

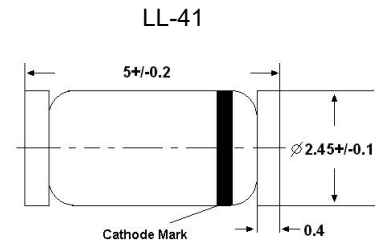
ZM47xxAPF Series

Silicon Planar Power Zener Diodes

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

Features

- Lead Free
- Glass case MELF



Glass case MELF

Dimensions in mm

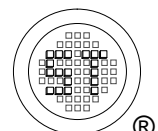
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	1	W
Operating Junction Temperature	T_j	200	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 200	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient ¹⁾	$R_{\theta\text{JA}}$	175	$^\circ\text{C/W}$

¹⁾ Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.



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Characteristics at $T_a = 25^\circ\text{C}$ (V_F max : 1.2 V at $I_F = 200$ mA)

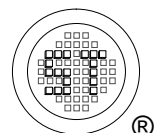
Type	Zener Voltage Range ³⁾			Dynamic Resistance ¹⁾			Reverse Current		Maximum Surge Current ⁴⁾	Maximum Regulator Current ²⁾
	V_{Znom}	V_{ZT}	at I_{ZT}	Z_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R		
	(V)	(V)	(mA)	Max. (Ω)	Max. (Ω)	(mA)	Max. (μA)	(V)	I_{ZSM} (mA)	I_{ZM} (mA)
ZM4727APF	3	2.85...3.15	83	10	400	1	150	1	1375	275
ZM4728APF	3.3	3.13...3.47	76	10	400	1	150	1	1375	275
ZM4729APF	3.6	3.42...3.78	69	10	400	1	100	1	1260	252
ZM4730APF	3.9	3.7...4.1	64	9	400	1	100	1	1190	234
ZM4731APF	4.3	4.08...4.52	58	9	400	1	50	1	1070	217
ZM4732APF	4.7	4.46...4.94	53	8	500	1	10	1	970	193
ZM4733APF	5.1	4.84...5.36	49	7	550	1	10	1	890	178
ZM4734APF	5.6	5.32...5.88	45	5	600	1	10	2	810	162
ZM4735APF	6.2	5.89...6.51	41	2	700	1	10	3	730	146
ZM4736APF	6.8	6.46...7.14	37	3.5	700	1	10	4	660	133
ZM4737APF	7.5	7.12...7.88	34	4	700	0.5	10	5	605	121
ZM4738APF	8.2	7.79...8.61	31	4.5	700	0.5	10	6	550	110
ZM4739APF	9.1	8.64...9.56	28	5	700	0.5	10	7	500	100
ZM4740APF	10	9.5...10.5	25	7	700	0.25	10	7.6	454	91
ZM4741APF	11	10.45...11.55	23	8	700	0.25	5	8.4	414	83
ZM4742APF	12	11.4...12.6	21	9	700	0.25	5	9.1	380	76
ZM4743APF	13	12.35...13.65	19	10	700	0.25	5	9.9	344	69
ZM4744APF	15	14.25...15.75	17	14	700	0.25	5	11.4	304	61
ZM4745APF	16	15.2...16.8	15.5	16	700	0.25	5	12.2	285	57
ZM4746APF	18	17.1...18.9	14	20	750	0.25	5	13.7	250	50
ZM4747APF	20	19...21	12.5	22	750	0.25	5	15.2	225	45
ZM4748APF	22	20.9...23.1	11.5	23	750	0.25	5	16.7	205	41
ZM4749APF	24	22.8...25.2	10.5	25	750	0.25	5	18.2	190	38
ZM4750APF	27	25.65...28.35	9.5	35	750	0.25	5	20.6	170	34
ZM4751APF	30	28.5...31.5	8.5	40	1000	0.25	5	22.8	150	30
ZM4752APF	33	31.35...34.65	7.5	45	1000	0.25	5	25.1	135	27
ZM4753APF	36	34.2...37.8	7	50	1000	0.25	5	27.4	125	25
ZM4754APF	39	37.05...40.95	6.5	60	1000	0.25	5	29.7	115	23
ZM4755APF	43	40.85...45.15	6	70	1500	0.25	5	32.7	110	22
ZM4756APF	47	44.65...49.35	5.5	80	1500	0.25	5	35.8	95	19
ZM4757APF	51	48.45...53.55	5	95	1500	0.25	5	38.8	90	18
ZM4758APF	56	53.2...58.8	4.5	110	2000	0.25	5	42.6	80	16
ZM4759APF	62	58.9...65.1	4	125	2000	0.25	5	47.1	70	14
ZM4760APF	68	64.6...71.4	3.7	150	2000	0.25	5	51.7	65	13
ZM4761APF	75	71.25...78.75	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 leads at a distance of 8 mm from case are kept at ambient temperature.

³⁾ Tested with pulses $t_p = 20$ 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} .



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Electrical Characteristics Curves

Fig 1. Zener Characteristics Curve

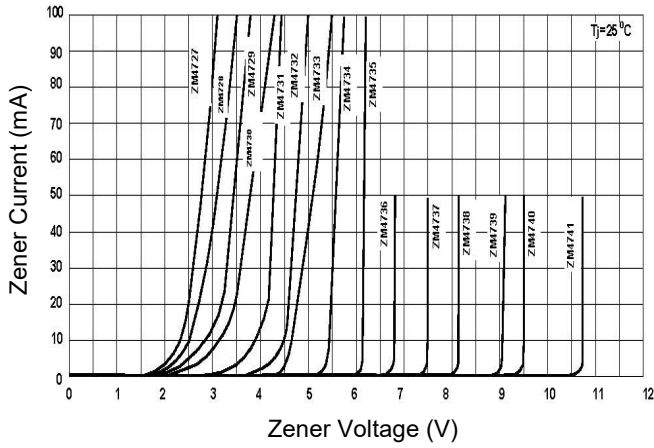


Fig 2. Zener Characteristics Curve

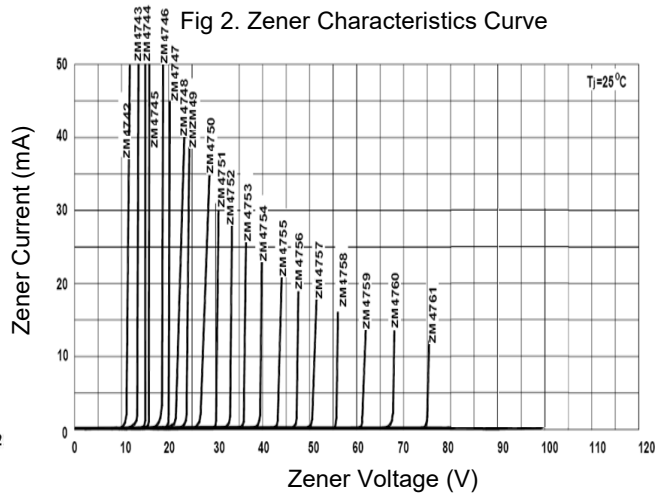
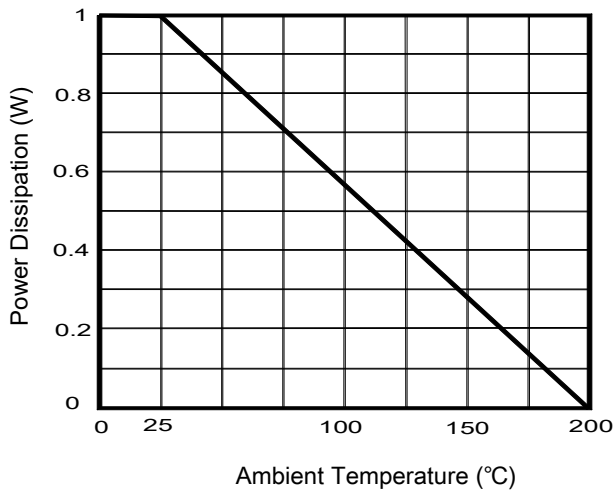


Fig 3. Power Derating Curve



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