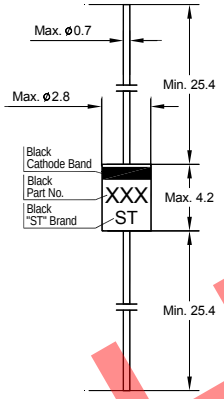
1N4727A...1N4761A

Silicon Planar Power Zener Diodes

for use in stabilizing and clipping circuits with high power rating.



Glass Case DO-41
Dimensions in mm

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	1 [1)]	W
Junction Temperature	T_j	200	°C
Storage Temperature Range	T_{stg}	- 65 to + 200	°C
[1)] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.			

Characteristics at T_a = 25 °C

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	170 [1)]	K/W
Forward Voltage at I_F = 200 mA	V_F	1.2	V
[1)] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.			

Characteristics at T_a = 25 °C

Type	Zener Voltage Range [3]			Dynamic Resistance [1]			Reverse Current		Maximum Surge Current [4]	Maximum Regulator Current [2]	Temperature coefficient at I_{ZT}
	V_{Znom}	V_{ZT}	at I_{ZT}	Z_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R			
	(V)	(V)	(mA)	Max. (Ω)	Max. (Ω)	(mA)	Max. (µA)	(V)	I_{ZSM} (mA)	I_{ZM} (mA)	%/°C
1N4727A	3	2.85…3.15	83	10	400	1	150	1	1375	275	-0.08 to -0.05
1N4728A	3.3	3.13…3.47	76	10	400	1	150	1	1375	275	-0.08 to -0.05
1N4729A	3.6	3.42…3.78	69	10	400	1	100	1	1260	252	-0.08 to -0.05
1N4730A	3.9	3.7…4.1	64	9	400	1	100	1	1190	234	-0.07 to -0.02
1N4731A	4.3	4.08…4.52	58	9	400	1	50	1	1070	217	-0.07 to -0.01
1N4732A	4.7	4.46…4.94	53	8	500	1	10	1	970	193	-0.03 to +0.04
1N4733A	5.1	4.84…5.36	49	7	550	1	10	1	890	178	-0.01 to +0.04
1N4734A	5.6	5.32…5.88	45	5	600	1	10	2	810	162	0.10 to +0.045
1N4735A	6.2	5.89…6.51	41	2	700	1	10	3	730	146	+0.01 to +0.055
1N4736A	6.8	6.46…7.14	37	3.5	700	1	10	4	660	133	+0.015 to +0.06
1N4737A	7.5	7.12…7.88	34	4	700	0.5	10	5	605	121	+0.02 to +0.065
1N4738A	8.2	7.79…8.61	31	4.5	700	0.5	10	6	550	110	0.03 to 0.07
1N4739A	9.1	8.64…9.56	28	5	700	0.5	10	7	500	100	0.035 to 0.075
1N4740A	10	9.5…10.5	25	7	700	0.25	10	7.6	454	91	0.04 to 0.08
1N4741A	11	10.45…11.55	23	8	700	0.25	5	8.4	414	83	0.045 to 0.08
1N4742A	12	11.4…12.6	21	9	700	0.25	5	9.1	380	76	0.045 to 0.085
1N4743A	13	12.35…13.65	19	10	700	0.25	5	9.9	344	69	0.05 to 0.085
1N4744A	15	14.25…15.75	17	14	700	0.25	5	11.4	304	61	0.055 to 0.09
1N4745A	16	15.2…16.8	15.5	16	700	0.25	5	12.2	285	57	0.055 to 0.09
1N4746A	18	17.1…18.9	14	20	750	0.25	5	13.7	250	50	0.06 to 0.09
1N4747A	20	19…21	12.5	22	750	0.25	5	15.2	225	45	0.06 to 0.09
1N4748A	22	20.9…23.1	11.5	23	750	0.25	5	16.7	205	41	0.06 to 0.095
1N4749A	24	22.8…25.2	10.5	25	750	0.25	5	18.2	190	38	0.06 to 0.095
1N4750A	27	25.65…28.35	9.5	35	750	0.25	5	20.6	170	34	0.06 to 0.095
1N4751A	30	28.5…31.5	8.5	40	1000	0.25	5	22.8	150	30	0.06 to 0.095
1N4752A	33	31.35…34.65	7.5	45	1000	0.25	5	25.1	135	27	0.06 to 0.095
1N4753A	36	34.2…37.8	7	50	1000	0.25	5	27.4	125	25	0.06 to 0.095
1N4754A	39	37.05…40.95	6.5	60	1000	0.25	5	29.7	115	23	0.06 to 0.095
1N4755A	43	40.85…45.15	6	70	1500	0.25	5	32.7	110	22	0.06 to 0.095
1N4756A	47	44.65…49.35	5.5	80	1500	0.25	5	35.8	95	19	0.06 to 0.095
1N4757A	51	48.45…53.55	5	95	1500	0.25	5	38.8	90	18	0.06 to 0.095
1N4758A	56	53.2…58.8	4.5	110	2000	0.25	5	42.6	80	16	0.06 to 0.095
1N4759A	62	58.9…65.1	4	125	2000	0.25	5	47.1	70	14	0.06 to 0.095
1N4760A	68	64.6…71.4	3.7	150	2000	0.25	5	51.7	65	13	0.06 to 0.095
1N4761A	75	71.25…78.75	3.3	175	2000	0.25	5	56	60	12	0.06 to 0.095

[1] The dynamic resistance is derived from the 60 Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener Current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Dynamic resistance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

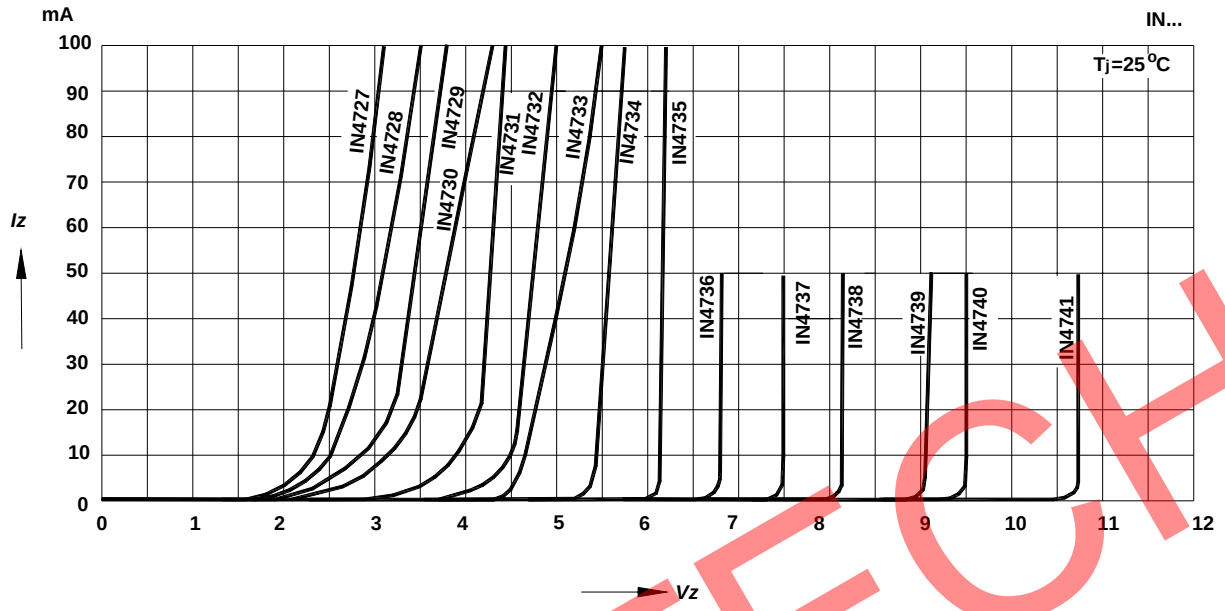
[2] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

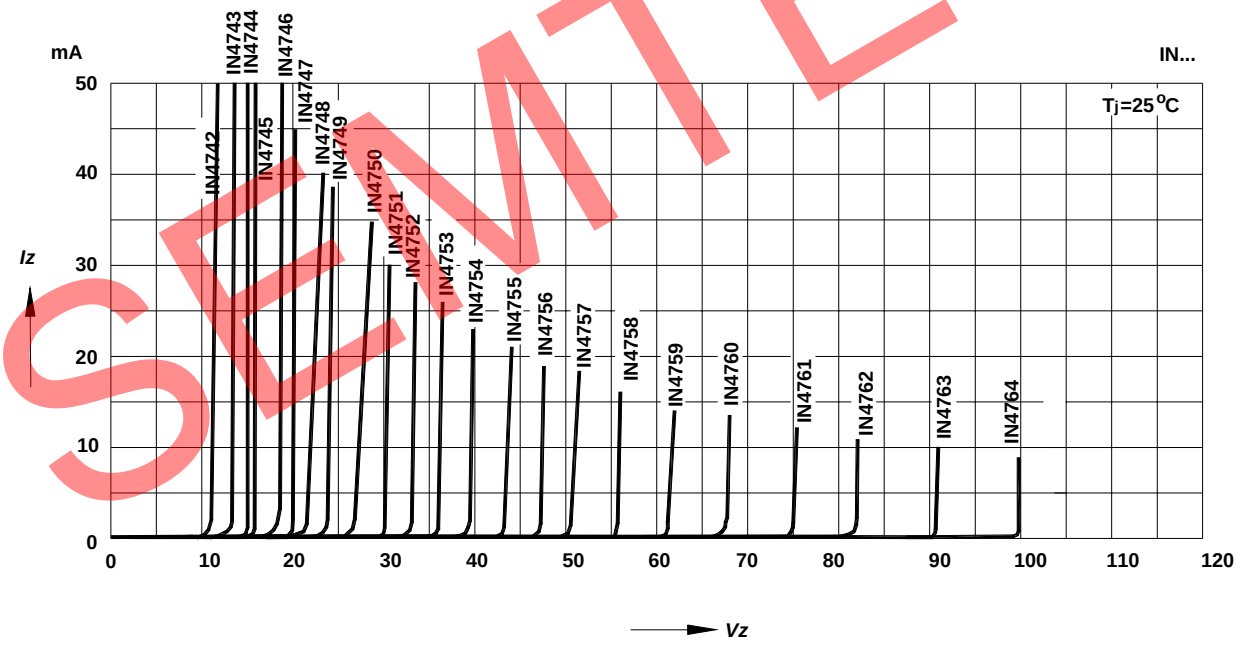
[3] Tested with pulses tp = 20 ms.

[4] 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}.

Breakdowm characteristics

T_j=constant(pulsed)





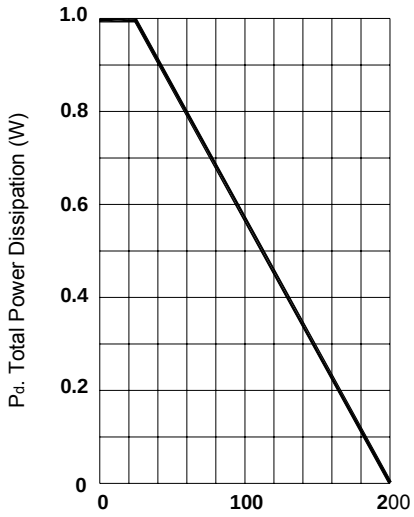


Fig. 1 Power Dissipation vs Ambient Temperature

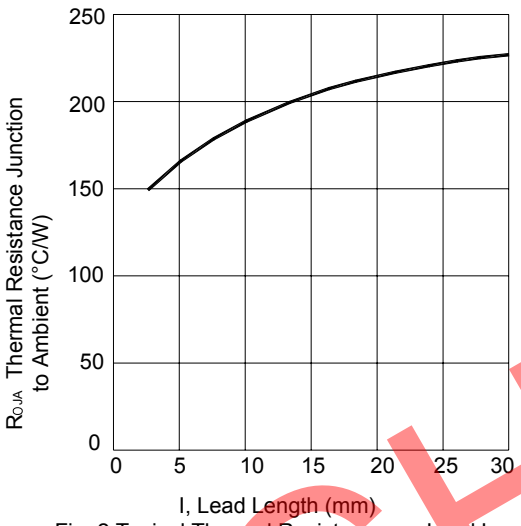


Fig. 2 Typical Thermal Resistance vs. Lead Length

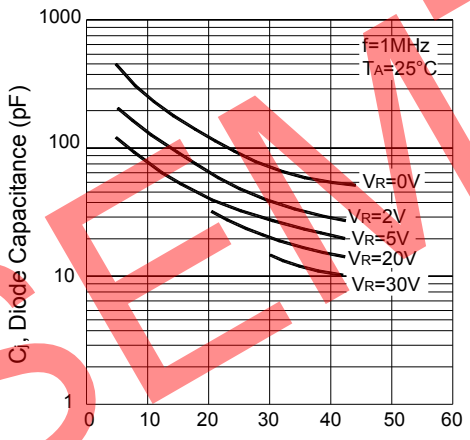


Fig. 3 Junction Capacitance vs Zener Voltage

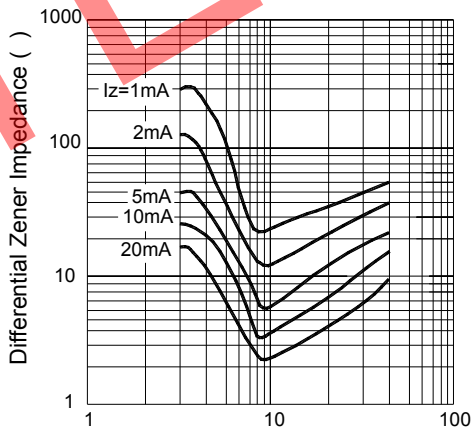


Fig. 4 Typical Zener Impedance vs. Zener Voltage

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