Zener Voltage Range: 3.9 to 100Volts, 1W Zener Diodes

Features

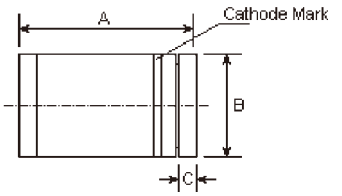
Silicon Planar Power Zener Diodes
for use in stabilizing and clipping circuits with high power rating.
The Zener voltages are graded according to the international
E 24 standard. Smaller voltage tolerances on request.

These diodes are also available in DO-41 case with the type designation ZPY1 thru ZPY100.

These diodes are delivered taped.
Details see “Taping”.

Weight approx. : 0.25g

MELF



DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.189	0.205	4.8	5.2	
B	0.092	0.100	2.35	2.55	ϕ
C	0.016	-	0.4	-	

Absolute Maximum Ratings (T_a=25℃)

	Symbols	Values	Units
Zener current see Table "Characteristics"			
Power dissipation at T_{amb}=25℃	P_{tot}	1 [1]	W
Junction temperature	T_j	175	℃
Storage temperature range	T_s	-55 to +175	℃

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

Characteristics at T_{amb}=25℃

	Symbols	Min.	Typ.	Max.	Units
Thermal resistance junction to ambient Air	R_{thA}	-	-	170 [1]	K/W

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

Type	Zener voltage [2] at I_z test	Dynamic resistance at I_z test f=1KHz	Temp. coeff. of Zener volt. at I_z test	Test current	Reverse voltage at I_R=0.5uA	Admissible Zener current [1] at t_{amb}=25℃
	V_Z	r_{ZJ}	α_{VZ}	I_z test	V_R	I_z
	V	Ω	10^{-4}/K	mA	V	mA
ZMY1 [3]	0.65 ... 0.75	6.5(<8)	-26 ... -23	5	-	406
ZMY3.9	3.7 ... 4.1	4(<7)	-7 ... +2	100	-	203
ZMY4.3	4.0 ... 4.6	4(<7)	-7 ... +3	100	-	182
ZMY4.7	4.4 ... 5.0	4(<7)	-7 ... +4	100	-	165
ZMY5.1	4.8 ... 5.4	2(<5)	-6 ... +5	100	>0.7	150
ZMY5.6	5.2 ... 6.0	1(<2)	-3 ... +5	100	>1.5	135
ZMY6.2	5.8 ... 6.6	1(<2)	-1 ... +6	100	>2.0	128
ZMY6.8	6.4 ... 7.2	1(<2)	0 ... 7	100	>3.0	110
ZMY7.5	7.0 ... 7.9	1(<2)	0 ... 7	100	>5.0	100
ZMY8.2	7.7 ... 8.7	1(<2)	+3 ... +8	100	>6.0	89
ZMY9.1	8.5 ... 9.6	2(<4)	+3 ... +8	50	>7.0	82
ZMY10	9.4 ... 10.6	2(<4)	+5 ... +9	50	>7.5	74
ZMY11	10.4 ... 11.6	3(<7)	+5 ... +10	50	>8.5	66
ZMY12	11.4 ... 12.7	3(<7)	+5 ... +10	50	>9.0	60
ZMY13	12.4 ... 14.1	4(<9)	+5 ... +10	50	>10	55
ZMY15	13.8 ...15.8	4(<9)	+5 ... +10	50	>11	49
ZMY16	15.3 ... 17.1	5(<10)	+7 ... +11	25	>12	44
ZMY18	16.8 ... 19.1	5(<11)	+7 ... +11	25	>14	40
ZMY20	18.8 ... 21.2	6(<12)	+7 ... +11	25	>15	36
ZMY22	20.8 ... 23.3	7(<13)	+7 ... +11	25	>17	34
ZMY24	22.8 ... 25.6	8(<14)	+7 ... +12	25	>18	29
ZMY27	25.1 ... 28.9	9(<15)	+7 ... +12	25	>20	27
ZMY30	28 ... 32	10(<20)	+7 ... +12	25	>22.5	25
ZMY33	31 ... 35	11(<20)	+7 ... +12	25	>25	22
ZMY36	34 ... 38	25(<60)	+7 ... +12	10	>27	20
ZMY39	37 ... 41	30(<60)	+8 ... +12	10	>29	18
ZMY43	40 ... 46	35(<80)	+8 ... +13	10	>32	17
ZMY47	44 ... 50	40(<80)	+8 ... +13	10	>35	15
ZMY51	48 ... 54	45(<100)	+8 ... +13	10	>38	14
ZMY56	52 ... 60	50(<100)	+8 ... +13	10	>42	13
ZMY62	58 ... 66	60(<130)	+8 ... +13	10	>47	11
ZMY68	64 ... 72	65(<130)	+8 ... +13	10	>51	10
ZMY75	70 ... 79	70(<160)	+8 ... +13	10	>56	9
ZMY82	77 ... 88	80(<160)	+8 ... +13	10	>61	8
ZMY91	85 ... 96	120(<250)	+9 ... +13	5	>68	7.5
ZMY100	94 ... 106	130(<250)	+9 ... +13	5	>75	7

Notes:

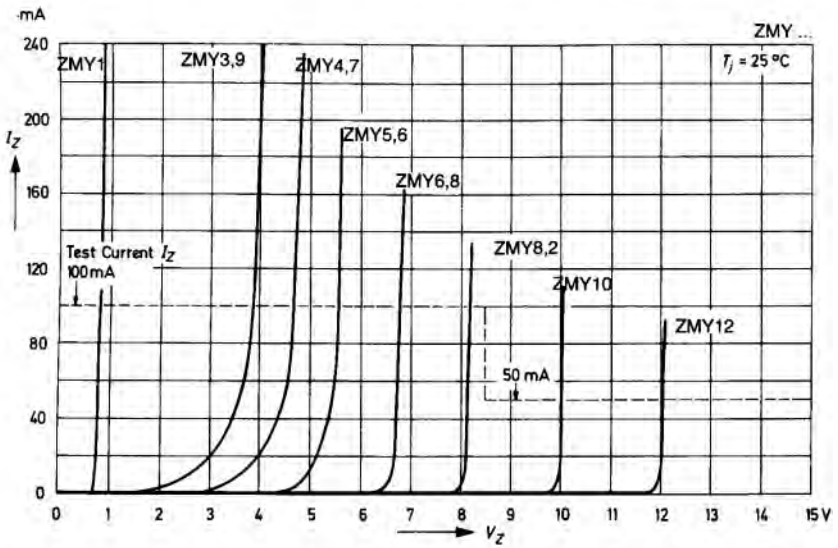
(1) Valid provided that electrodes are kept at ambient temperature.

(2) Tested with pulses tp=20ms.

(3) The ZMY1 is a silicon diode operated in forward direction. Hence, the index of all characteristics and maximum ratings should be “F” instead of “Z”. Connect the cathode terminal to the negative pole.

RATINGS AND CHARACTERISTIC CURVES

Breakdown characteristics
T_j = constant (pulsed)



Breakdown characteristics
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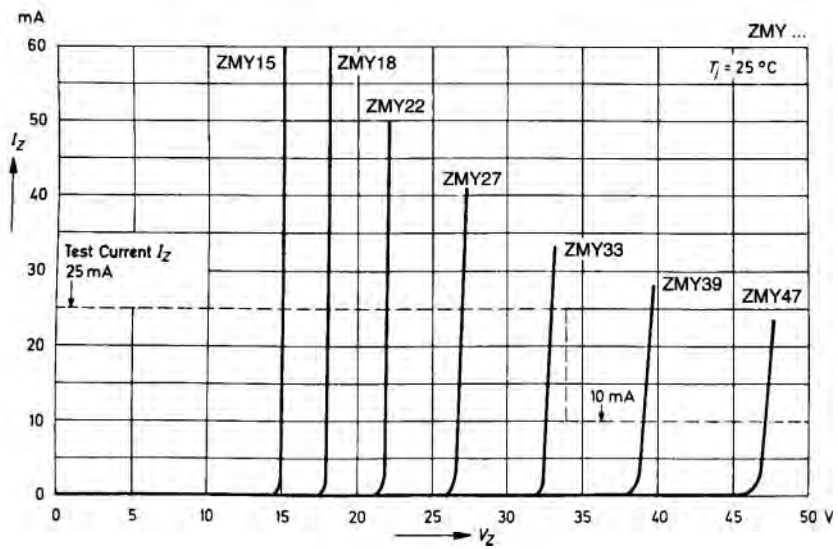

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Breakdown characteristics
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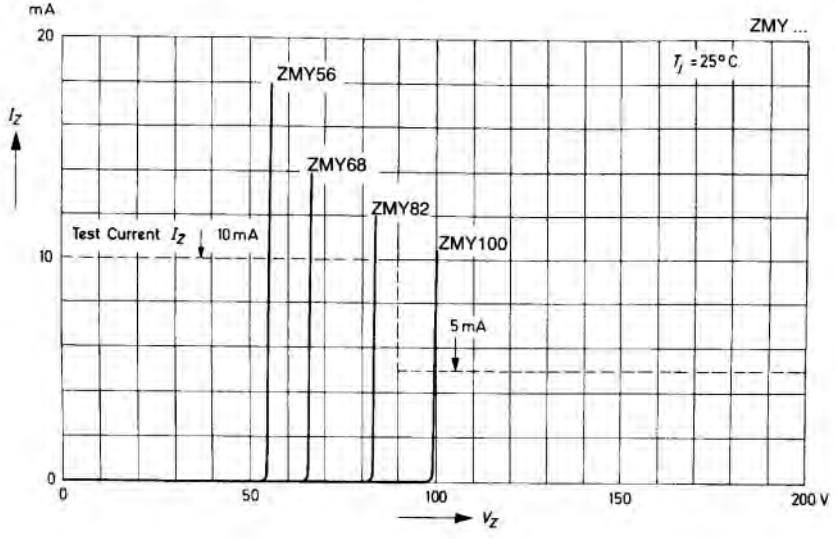
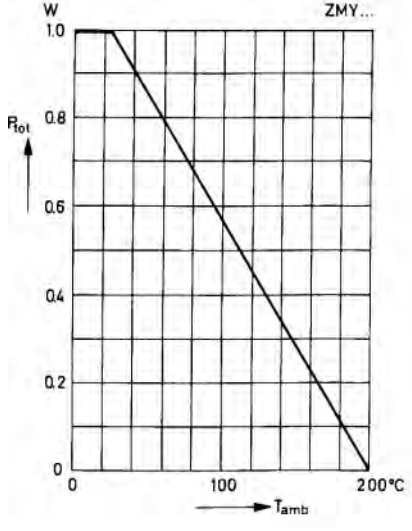
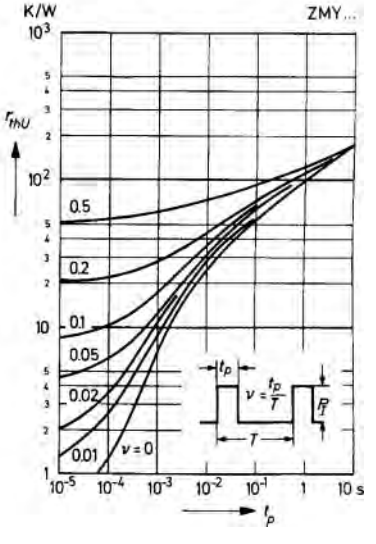


Admissible power dissipation versus ambient temperature
Valid provided that electrodes are kept at ambient temperature

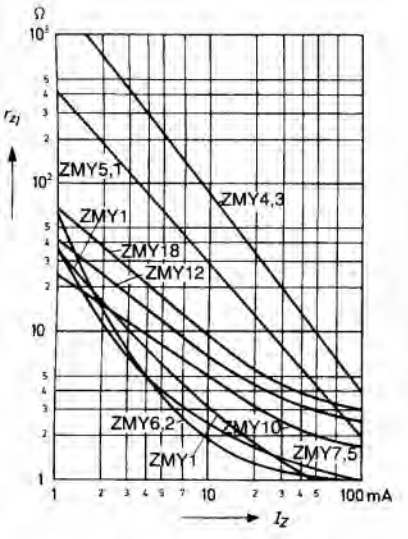


Pulse thermal resistance versus pulse duration
Valid provided that electrodes are kept at ambient temperature

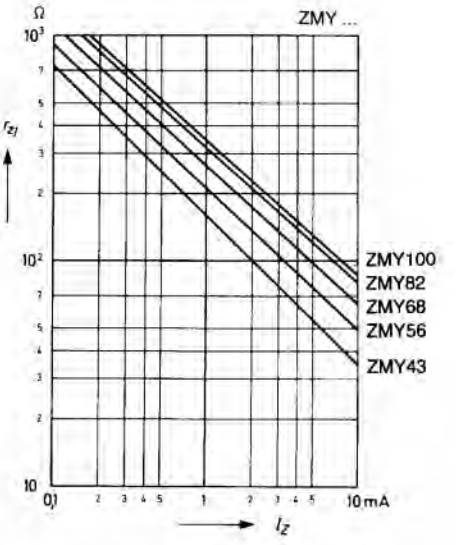


RATINGS AND CHARACTERISTIC CURVES

Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current