

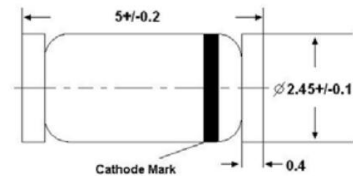


Silicon Planar Power Zener Diodes

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

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

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

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

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

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



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

Type	Zener Voltage ³⁾		Dynamic Resistance ¹⁾			Reverse Current		Maximum Surge Current ⁴⁾	Maximum Regulator Current ²⁾
	V_{Znom}	at I_{ZT}	Z_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R	at $T_a = 25\text{ }^\circ\text{C}$	
	(V)	(mA)	Max. (Ω)	Max. (Ω)	(mA)	Max. (μA)	(V)	I_{ZSM} (mA)	I_{ZM} (mA)
ZM4728	3.3	76	10	400	1	150	1	1375	275
ZM4729	3.6	69	10	400	1	100	1	1260	252
ZM4730	3.9	64	9	400	1	100	1	1190	234
ZM4731	4.3	58	9	400	1	50	1	1070	217
ZM4732	4.7	53	8	500	1	10	1	970	193
ZM4733	5.1	49	7	550	1	10	1	890	178
ZM4734	5.6	45	5	600	1	10	2	810	162
ZM4735	6.2	41	2	700	1	10	3	730	146
ZM4736	6.8	37	3.5	700	1	10	4	660	133
ZM4737	7.5	34	4	700	0.5	10	5	605	121
ZM4738	8.2	31	4.5	700	0.5	10	6	550	110
ZM4739	9.1	28	5	700	0.5	10	7	500	100
ZM4740	10	25	7	700	0.25	10	7.6	454	91
ZM4741	11	23	8	700	0.25	5	8.4	414	83
ZM4742	12	21	9	700	0.25	5	9.1	380	76
ZM4743	13	19	10	700	0.25	5	9.9	344	69
ZM4744	15	17	14	700	0.25	5	11.4	304	61
ZM4745	16	15.5	16	700	0.25	5	12.2	285	57
ZM4746	18	14	20	750	0.25	5	13.7	250	50
ZM4747	20	12.5	22	750	0.25	5	15.2	225	45
ZM4748	22	11.5	23	750	0.25	5	16.7	205	41
ZM4749	24	10.5	25	750	0.25	5	18.2	190	38
ZM4750	27	9.5	35	750	0.25	5	20.6	170	34
ZM4751	30	8.5	40	1000	0.25	5	22.8	150	30
ZM4752	33	7.5	45	1000	0.25	5	25.1	135	27
ZM4753	36	7	50	1000	0.25	5	27.4	125	25
ZM4754	39	6.5	60	1000	0.25	5	29.7	115	23
ZM4755	43	6	70	1500	0.25	5	32.7	110	22
ZM4756	47	5.5	80	1500	0.25	5	35.8	95	19
ZM4757	51	5	95	1500	0.25	5	38.8	90	18
ZM4758	56	4.5	110	2000	0.25	5	42.6	80	16
ZM4759	62	4	125	2000	0.25	5	47.1	70	14
ZM4760	68	3.7	150	2000	0.25	5	51.7	65	13
ZM4761	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 electrodes are kept at ambient temperature.

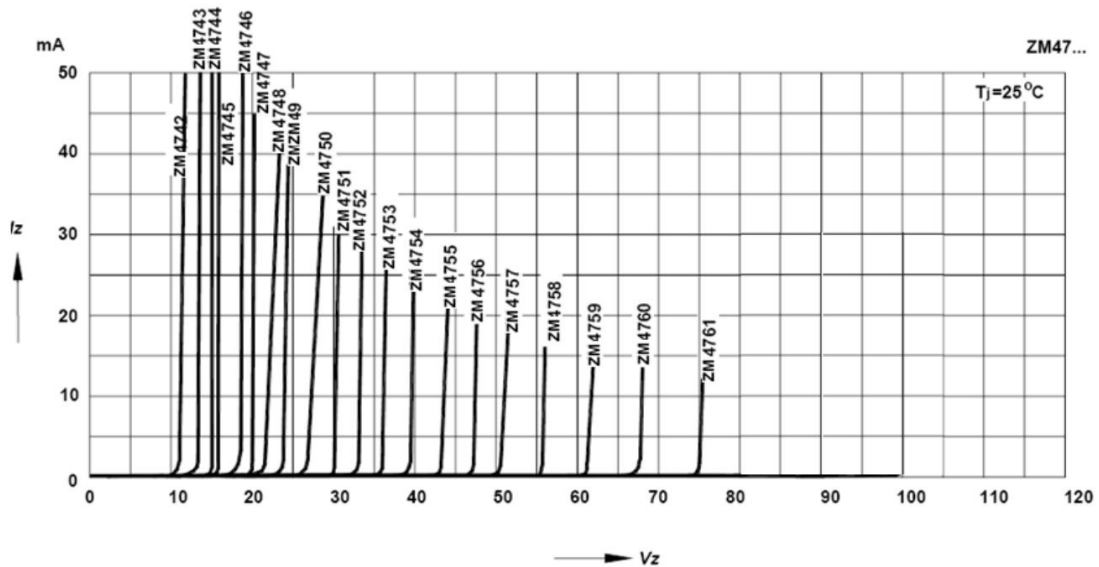
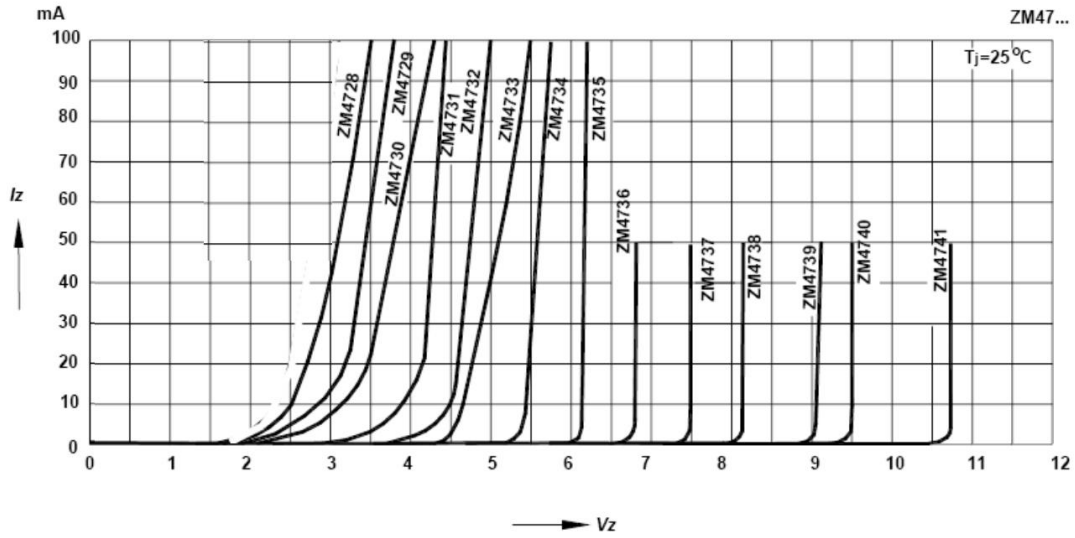
³⁾ Tested with pulses $t_p = 20\text{ ms}$.

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} .

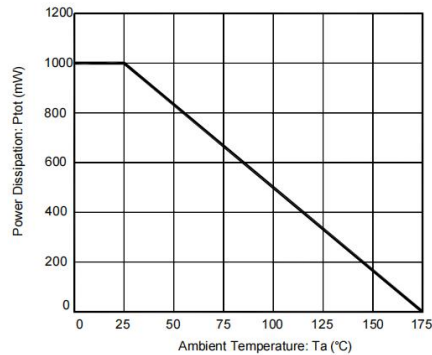


Breakdown characteristics

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



Power Dissipation vs Ambient Temperature





Attention

- Any and all HUA XUAN YANG ELECTRONICS products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your HUA XUAN YANG ELECTRONICS representative nearest you before using any HUA XUAN YANG ELECTRONICS products described or contained herein in such applications.
- HUA XUAN YANG ELECTRONICS assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein.
- Specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- HUA XUAN YANG ELECTRONICS CO.,LTD. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all HUA XUAN YANG ELECTRONICS products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of HUA XUAN YANG ELECTRONICS CO.,LTD.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. HUA XUAN YANG ELECTRONICS believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the HUA XUAN YANG ELECTRONICS product that you intend to use.