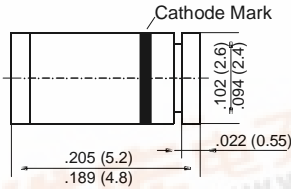


# ZMY1 THRU ZMY100

## ZENER DIODES

### MELF



Dimensions are in inches and (millimeters)

### FEATURES

- ◆ Silicon Planar Power Zener Diodes
- ◆ For use in stabilizing and clipping circuits with higher power rating.
- ◆ The Zener voltages are graded according to the international E24 standard. Smaller voltage tolerances and other Zener voltages are available upon request.
- ◆ These diodes are also available in the DO-41 case with the type designation ZPY1 ... ZPY100.



### MECHANICAL DATA

**Case:** MELF Glass Case

**Weight:** approx. 0.25 g

### MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Zener Current (see Table "Characteristics")			
Power Dissipation at $T_{amb} = 25^{\circ}\text{C}$	$P_{tot}$	1.0 <sup>1)</sup>	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_s$	- 55 to +150	°C

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

	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance Junction to Ambient Air	$R_{thJA}$	-	-	170 <sup>1)</sup>	°C/W

### NOTES:

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

# ZMY1 THRU ZMY100

## ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Type	Zener voltage <sup>(2)</sup> at I <sub>ZT</sub>		Dynamic resistance at I <sub>ZT</sub> f = 1 kHz max r <sub>Zj</sub> (Ω)	Temp. coeff. of Zener volt. at I <sub>ZT</sub> $\alpha_{VZ}$ (10 <sup>-4</sup> /K)	Test current  I <sub>ZT</sub> (mA)	Reverse voltage at I <sub>R</sub> = 0.5μA  V <sub>R</sub> (V)	Admissible Zener current <sup>(1)</sup> at T <sub>amb</sub> = 25°C  I <sub>Z</sub> (mA)
	min.	max. V <sub>Z</sub> (V)					
ZMY1 <sup>(3)</sup>	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:

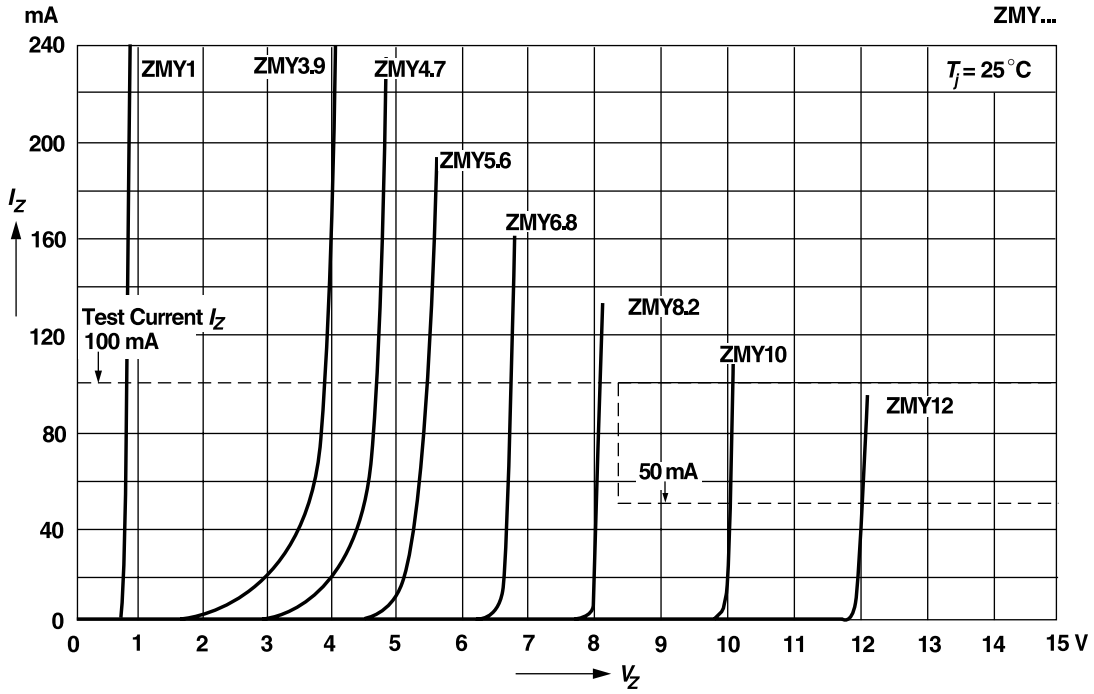
- (1) Valid provided that electrodes are kept at ambient temperature
- (2) Tested with pulses t<sub>p</sub> = 5 ms
- (3) The ZMY1 is a silicon diode operated in forward direction. Hence, the index of all characteristics and maximum ratings should be "F" instead of "Z".  
Connect the cathode terminal to the negative pole

For devices in glass case MELF with higher Zener voltage but same power dissipation see types ZMU100 ... ZMU180

# RATINGS AND CHARACTERISTIC CURVES ZMY1 THRU ZMY100

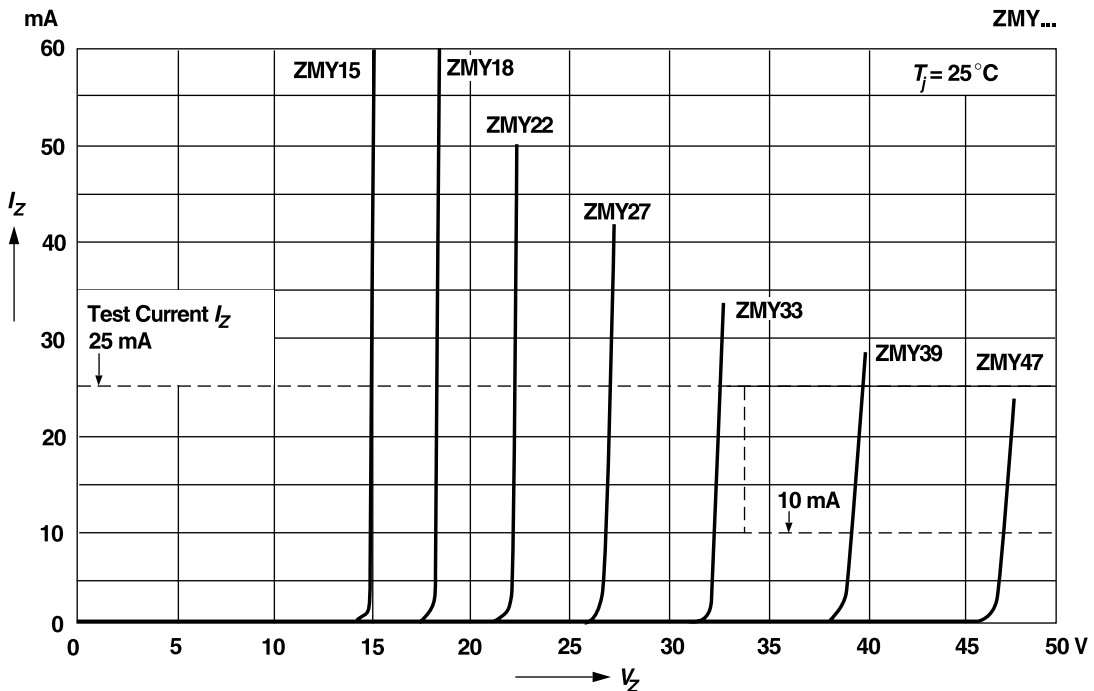
## Breakdown characteristics

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



## Breakdown characteristics

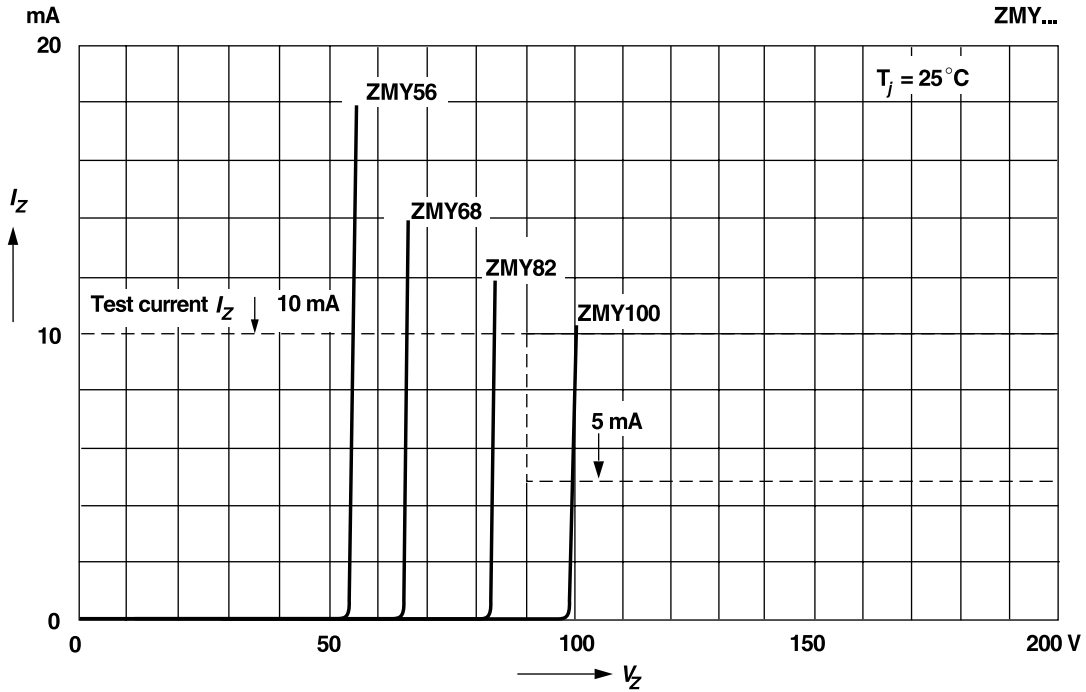
$T_j = \text{constant (pulsed)}$



# RATINGS AND CHARACTERISTIC CURVES ZMY1 THRU ZMY100

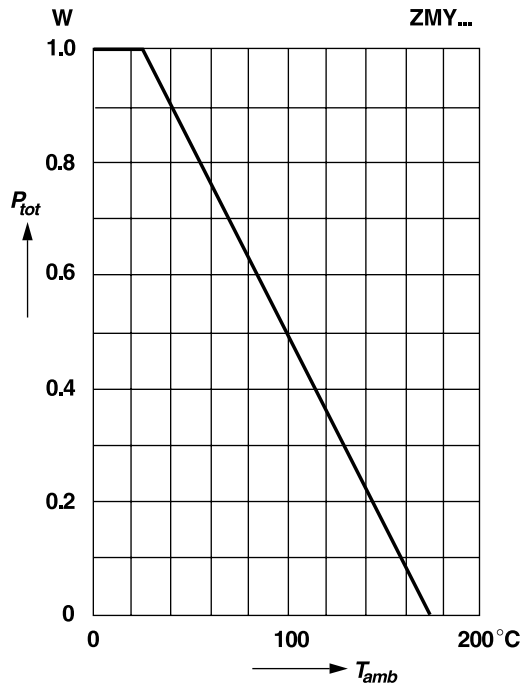
## Breakdown characteristics

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



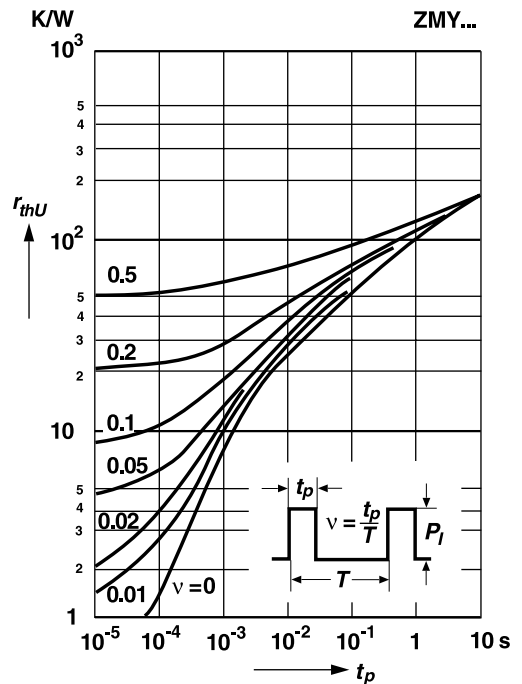
## Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature



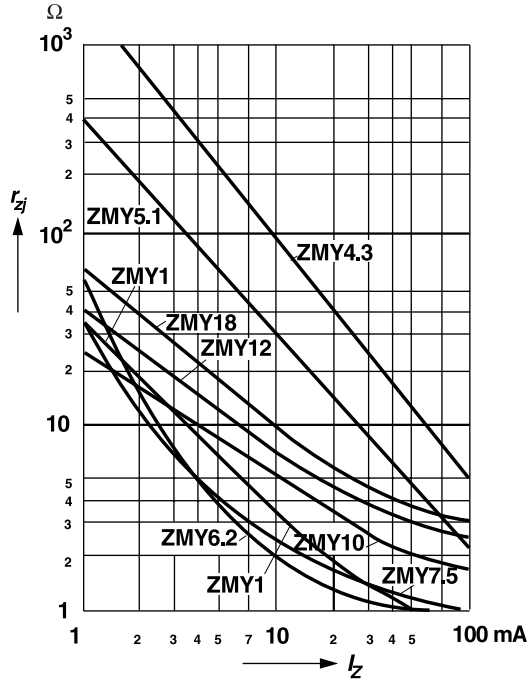
## Pulse thermal resistance versus pulse duration

Valid provided that electrodes are kept at ambient temperature

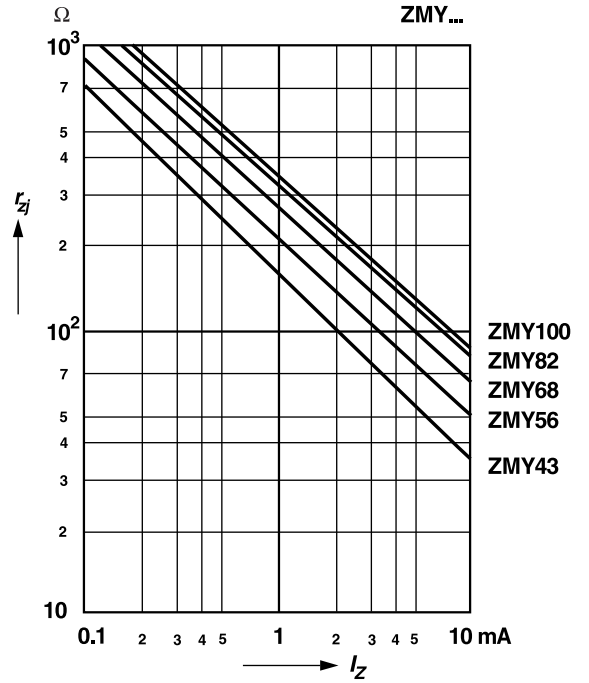


# RATINGS AND CHARACTERISTIC CURVES ZMY1 THRU ZMY100

Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current

