

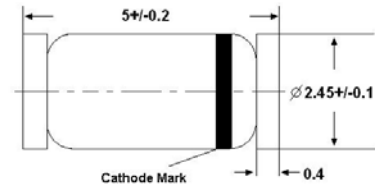
# ZM4728...ZM4756-M

## 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 1N4728...1N4761

LL-41



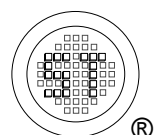
Glass case MELF  
Dimensions in mm

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

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{\text{tot}}$	1 <sup>1)</sup>	W
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	- 65 to + 175	$^\circ\text{C}$
<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.			

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

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	$R_{\theta\text{JA}}$	170 <sup>1)</sup>	K/W
Forward Voltage at $I_F = 200\text{ mA}$	$V_F$	1.2	V
<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.			



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## Characteristics at $T_a = 25\text{ °C}$

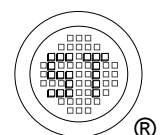
Type	Zener Voltage <sup>3)</sup>		Dynamic Resistance <sup>1)</sup>				Reverse Current		Maximum Surge Current <sup>4)</sup>	Maximum Regulator Current <sup>2)</sup>
	$V_{Znom}$	at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$Z_{ZK}$	at $I_{ZK}$	$I_R$	at $V_R$	at $T_a = 25\text{ °C}$	
	(V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu$ A)	(V)	$I_{ZSM}$ (mA)	$I_{ZM}$ (mA)
ZM4728	3.3	76	10	76	400	1	150	1	1375	275
ZM4729	3.6	69	10	69	400	1	100	1	1260	252
ZM4730	3.9	64	9	64	400	1	100	1	1190	234
ZM4731	4.3	58	9	58	400	1	50	1	1070	217
ZM4732	4.7	53	8	53	500	1	10	1	970	193
ZM4733	5.1	49	7	49	550	1	10	1	890	178
ZM4734	5.6	45	5	45	600	1	10	2	810	162
ZM4735	6.2	41	2	41	700	1	10	3	730	146
ZM4736	6.8	37	3.5	37	700	1	10	4	660	133
ZM4737	7.5	34	4	34	700	0.5	10	5	605	121
ZM4738	8.2	31	4.5	31	700	0.5	10	6	550	110
ZM4739	9.1	28	5	28	700	0.5	10	7	500	100
ZM4740	10	25	7	25	700	0.25	10	7.6	454	91
ZM4741	11	23	8	23	700	0.25	5	8.4	414	83
ZM4742	12	21	9	21	700	0.25	5	9.1	380	76
ZM4743	13	19	10	19	700	0.25	5	9.9	344	69
ZM4744	15	17	14	17	700	0.25	5	11.4	304	61
ZM4745	16	15.5	16	15.5	700	0.25	5	12.2	285	57
ZM4746	18	14	20	14	750	0.25	5	13.7	250	50
ZM4747	20	12.5	22	12.5	750	0.25	5	15.2	225	45
ZM4748	22	11.5	23	11.5	750	0.25	5	16.7	205	41
ZM4749	24	10.5	25	10.5	750	0.25	5	18.2	190	38
ZM4750	27	9.5	35	9.5	750	0.25	5	20.6	170	34
ZM4751	30	8.5	40	8.5	1000	0.25	5	22.8	150	30
ZM4752	33	7.5	45	7.5	1000	0.25	5	25.1	135	27
ZM4753	36	7	50	7	1000	0.25	5	27.4	125	25
ZM4754	39	6.5	60	6.5	1000	0.25	5	29.7	115	23
ZM4755	43	6	70	6	1500	0.25	5	32.7	110	22
ZM4756	47	5.5	80	5.5	1500	0.25	5	35.8	95	19

<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  $t_p = 20\text{ ms}$ .

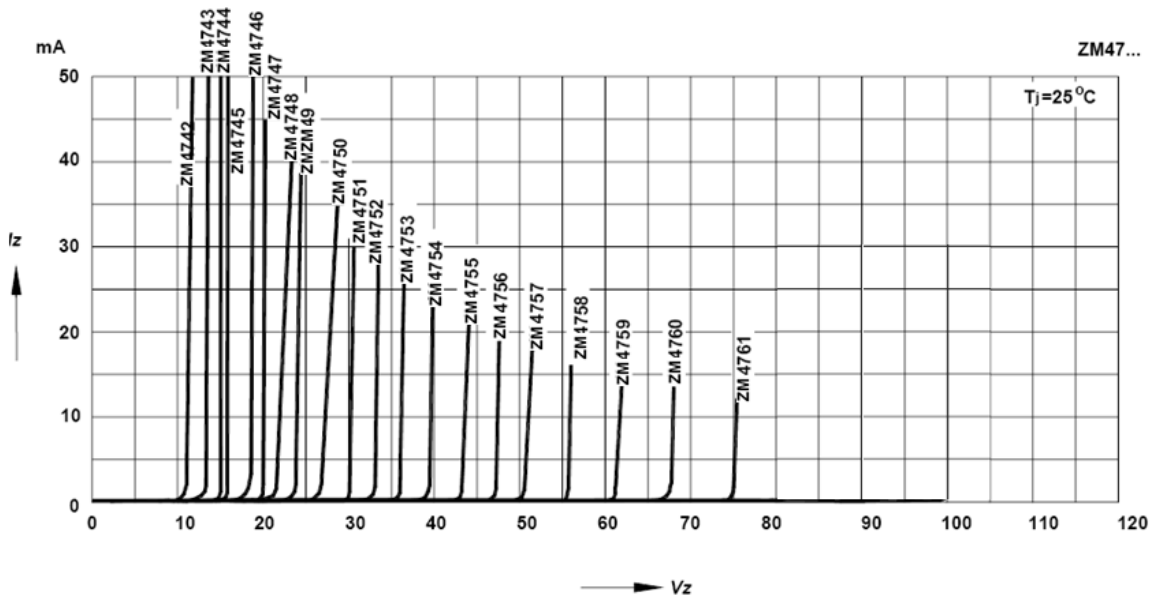
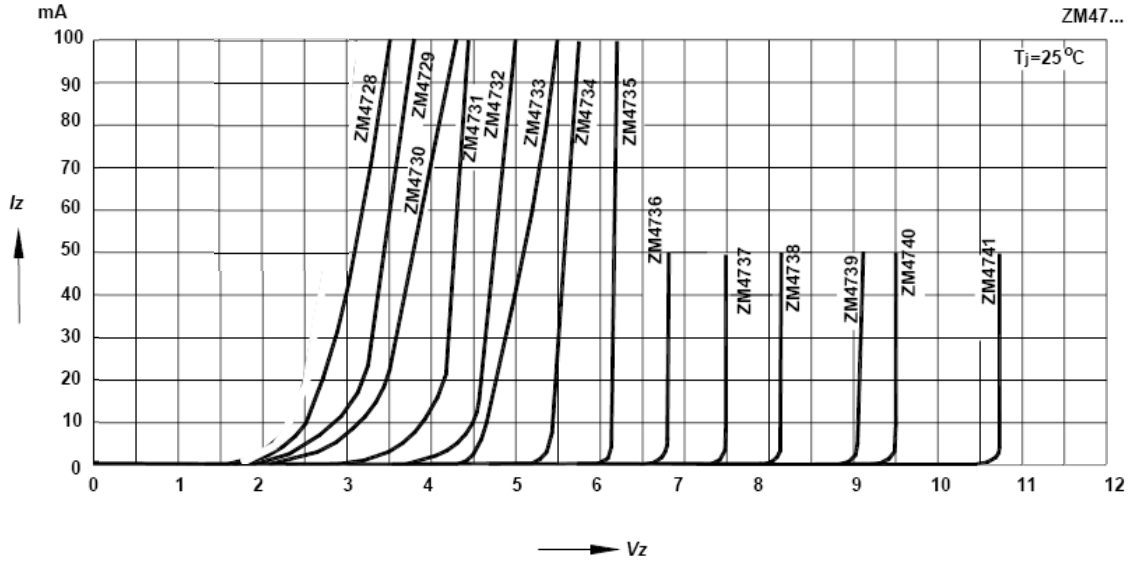
<sup>4)</sup> The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current  $I_{ZT}$ .



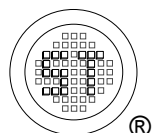
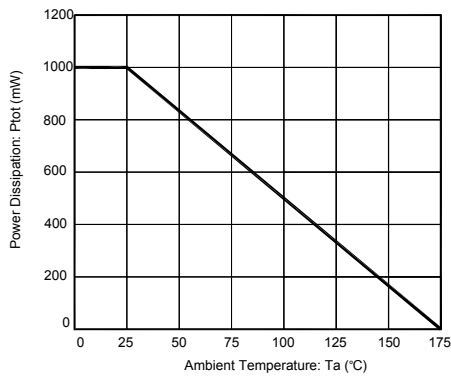
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## Breakdown characteristics

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



Power Dissipation vs Ambient Temperature



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