.55	20	22	600	0.25	2.0	8.4
MMSZ5242BS	12	11.40	12.60	20	30	600	0.25	1.0	9.1
MMSZ5243BS	13	12.35	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5245BS	15	14.25	15.75	8.5	16	600	0.25	0.1	11
MMSZ5246BS	16	15.20	16.80	7.8	17	600	0.25	0.1	12
MMSZ5248BS	18	17.10	18.90	7.0	21	600	0.25	0.1	14
MMSZ5250BS	20	19.00	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251BS	22	20.90	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252BS	24	22.80	25.20	5.2	33	600	0.25	0.1	18
MMSZ5254BS	27	25.65	28.35	5.0	41	600	0.25	0.1	21
MMSZ5255BS	28	26.60	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256BS	30	28.50	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257BS	33	31.35	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258BS	36	34.20	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259BS	39	37.05	40.95	3.2	80	800	0.25	0.1	30

Note 1. Tested with pulses, Tp<1.0ms.

# RATING AND CHARACTERISTICS CURVES ( MMSZ5223BS-MMSZ5259BS )

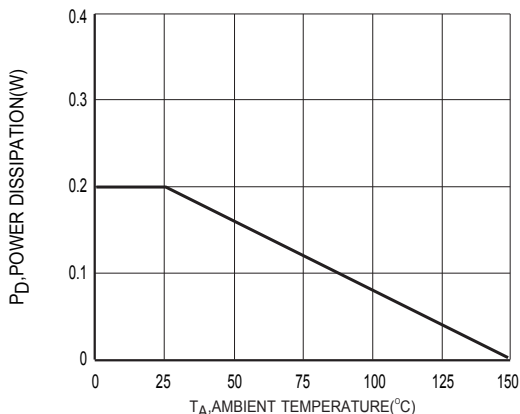


Figure 1 Power Dissipation vs Ambient Temperature

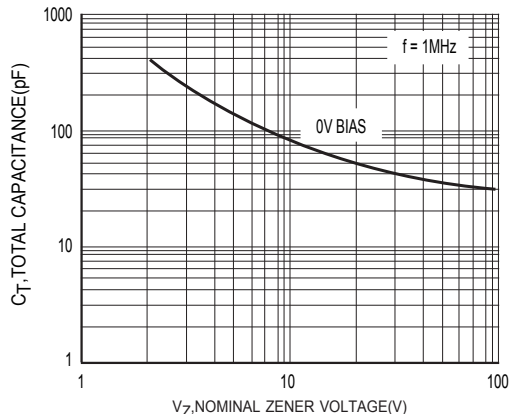


Figure 2 Typical Capacitance

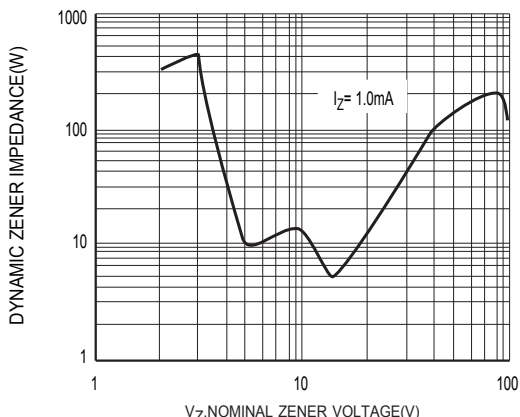


Figure 3 Zener Voltage vs Zener Impedance

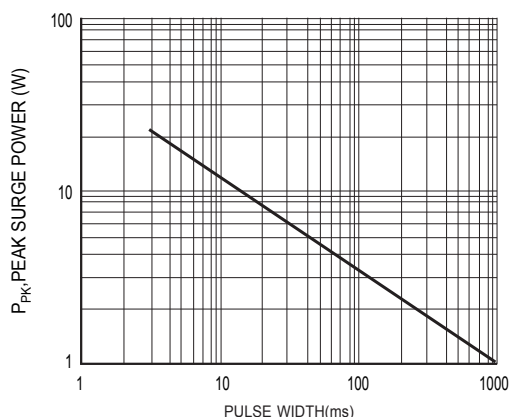


Figure 4 Maximum Non-repetitive Surge Power

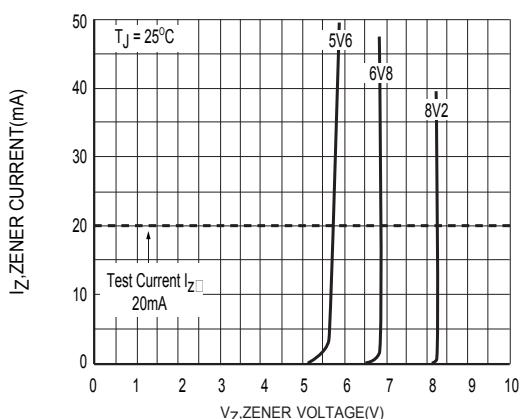


Figure 5 Zener Breakdown Characteristics

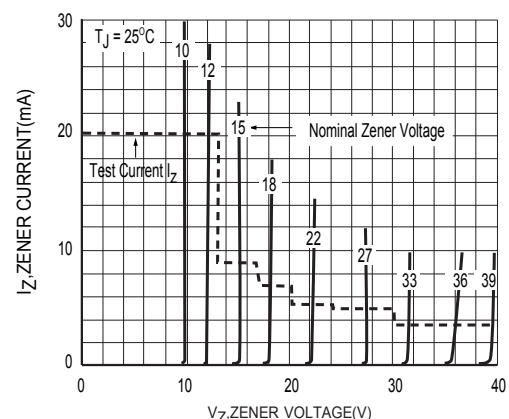


Figure 6 Zener Breakdown Characteristics

## DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.