



Silicon Planar Power Zener Diodes

For use in stabilizing and clipping circuits with high power rating. Standard Zener voltage tolerance is $\pm 10\%$. Other tolerances available are upon request.

These diodes are also available in DO-41 case with the type designation 1N4728...1N4761

Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	1 ¹⁾	W
Operating Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	- 65 to + 175	°C

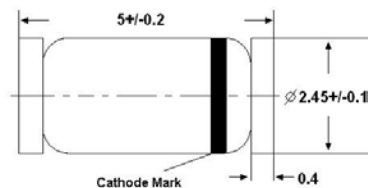
¹⁾ Valid provided that electrodes are kept at ambient temperature.

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	170 ¹⁾	°C/W
Forward Voltage at $I_F = 200$ mA	V_F	1.2	V

¹⁾ Valid provided that electrodes are kept at ambient temperature.

LL-41 Package Information



Glass case MELF
Dimensions in mm



Characteristics at Ta = 25°C

Type	Zener Voltage ³⁾				Dynamic Resistance ¹⁾			Reverse Current		Maximum Surge Current ⁴⁾	Maximum Regulator Current ²⁾
	V _{Znom}	V _Z		at I _{ZT}	Z _{ZT} at I _{ZT}	Z _{ZK}	at I _{ZK}	I _R	at V _R	at T _a = 25°C	
	(V)	Min. (V)	Max. (V)	(mA)	Max. (Ω)	Max. (Ω)	(mA)	Max. (μA)	(V)	I _{ZSM} (mA)	
ZM4728A	3.3	2.97	3.63	76	10	400	1	150	1	1375	275
ZM4729A	3.6	3.24	3.96	69	10	400	1	100	1	1260	252
ZM4730A	3.9	3.51	4.29	64	9	400	1	100	1	1190	234
ZM4731A	4.3	3.87	4.73	58	9	400	1	50	1	1070	217
ZM4732A	4.7	4.23	5.17	53	8	500	1	10	1	970	193
ZM4733A	5.1	4.59	5.61	49	7	550	1	10	1	890	178
ZM4734A	5.6	5.04	6.16	45	5	600	1	10	2	810	162
ZM4735A	6.2	5.58	6.82	41	2	700	1	10	3	730	146
ZM4736A	6.8	6.12	7.48	37	3.5	700	1	10	4	660	133
ZM4737A	7.5	6.75	8.25	34	4	700	0.5	10	5	605	121
ZM4738A	8.2	7.38	9.02	31	4.5	700	0.5	10	6	550	110
ZM4739A	9.1	8.19	10.01	28	5	700	0.5	10	7	500	100
ZM4740A	10	9.00	11.00	25	7	700	0.25	10	7.6	454	91
ZM4741A	11	9.90	12.10	23	8	700	0.25	5	8.4	414	83
ZM4742A	12	10.80	13.20	21	9	700	0.25	5	9.1	380	76
ZM4743A	13	11.70	14.30	19	10	700	0.25	5	9.9	344	69
ZM4744A	15	13.50	16.50	17	14	700	0.25	5	11.4	304	61
ZM4745A	16	14.40	17.60	15.5	16	700	0.25	5	12.2	285	57
ZM4746A	18	16.20	19.80	14	20	750	0.25	5	13.7	250	50
ZM4747A	20	18.00	22.00	12.5	22	750	0.25	5	15.2	225	45
ZM4748A	22	19.80	24.20	11.5	23	750	0.25	5	16.7	205	41
ZM4749A	24	21.60	26.40	10.5	25	750	0.25	5	18.2	190	38
ZM4750A	27	24.30	29.70	9.5	35	750	0.25	5	20.6	170	34
ZM4751A	30	27.00	33.00	8.5	40	1000	0.25	5	22.8	150	30
ZM4752A	33	29.70	36.30	7.5	45	1000	0.25	5	25.1	135	27
ZM4753A	36	32.40	39.60	7	50	1000	0.25	5	27.4	125	25
ZM4754A	39	35.10	42.90	6.5	60	1000	0.25	5	29.7	115	23
ZM4755A	43	38.70	47.30	6	70	1500	0.25	5	32.7	110	22
ZM4756A	47	42.30	51.70	5.5	80	1500	0.25	5	35.8	95	19
ZM4757A	51	45.90	56.10	5	95	1500	0.25	5	38.8	90	18
ZM4758A	56	50.40	61.60	4.5	110	2000	0.25	5	42.6	80	16
ZM4759A	62	55.80	68.20	4	125	2000	0.25	5	47.1	70	14
ZM4760A	68	61.20	74.80	3.7	150	2000	0.25	5	51.7	65	13
ZM4761A	75	67.50	82.50	3.3	175	2000	0.25	5	56	60	12

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 electrodes are kept at ambient temperature.

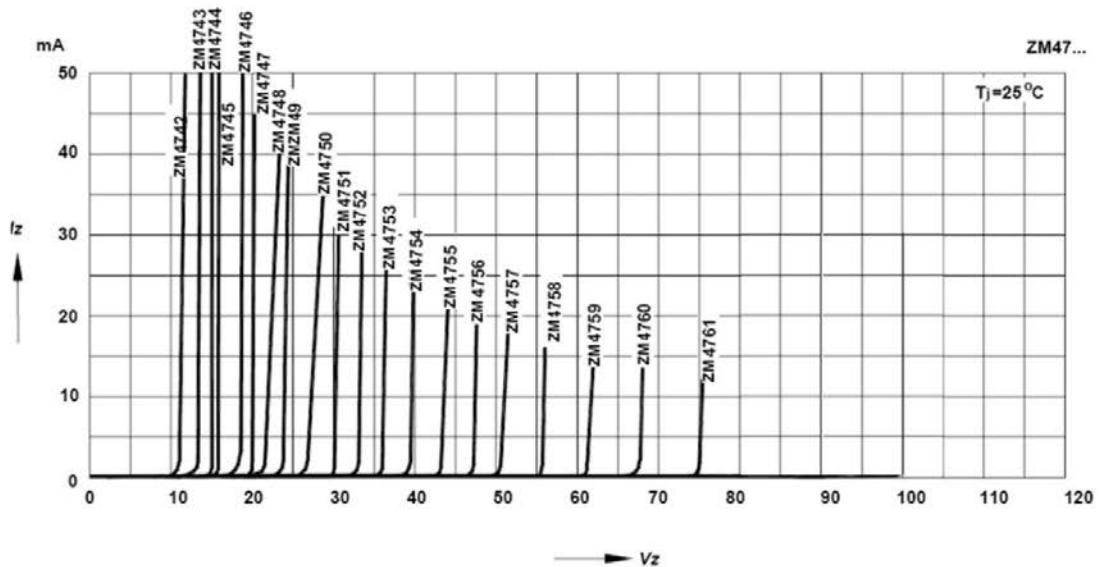
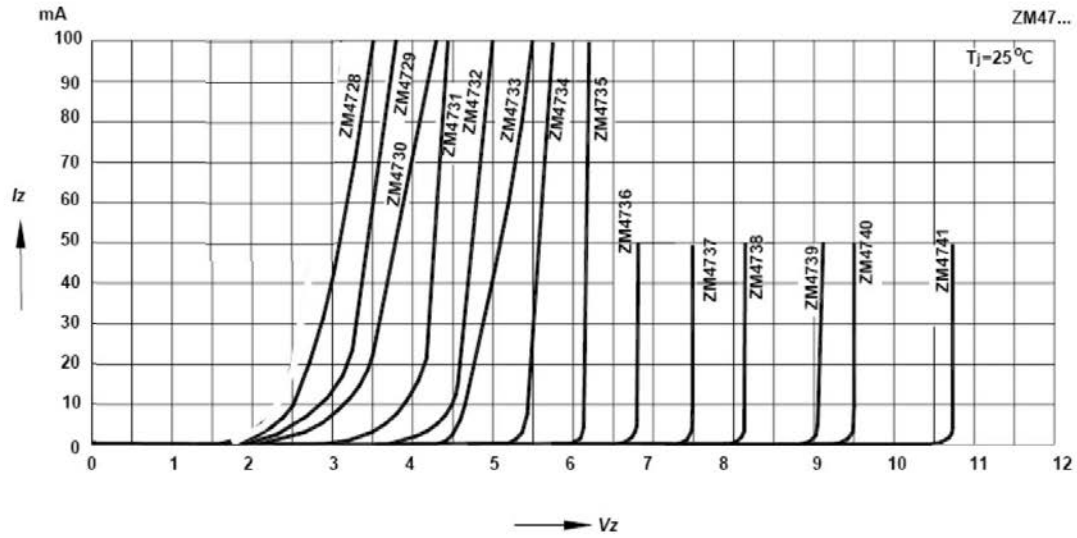
³⁾ Tested with pulses tp = 20 ms.

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}.

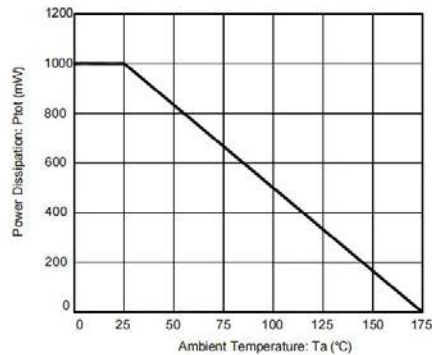


Breakdown characteristics

$T_j = \text{constant (pulsed)}$



Power Dissipation vs Ambient Temperature





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