



Semitronics Corp.

INTEX/ SEMITRONICS CORP

## silicon zener diodes

T-11-09

**NOTES:** The following notes explain variations in the standard type numbers listed for Silicon Zener Diodes. "Note" numbers are inserted above type numbers in the "Type" column. A note number then pertains to all types which follow it, up to that point where another note number is inserted and takes effect for subsequent types.

1. Standard tolerances of 5.0% and 10% are available — no suffix is  $\pm 10\%$  tolerance; suffix "A" denotes  $\pm 5\%$  tolerance.
2. Standard tolerance of  $\pm 5\%$ .
3. Standard tolerance of  $\pm 20\%$ .
4. Standard tolerances of 5.0%, 10%, and 20% are available — no suffix is 20% tolerance; suffix "A" denotes  $\pm 10\%$  tolerance; suffix "B" is  $\pm 5\%$  tolerance.
5. Reverse polarity types available; add suffix "R."
6. Standard tolerances of 1.0%, 5.0% and 10% are available — no suffix is  $\pm 10\%$ ; suffix "A" denotes  $\pm 5\%$  tolerance; suffix "B" is  $\pm 1\%$ .
7. Standard tolerance of  $\pm 15\%$ .
8. 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 is superimposed upon the DC current.
9. Standard tolerance of  $\pm 10\%$ .
10. Standard types are  $\pm 10\%$  tolerance; suffix "A" denotes  $\pm 5\%$  tolerance; suffix "C" denotes  $\pm 10\%$  clipper; suffix "CA" denotes  $\pm 5\%$  clipper.

### 400 milliwatt

(Note 1)										
1N702	2.0/3.2	60	10	75	1.0	—	—	—	—	DO-7
1N703	3.0/3.9	55	10	50	1.0	—	—	—	—	DO-7
1N704	3.7/4.5	45	10	5	1.0	—	—	—	—	DO-7
1N705	4.3/5.4	35	10	5	1.5	—	—	—	—	DO-7
1N706	5.2/6.4	20	10	5	1.5	—	—	—	—	DO-7
1N707	6.2/8.0	10	10	5	3.5	—	—	—	—	DO-7
1N708	5.6	2.6	25	5	3.5	—	—	—	—	DO-7
1N709	6.2	4.1	25	5	3.5	—	—	—	—	DO-7
1N710	6.8	4.7	25	5	3.5	—	—	—	—	DO-7
1N711	7.5	5.3	25	5	3.5	—	—	—	—	DO-7
1N712	8.2	6.0	25	5	3.5	—	—	—	—	DO-7
1N713	9.1	7.0	12	5	3.5	—	—	—	—	DO-7
1N714	10.0	8.0	12	5	8.0	—	—	—	—	DO-7
1N715	11.0	9.0	12	5	8.0	—	—	—	—	DO-7
1N716	12.0	10.0	12	5	9.0	—	—	—	—	DO-7
1N717	13.0	11.0	12	—	—	—	—	—	—	DO-7
1N718	15.0	13.0	12	—	—	—	—	—	—	DO-7
1N719	16.0	15.0	12	—	—	—	—	—	—	DO-7
1N720	18.0	17.0	12	—	—	—	—	—	—	DO-7
1N721	20.0	20.0	4	—	—	—	—	—	—	DO-7
1N722	22.0	24.0	4	—	—	—	—	—	—	DO-7
1N723	24.0	28.0	4	—	—	—	—	—	—	DO-7
1N724	27.0	35.0	4	—	—	—	—	—	—	DO-7
1N725	30.0	42.0	4	—	—	—	—	—	—	DO-7
1N726	33.0	50.0	4	—	—	—	—	—	—	DO-7
1N727	36.0	60.0	4	—	—	—	—	—	—	DO-7
1N728	39.0	70.0	4	—	—	—	—	—	—	DO-7
1N729	43.0	84.0	4	—	—	—	—	—	—	DO-7
1N730	47.0	98.0	4	—	—	—	—	—	—	DO-7
1N731	51.0	115	4	—	—	—	—	—	—	DO-7
1N732	56.0	140	4	—	—	—	—	—	—	DO-7
1N733	62.0	170	2	—	—	—	—	—	—	DO-7
1N734	68.0	200	2	—	—	—	—	—	—	DO-7
1N735	75.0	240	2	—	—	—	—	—	—	DO-7
1N736	82.0	280	2	—	—	—	—	—	—	DO-7
1N737	91.0	340	1	—	—	—	—	—	—	DO-7
1N738	100	400	1	—	—	—	—	—	—	DO-7
1N739	110	490	1	—	—	—	—	—	—	DO-7
1N740	120	570	1	—	—	—	—	—	—	DO-7
1N741	130	650	1	—	—	—	—	—	—	DO-7
1N742	150	860	1	—	—	—	—	—	—	DO-7
1N743	160	970	1	—	—	—	—	—	—	DO-7
1N744	180	1200	1	—	—	—	—	—	—	DO-7
1N745	200	1400	1	—	—	—	—	—	—	DO-7
1N746	3.3	28	20	10	1.0	1.0	100	—	—	DO-7

(Note 1)										
1N747	3.6	24	20	10	1.0	1.0	100	—	—	DO-7
1N748	3.9	23	20	10	1.0	1.0	100	—	—	DO-7
1N749	4.3	22	20	2	1.0	1.0	100	—	—	DO-7
1N750	4.7	19	20	2	1.0	1.0	100	—	—	DO-7
1N751	5.1	17	20	1	1.0	1.0	100	—	—	DO-7
1N752	5.6	11	20	1	1.0	1.0	100	—	—	DO-7
1N753	6.2	7	20	0.1	1.0	1.0	100	—	—	DO-7
1N754	6.8	5	20	0.1	1.0	1.0	100	—	—	DO-7
1N755	7.5	6	20	0.1	1.0	1.0	100	—	—	DO-7
1N756	8.2	8	20	0.1	1.0	1.0	100	—	—	DO-7
1N757	9.1	10	20	0.1	1.0	1.0	100	—	—	DO-7
1N758	10.0	17	20	0.1	1.0	1.0	100	—	—	DO-7
1N759	12.0	30	20	0.1	1.0	1.0	100	—	—	DO-7
1N761, A	4.3/5.4	40	10	—	—	—	—	—	—	DO-7
1N762, A	5.2/6.4	18	10	—	—	—	—	—	—	DO-7
1N763, A	6.2/8.0	7	10	—	—	—	—	—	—	DO-7
1N763-3	7.5	7	10	—	—	—	—	—	—	DO-7
1N764, A	7.5/10.0	12	10	—	—	—	—	—	—	DO-7
1N765, A	9.0/12.0	45	5	—	—	—	—	—	—	DO-7
1N766, A	11.0/14.5	55	5	—	—	—	—	—	—	DO-7
1N767, A	13.5/18.0	70	5	—	—	—	—	—	—	DO-7
1N768, A	17/21	100	5	—	—	—	—	—	—	DO-7
1N769, A	20/27	150	5	—	—	—	—	—	—	DO-7
(Note 4)										
1N957	6.8	4.5	18.5	150	4.9	1.5	200	—	—	DO-7
1N958	7.5	5.5	16.5	75	5.4	1.5	200	—	—	DO-7
1N959	8.2	6.5	15.0	50	5.9	1.5	200	—	—	DO-7
1N960	9.1	7.5	14.0	25	6.6	1.5	200	—	—	DO-7
1N981	10.0	8.5	12.5	10	7.2	1.5	200	—	—	DO-7
1N982	11.0	9.5	11.5	5	8.0	1.5	200	—	—	DO-7
1N983	12.0	11.5	10.5	5	8.6	1.5	200	—	—	DO-7
1N984	13.0	13.0	9.5	5	9.4	1.5	200	—	—	DO-7
1N985	15.0	16.0	8.5	5	10.8	1.5	200	—	—	DO-7
1N986	16.0	17.0	7.8	5	11.5	1.5	200	—	—	DO-7
1N987	18.0	21.0	7.0	5	13.0	1.5	200	—	—	DO-7
1N988	20.0	25.0	6.2	5	14.4	1.5	200	—	—	DO-7
1N969	22.0	29.0	5.6	5	15.8	1.5	200	—	—	DO-7
1N970	24.0	33.0	5.2	5	17.3	1.5	200	—	—	DO-7
1N971	27.0	41.0	4.6	5	19.4	1.5	200	—	—	DO-7
1N972	30.0	49.0	4.2	5	21.6	1.5	200	—	—	DO-7
1N973	33.0	58.0	3.8	5	23.8	1.5	200	—	—	DO-7
1N974	36.0	70.0	3.4	5	25.9	1.5	200	—	—	DO-7
1N975	39.0	80.0	3.2	5	28.1	1.5	200	—	—	DO-7
1N976	43.0	93.0	3.0	5	31.0	1.5	200	—	—	DO-7
1N977	47.0	105.0	2.7	5	33.8	1.5	200	—	—	DO-7



T-11-09

TOLL FREE NUMBER 800-777-3960

INTEX/ SEMITRONICS CORP

27E D

silicon zener diodes cont'd

T-11-11

400 milliwatt — (cont'd)

Table with 9 columns: Type, Zener Vz (volts), Dynamic Impedance Zz (ohms), Zener Current Iz (mA), Reverse Current (uA), Reverse Voltage (volts), Max. Forward Voltage (volts), Forward Current (mA), Case Style. Lists diodes 1N978-1N986 and 1N982-1N986.

Table with 9 columns: Type, Zener Vz (volts), Dynamic Impedance Zz (ohms), Zener Current Iz (mA), Reverse Current (uA), Reverse Voltage (volts), Max. Forward Voltage (volts), Forward Current (mA), Case Style. Lists diodes 1N987-1N991 and 1N992.

500 milliwatt

Table with 5 columns: Type, Zener Voltage Vz (volts), Dynamic Resistance Zz (ohms), Zener Current Iz (mA), Case Style. Lists diodes 1N5221-1N5230, 1N5231-1N5239, 1N5240-1N5248, 1N5249-1N5250.

Table with 5 columns: Type, Zener Voltage Vz (volts), Dynamic Impedance Zz (ohms), Zener Current Iz (mA), Case Style. Lists diodes 1N5261-1N5270, 1N5271-1N5275, 1N5276-1N5281.

1 watt

Table with 5 columns: Type, Zener Voltage Vz (volts), Dynamic Resistance R0 (ohms), Zener Current Iz (mA), Case Style. Lists diodes 1N3016-1N3018, 1N3019-1N3023, 1N3024-1N3028, 1N3029-1N3033, 1N3034-1N3038.

Table with 5 columns: Type, Zener Voltage Vz (volts), Dynamic Resistance R0 (ohms), Zener Current Iz (mA), Case Style. Lists diodes 1N3039-1N3043, 1N3044-1N3048, 1N3049-1N3051, 1N4728-1N4729, 1N4730-1N4734, 1N4735-1N4739.

Table with 5 columns: Type, Zener Voltage Vz (volts), Dynamic Resistance R0 (ohms), Zener Current Iz (mA), Case Style. Lists diodes 1N4740-1N4744, 1N4745-1N4749, 1N4750-1N4754, 1N4755-1N4759, 1N4760-1N4764.



discrete devices

T-11-17  
T-11-19



semitron hot line

TOLL FREE NUMBER 800-777-3960

silicon zener diodes cont'd

10 watt — cont'd.

Type	Zener Voltage Vz (volts)	Dynamic Resistance R <sub>D</sub> (ohms) (Note 8)	Zener Current I <sub>Z</sub> (mA)	Case Style
<b>(Notes 2, 5)</b>				
1N2041-1	4.5	1.0	1000	DO-4
1N2041-2	5.0	1.0	1000	DO-4
1N2042-1	5.5	0.7	1000	DO-4
1N2042-2	6.0	0.7	1000	DO-4
<b>1N2043-1</b>				
1N2043-2	6.5	0.8	1000	DO-4
1N2043-3	7.0	0.8	1000	DO-4
1N2043-4	7.5	0.8	1000	DO-4
1N2044-1	8.0	0.8	1000	DO-4
1N2044-2	8.5	0.8	1000	DO-4
<b>1N2044-3</b>				
1N2044-4	9.0	0.8	1000	DO-4
1N2045-1	9.5	0.8	1000	DO-4
1N2045-2	10.0	1.5	500	DO-4
1N2045-3	11.0	1.5	500	DO-4
1N2045-4	12.0	2.0	500	DO-4
<b>1N2046-2</b>				
1N2046-3	13.0	2.0	500	DO-4
1N2046-4	14.0	2.0	500	DO-4
1N2047-1	15.0	3.0	500	DO-4
1N2047-2	16.0	3.0	500	DO-4
1N2047-3	17.0	3.0	500	DO-4
<b>1N2048-1</b>				
1N2048-2	18.0	3.0	500	DO-4
1N2048-3	19.0	3.0	500	DO-4
1N2048-4	20.0	3.0	500	DO-4
1N2049-1	22.0	8.0	150	DO-4
1N2049-2	24.0	8.0	150	DO-4
<b>1N2049-3</b>				
1N2498	26.0	8.0	150	DO-4
<b>(Note 10)</b>				
1N2499	10	2.0	500	DO-4
1N2498	11	2.0	500	DO-4
1N2500	12	2.0	500	DO-4

Type	Zener Voltage Vz (volts)	Dynamic Resistance R <sub>D</sub> (ohms) (Note 8)	Zener Current I <sub>Z</sub> (mA)	Case Style
<b>(Notes 4, 5)</b>				
1N2970	6.8	1.2	370	DO-4
1N2971	7.5	1.3	335	DO-4
1N2972	8.2	1.5	305	DO-4
1N2973	9.1	2.0	275	DO-4
<b>1N2974</b>				
1N2975	10.0	3.0	250	DO-4
1N2976	11.0	3.0	230	DO-4
1N2977	12.0	3.0	210	DO-4
1N2978	13.0	3.0	190	DO-4
1N2979	14.0	3.0	180	DO-4
<b>1N2979</b>				
1N2980	15.0	3.0	170	DO-4
1N2981	16.0	4.0	155	DO-4
1N2982	17.0	4.0	145	DO-4
1N2983	18.0	4.0	140	DO-4
1N2984	19.0	4.0	130	DO-4
<b>1N2984</b>				
1N2985	20.0	4.0	125	DO-4
1N2986	22.0	5.0	115	DO-4
1N2987	24.0	5.0	105	DO-4
1N2988	25.0	6.0	100	DO-4
<b>1N2988</b>				
1N2989	27.0	7.0	95	DO-4
1N2990	30.0	8.0	85	DO-4
1N2991	33.0	9.0	75	DO-4
1N2992	36.0	10.0	70	DO-4
1N2993	39.0	11.0	65	DO-4
<b>1N2993</b>				
1N2994	43.0	12.0	60	DO-4
1N2995	45.0	13.0	55	DO-4
1N2996	47.0	14.0	55	DO-4
1N2997	50.0	15.0	50	DO-4
1N2998	51.0	15.0	50	DO-4

Type	Zener Voltage Vz (volts)	Dynamic Resistance R <sub>D</sub> (ohms) (Note 8)	Zener Current I <sub>Z</sub> (mA)	Case Style
<b>(NOTE 4, 5)</b>				
1N2998	52.0	15.0	50	DO-4
1N2999	56.0	16.0	45	DO-4
1N3000	62.0	17.0	40	DO-4
1N3001	68.0	18.0	37	DO-4
1N3002	75.0	22.0	33	DO-4
<b>(Notes 4, 5)</b>				
1N3003	82.0	25.0	30	DO-4
1N3004	91.0	35.0	28	DO-4
1N3005	100	40.0	25	DO-4
1N3006	105	45.0	25	DO-4
<b>1N3007</b>				
1N3008	110	55.0	23	DO-4
1N3009	120	75.0	20	DO-4
1N3010	130	100	19	DO-4
1N3011	140	125	18	DO-4
1N3012	150	175	17	DO-4
<b>1N3012</b>				
1N3013	160	200	16	DO-4
1N3014	175	250	14	DO-4
1N3015	180	260	14	DO-4
1N3016	200	300	12	DO-4
<b>(Notes 1, 5)</b>				
1N3993	3.9	2.0	640	DO-4
<b>1N3994</b>				
1N3995	4.3	1.5	580	DO-4
1N3996	4.7	1.2	530	DO-4
1N3997	5.1	1.1	490	DO-4
1N3998	5.6	1.0	445	DO-4
1N3999	6.2	1.1	405	DO-4
<b>1N4000</b>				
1N4000	6.8	1.2	370	DO-4
1N4000	7.5	1.3	335	DO-4

50 watt (Dissipation Rated @ 75°C)

Flange Mounted (Case Style TO-3) Type	Stud Mounted (Case Style DO-5) Type	Nominal Zener Voltage, Vz (volts)	Zener Current I <sub>Z</sub> (mA)	Dynamic Resistance (R <sub>D</sub> ) (ohms) (Note 8)
<b>(Notes 4, 5)</b>				
1N2804	1N3305	6.8	1850	0.2
1N2805	1N3306	7.5	1700	0.3
1N2806	1N3307	8.2	1500	0.4
1N2807	1N3308	9.1	1370	0.5
1N2808	1N3309	10	1200	0.6
<b>1N2809</b>				
1N2810	1N3310	11	1100	0.8
1N2811	1N3311	12	1000	1.0
1N2812	1N3312	13	960	1.1
1N2813	1N3313	14	890	1.2
1N2814	1N3314	15	830	1.4
<b>1N2814</b>				
1N2815	1N3315	16	780	1.6
1N2816	1N3316	17	740	1.8
1N2817	1N3317	18	700	2.0
1N2818	1N3318	19	660	2.2
1N2819	1N3319	20	630	2.4

Flange Mounted (Case Style TO-3) Type	Stud Mounted (Case Style DO-5) Type	Nominal Zener Voltage, Vz (volts)	Zener Current I <sub>Z</sub> (mA)	Dynamic Resistance (R <sub>D</sub> ) (ohms) (Note 8)
<b>(Notes 4, 5)</b>				
1N2819	1N3320	22	570	2.5
1N2820	1N3321	24	520	2.6
1N2821	1N3322	25	500	2.7
1N2822	1N3323	27	460	2.8
1N2823	1N3324	30	420	3.0
<b>1N2824</b>				
1N2825	1N3325	33	380	3.2
1N2826	1N3326	36	350	3.5
1N2827	1N3327	39	320	4.0
1N2828	1N3328	43	290	4.5
1N2829	1N3329	45	280	4.5
<b>1N2829</b>				
1N2830	1N3330	47	270	5.0
1N2831	1N3331	50	245	5.2
1N2832	1N3332	51	245	5.2
1N2833	1N3333	52	240	5.5
1N2834	1N3334	56	220	6.0

Flange Mounted (Case Style TO-3) Type	Stud Mounted (Case Style DO-5) Type	Nominal Zener Voltage, Vz (volts)	Zener Current I <sub>Z</sub> (mA)	Dynamic Resistance (R <sub>D</sub> ) (ohms) (Note 8)
<b>(Notes 4, 5)</b>				
1N2833	1N3335	62	200	7.0
1N2834	1N3336	68	180	8.0
1N2835	1N3337	75	170	9.0
1N2836	1N3338	82	150	11
1N2837	1N3339	91	140	15
<b>1N2838</b>				
1N2839	1N3340	100	120	20
1N2840	1N3341	105	120	25
1N2841	1N3342	110	110	30
1N2842	1N3343	120	100	40
1N2843	1N3344	130	95	50
<b>1N2843</b>				
1N2844	1N3345	140	90	60
1N2845	1N3346	150	85	75
1N2846	1N3347	160	80	80
1N2847	1N3348	175	70	85
1N2848	1N3349	180	68	90
1N2849	1N3350	200	65	100