

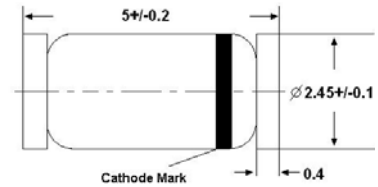
# ZM4727PF...ZM4761PF

## Silicon Planar Power Zener Diodes

for use in stabilizing and clipping circuits with high power rating. Standard Zener voltage tolerance is  $\pm 10\%$ . Add suffix "A" for  $\pm 5\%$  tolerance and suffix "B" for  $\pm 2\%$  tolerance. Other tolerances available are upon request.

These diodes are also available in DO-41 case with the type designation 1N4727...1N4761

LL-41



Glass case MELF  
Dimensions in mm

### Features

- Lead Free

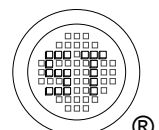
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation <sup>1)</sup>	$P_{\text{tot}}$	1	W
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	- 65 to + 175	$^\circ\text{C}$

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient <sup>1)</sup>	$R_{\theta\text{JA}}$	150	$^\circ\text{C}/\text{W}$

<sup>1)</sup> Valid provided that electrodes 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)

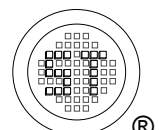
Type	Zener Voltage <sup>3)</sup>		Dynamic Resistance <sup>1)</sup>			Reverse Current		Maximum Surge Current <sup>4)</sup>	Maximum Regulator Current <sup>2)</sup>
	$V_{Znom}$	at $I_{ZT}$	$Z_{ZT}$	$Z_{ZK}$	at $I_{ZK}$	$I_R$	at $V_R$	at $T_a = 25^\circ\text{C}$	
	(V)	(mA)	Max. ( $\Omega$ )	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)	$I_{ZSM}$ (mA)	$I_{ZM}$ (mA)
ZM4727PF	3	83	10	400	1	150	1	1375	275
ZM4728PF	3.3	76	10	400	1	150	1	1375	275
ZM4729PF	3.6	69	10	400	1	100	1	1260	252
ZM4730PF	3.9	64	9	400	1	100	1	1190	234
ZM4731PF	4.3	58	9	400	1	50	1	1070	217
ZM4732PF	4.7	53	8	500	1	10	1	970	193
ZM4733PF	5.1	49	7	550	1	10	1	890	178
ZM4734PF	5.6	45	5	600	1	10	2	810	162
ZM4735PF	6.2	41	2	700	1	10	3	730	146
ZM4736PF	6.8	37	3.5	700	1	10	4	660	133
ZM4737PF	7.5	34	4	700	0.5	10	5	605	121
ZM4738PF	8.2	31	4.5	700	0.5	10	6	550	110
ZM4739PF	9.1	28	5	700	0.5	10	7	500	100
ZM4740PF	10	25	7	700	0.25	10	7.6	454	91
ZM4741PF	11	23	8	700	0.25	5	8.4	414	83
ZM4742PF	12	21	9	700	0.25	5	9.1	380	76
ZM4743PF	13	19	10	700	0.25	5	9.9	344	69
ZM4744PF	15	17	14	700	0.25	5	11.4	304	61
ZM4745PF	16	15.5	16	700	0.25	5	12.2	285	57
ZM4746PF	18	14	20	750	0.25	5	13.7	250	50
ZM4747PF	20	12.5	22	750	0.25	5	15.2	225	45
ZM4748PF	22	11.5	23	750	0.25	5	16.7	205	41
ZM4749PF	24	10.5	25	750	0.25	5	18.2	190	38
ZM4750PF	27	9.5	35	750	0.25	5	20.6	170	34
ZM4751PF	30	8.5	40	1000	0.25	5	22.8	150	30
ZM4752PF	33	7.5	45	1000	0.25	5	25.1	135	27
ZM4753PF	36	7	50	1000	0.25	5	27.4	125	25
ZM4754PF	39	6.5	60	1000	0.25	5	29.7	115	23
ZM4755PF	43	6	70	1500	0.25	5	32.7	110	22
ZM4756PF	47	5.5	80	1500	0.25	5	35.8	95	19
ZM4757PF	51	5	95	1500	0.25	5	38.8	90	18
ZM4758PF	56	4.5	110	2000	0.25	5	42.6	80	16
ZM4759PF	62	4	125	2000	0.25	5	47.1	70	14
ZM4760PF	68	3.7	150	2000	0.25	5	51.7	65	13
ZM4761PF	75	3.3	175	2000	0.25	5	56	60	12

<sup>1)</sup> 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.

<sup>2)</sup> Valid provided that electrodes are kept at ambient temperature.

<sup>3)</sup> Tested with pulses  $t_p = 20$  ms.

<sup>4)</sup> 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

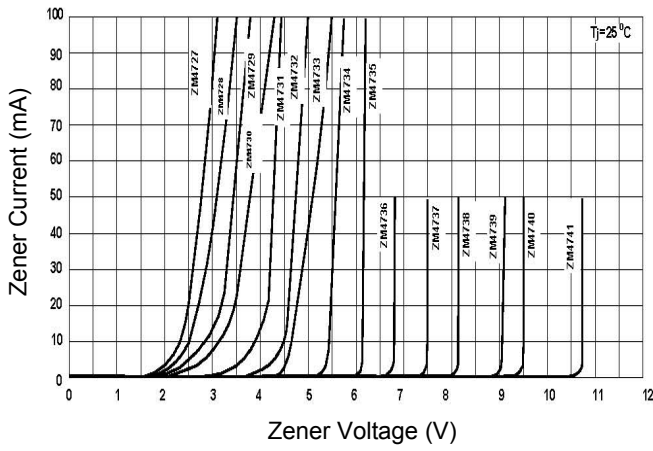


Fig 2. Zener Characteristics Curve

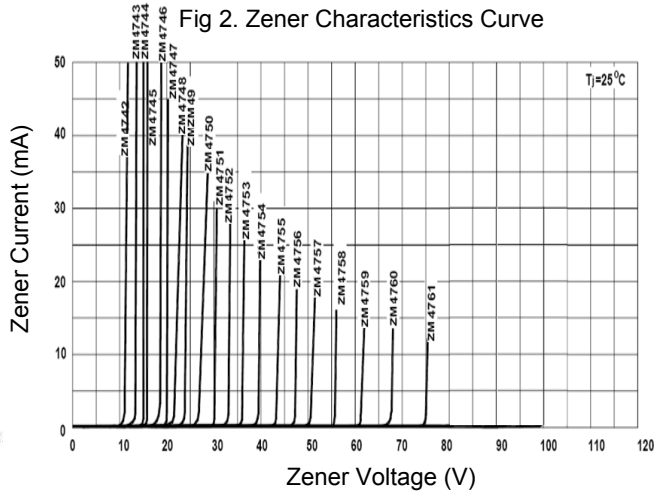
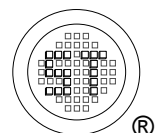
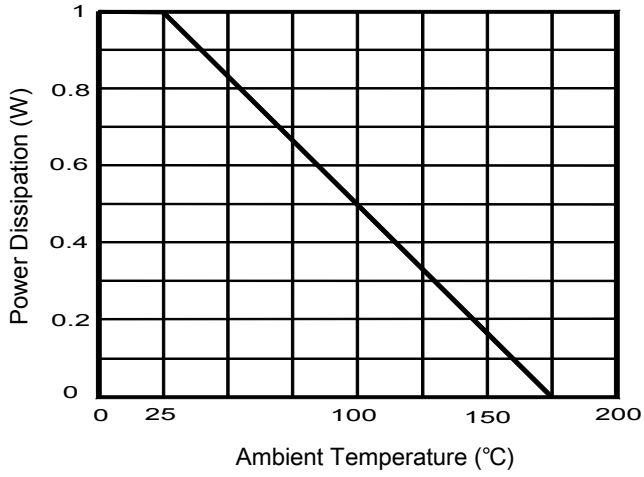


Fig 3. Power Derating Curve



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