



Zener Voltage Range: 3.3 to 100Volts, 1W Zener Diodes

**Features**

**Silicon Planar Power Zener Diodes**

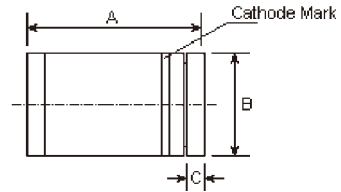
for use in stabilizing and clipping circuits with high power rating. The Zener voltages are graded according to the international E 24 standard. Smaller voltage tolerances on request.

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

	Symbols	Values	Units
Zener current see Table "Characteristics"			
Power dissipation at $T_{amb}=25^{\circ}\text{C}$	$P_{tot}$	1 <sup>1)</sup>	W
Junction temperature	$T_j$	175	$^{\circ}\text{C}$
Storage temperature range	$T_s$	-55 to +175	$^{\circ}\text{C}$

Note:

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

**Characteristics** at  $T_{amb}=25^{\circ}\text{C}$

	Symbols	Min.	Typ.	Max.	Units
Thermal resistance junction to ambient Air	$R_{thA}$	-	-	170 <sup>1)</sup>	K/W

Note:

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



# ZMY3.3 ~ ZMY100

Type	Zener voltage <sup>2)</sup> at I <sub>z</sub> test	Dynamic resistance at I <sub>z</sub> test f=1KHz	Temp. coeff. of Zener volt. at I <sub>z</sub> test	Test current	Reverse voltage at I <sub>R</sub> =0.5uA	Admissible Zener current <sup>1)</sup> at t <sub>amb</sub> =25°C
	V <sub>z</sub>	r <sub>zj</sub>	α <sub>vz</sub>	I <sub>z</sub> test	V <sub>R</sub>	I <sub>z</sub>
	V	Ω	10 <sup>-4</sup> /K	mA	V	mA
ZMY3.3	3.1 ... 3.5	5(<8)	-8 ... +1	100	>1 @150uA	286
ZMY3.6	3.4 ... 3.8	5(<8)	-8 ... +1	100	>1 @150uA	263
ZMY3.9	3.7 ... 4.1	4(<7)	-7 ... +2	100	>1 @100uA	203
ZMY4.3	4.0 ... 4.6	4(<7)	-7 ... +3	100	>1 @50uA	182
ZMY4.7	4.4 ... 5.0	4(<7)	-7 ... +4	100	>1 @10uA	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.

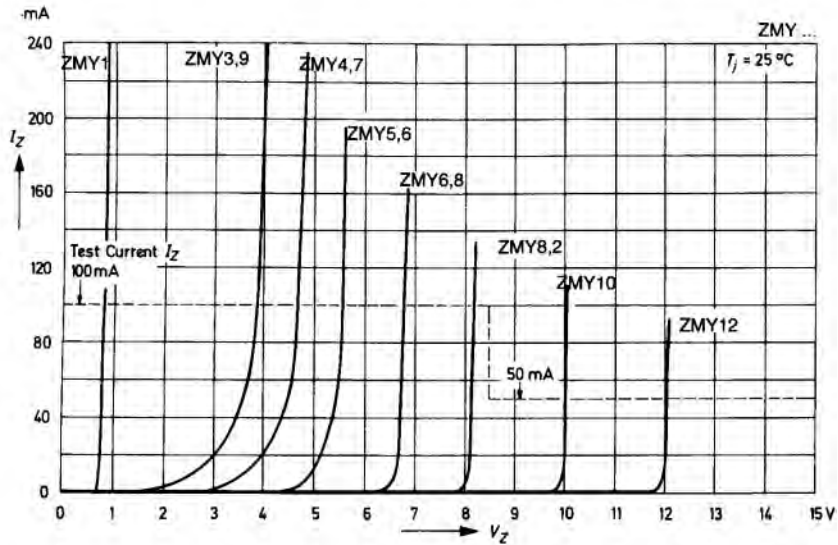


# ZMY3.3 ~ ZMY100

## RATINGS AND CHARACTERISTIC CURVES

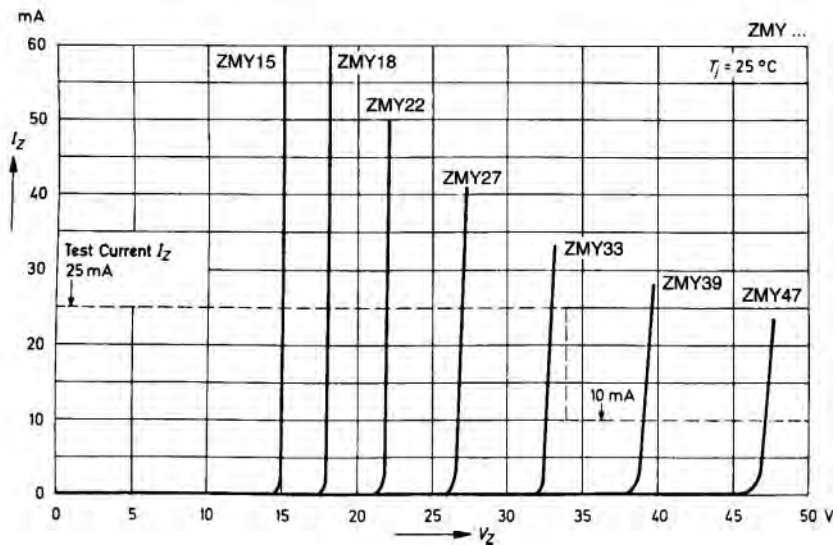
### Breakdown characteristics

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



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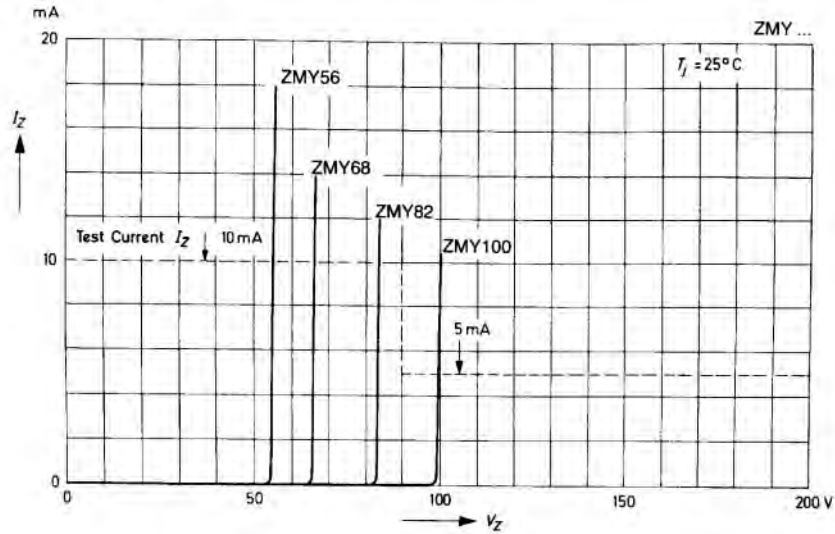
$T_j = \text{constant}$  (pulsed)



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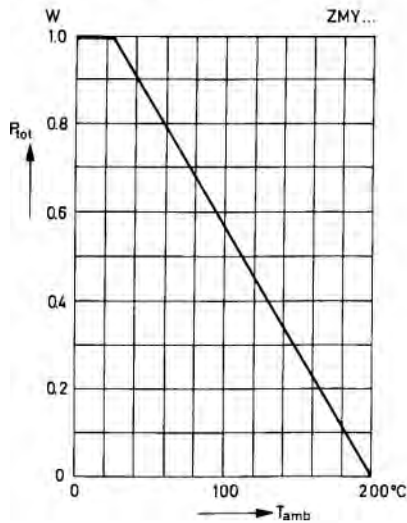
### Breakdown characteristics

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



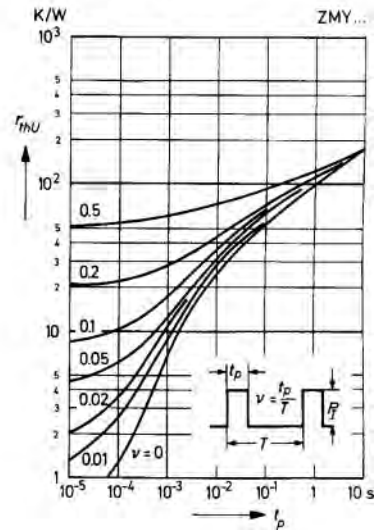
### Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature



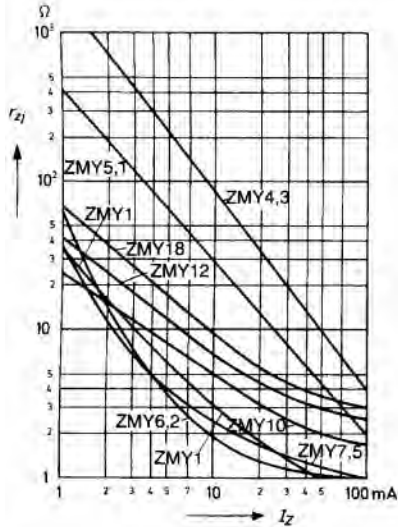
### Pulse thermal resistance versus pulse duration

Valid provided that electrodes are kept at ambient temperature

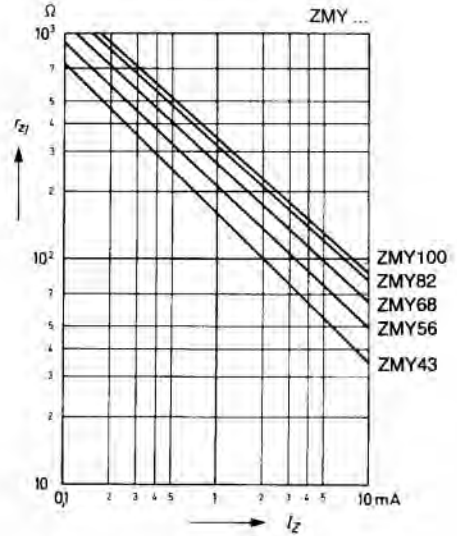


## RATINGS AND CHARACTERISTIC CURVES

Dynamic resistance versus Zener current



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