MZ500-1 thru MZ500-40

400 mW
2.4-100 V

CASE 51
(DO-7)

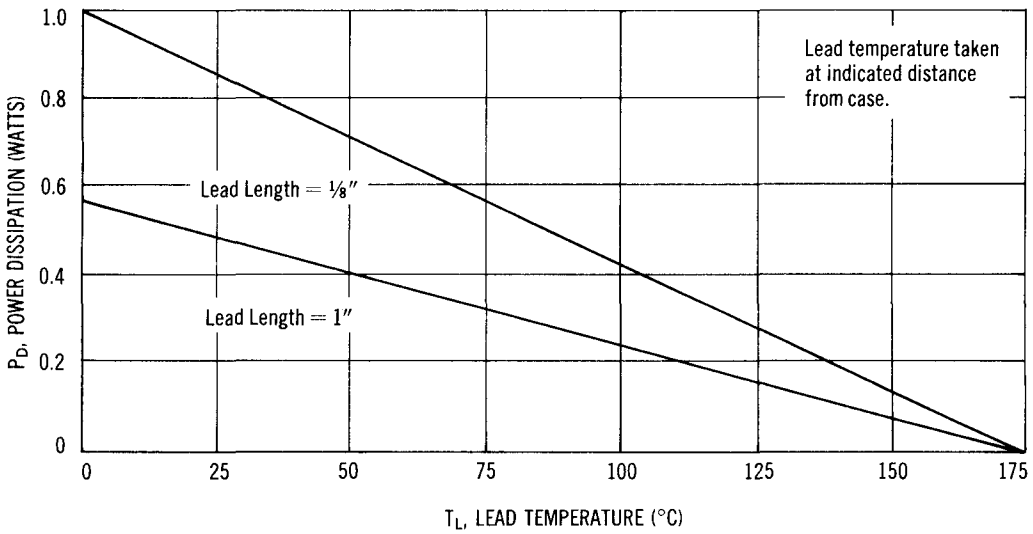
Miniature plastic encapsulated zener diodes for regulated power supply circuits, surge protection, arc suppression and other functions in television, automotive and other consumer product applications.

MAXIMUM RATINGS

Rating	Value	Unit
DC Power Dissipation @ T_L = 50°C	400	mW
Derate above 50°C	3.2	mW/°C
Junction Temperature*	-65 to +175	°C

*Maximum lead temperature for 10 seconds at 1/16" from case = 230°C

FIGURE 1 — POWER-TEMPERATURE DERATING CURVE



MECHANICAL CHARACTERISTICS

CASE: Void free, transfer molded.

FINISH: All external surfaces are corrosion resistant. Leads are readily solderable.

POLARITY: Cathode indicated by color band. When operated in zener mode, cathode will be positive with respect to anode.

MOUNTING POSITION: Any.

WEIGHT: 0.42 gram (approximately).

MZ500-1 thru MZ500-40 (continued)

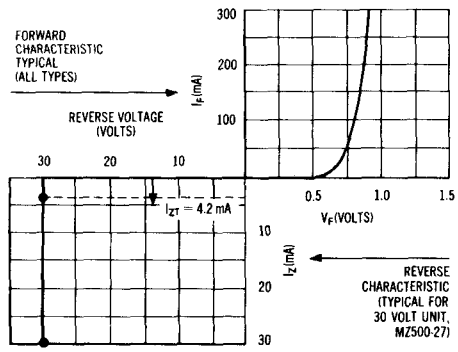
ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted) V_F = 1.5 V max @ 200 mA on all types

Type No.	Zener Voltage V_Z @ I_{ZT} Volts*			Test Current I_{ZT} mA	Typical Z_{ZT} @ I_{ZT} Ohms	Max DC Zener Current I_{ZM} mA	Maximum Reverse Leakage Current I_R @ V_R		Typical Temperature Coefficient %/°C
	Min	Nom	Max				μA Max	Volts	
MZ500-1	2.16	2.4	2.64	20	35	150	—	—	-.085
MZ500-2	2.43	2.7	2.94	20	30	135	—	—	-.080
MZ500-3	2.7	3.0	3.3	20	30	120	—	—	-.075
MZ500-4	2.97	3.3	3.63	20	30	110	20	1	-.070
MZ500-5	3.24	3.6	3.96	20	25	100	20	1	-.065
MZ500-6	3.51	3.9	4.29	20	25	95	20	1	-.060
MZ500-7	3.87	4.3	4.73	20	25	85	5	1	-.050
MZ500-8	4.23	4.7	5.17	20	20	80	5	1	-.043
MZ500-9	4.59	5.1	5.61	20	20	70	5	1	±.030
MZ500-10	5.04	5.6	6.16	20	15	65	5	1	±.028
MZ500-11	5.58	6.2	6.82	20	10	60	5	1	+.045
MZ500-12	6.12	6.8	7.48	20	5	55	5	1	.050
MZ500-13	6.75	7.5	8.25	20	10	50	5	1	.058
MZ500-14	7.38	8.2	9.02	20	10	45	5	1	.062
MZ500-15	8.19	9.1	10.02	20	10	40	5	1	.068
MZ500-16	9.0	10	11.0	20	20	36	5	1	.075
MZ500-17	9.9	11	12.1	20	20	35	5	1	.076
MZ500-18	10.8	12	13.2	20	30	32	5	1	.077
MZ500-19	11.7	13	14.3	9.5	15	30	10	9.4	.079
MZ500-20	13.5	15	16.5	8.5	20	26	10	10.8	.082
MZ500-21	14.4	16	17.6	7.8	20	25	10	11.5	.083
MZ500-22	16.2	18	19.8	7.0	25	21	10	13.0	.085
MZ500-23	18.0	20	22.0	6.2	30	19	10	14.4	.086
MZ500-24	19.8	22	24.2	5.6	30	17	10	15.8	.087
MZ500-25	21.6	24	26.4	5.2	35	16	10	17.3	.088
MZ500-26	24.3	27	29.7	4.6	45	14	10	19.4	.090
MZ500-27	27.0	30	33.0	4.2	50	13	10	21.6	.091
MZ500-28	29.7	33	36.3	3.8	60	12	10	23.8	.092
MZ500-29	32.4	36	39.6	3.4	70	11	10	25.9	.093
MZ500-30	35.1	39	42.9	3.2	80	9.1	10	28.1	.094
MZ500-31	38.7	43	47.3	3.0	95	8.8	10	31.0	.095
MZ500-32	42.3	47	51.7	2.7	110	7.9	10	33.8	.095
MZ500-33	45.9	51	56.1	2.5	130	7.4	10	36.7	.096
MZ500-34	50.4	56	61.6	2.2	150	6.9	10	40.3	.096
MZ500-35	55.8	62	68.2	2.0	190	6.0	10	44.6	.097
MZ500-36	61.2	68	74.8	1.8	240	5.5	10	49.0	.097
MZ500-37	67.5	75	82.5	1.7	280	5.1	10	54.0	.098
MZ500-38	73.8	82	90.2	1.5	340	4.6	10	59.0	.098
MZ500-39	81.9	91	100.1	1.4	400	4.2	10	65.5	.099
MZ500-40	90.0	100	110.0	1.3	500	3.7	10	72.0	.100

*1. Nominal voltages other than those stated above, matched sets of tight voltage tolerance devices, tighter voltage tolerances and double anode clippers, are available from the .4M3.3ZS5 series on special request.

2. Voltages to 200 volts are available.

FIGURE 2 — TYPICAL ZENER DIODE CHARACTERISTICS and SYMBOL IDENTIFICATION



- I_F — Forward Current
- I_Z — Zener Current
- I_{ZM} — Maximum DC Zener Current (Limited by Power Dissipation)
- I_{ZT} — Zener Test Current
- V_F — Forward Voltage
- V_Z — Nominal Zener Voltage
- Z_Z — Zener Impedance
- Z_{ZT} — Zener Impedance at Test Current (I_{ZT})