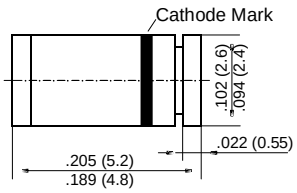
ZMY1 THRU ZMY100

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°C	P_{tot}	1.0[1)]	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	– 55 to +150	°C

Characteristics at Tamb = 25 °C

	SYMBOL	*MIN.*	*TYP.*	*MAX.*	*UNIT*
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	170[1)]	°C/W

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

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ZMY1 THRU ZMY100

ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Type	Zener voltage[2] at I_{ZT} min. V_Z (V)	Zener voltage[2] at I_{ZT} max. V_Z (V)	Dynamic resistance at I_{ZT} f = 1 kHz max r_{zj} (Ω)	Temp. coeff. of Zener volt. at I_{ZT} α_{VZ} (10^{-4}/K)	Test current I_{ZT} (mA)	Reverse voltage at I_R= 0.5μA V_R (V)	Admissible Zener current[1] at T_{amb} = 25°C I_Z (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 t_p = 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

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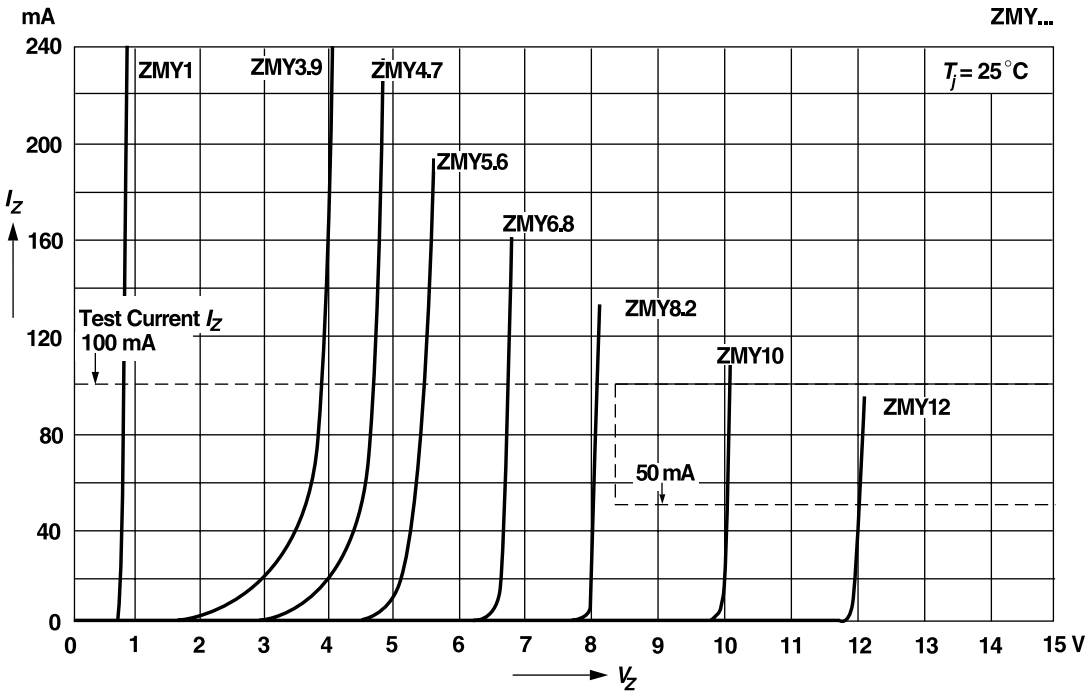
Breakdown characteristics

T_j = constant (pulsed)



Breakdown characteristics

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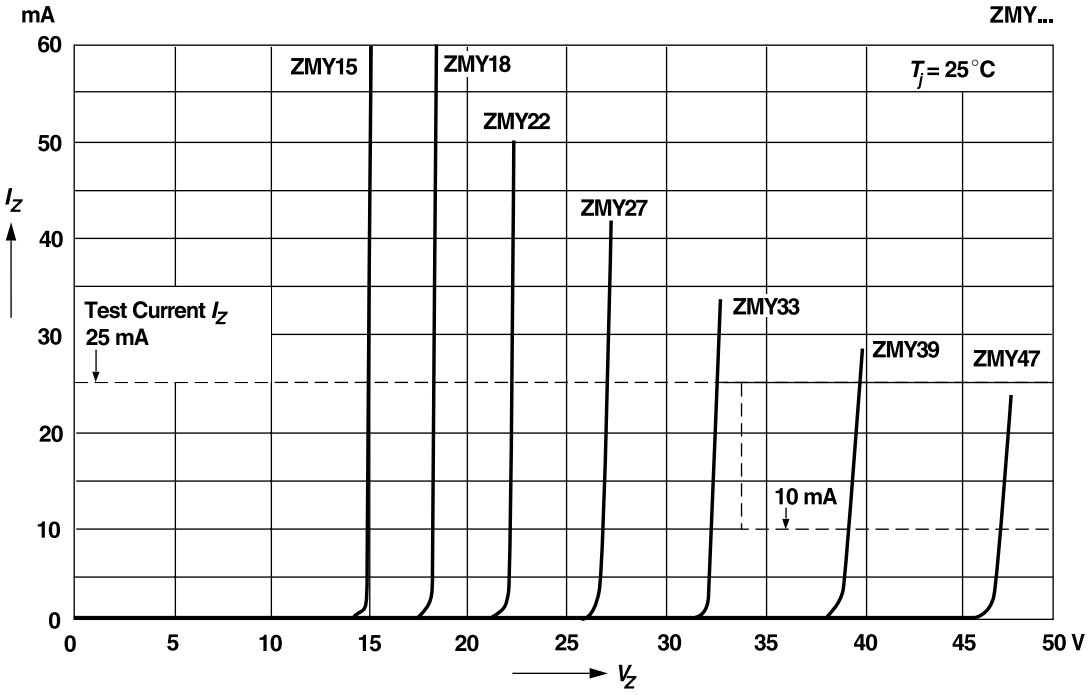

Breakdown characteristics

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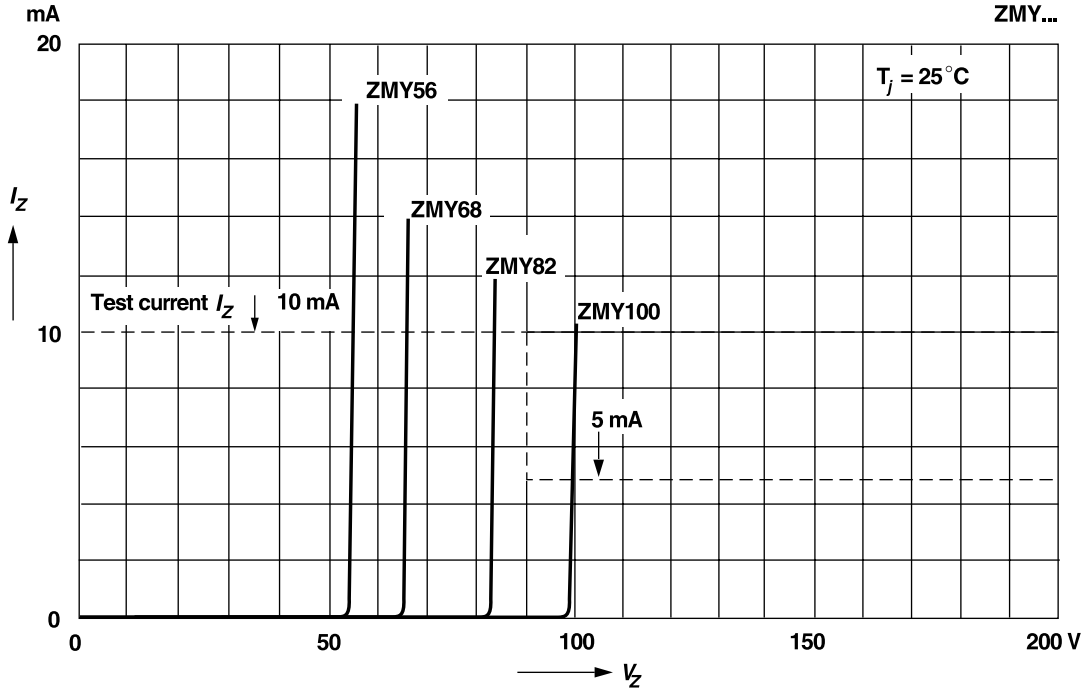
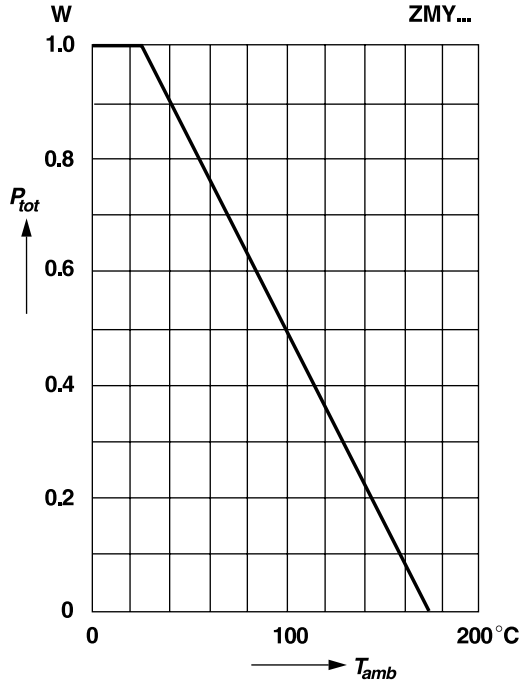


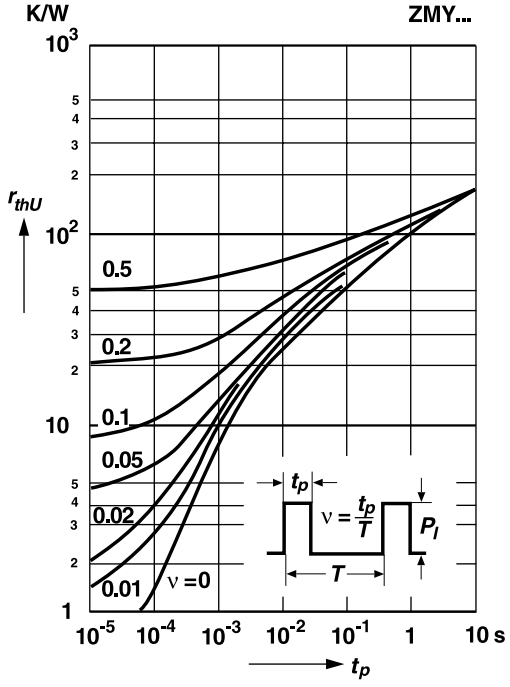
Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature



Pulse thermal resistance versus pulse duration

Valid provided that electrodes are kept at ambient temperature



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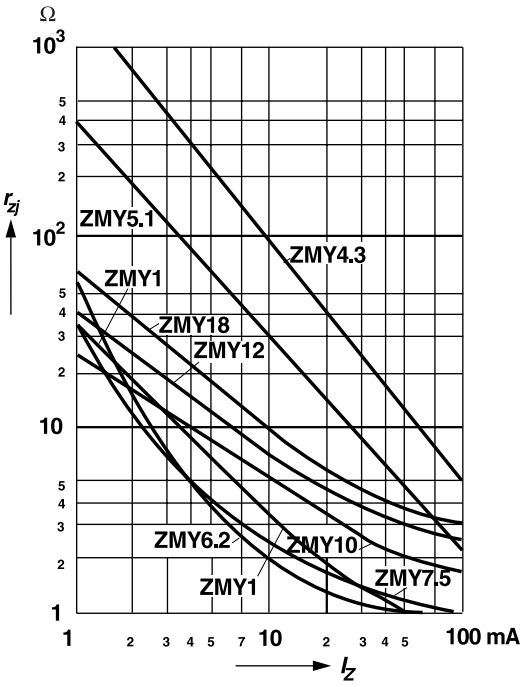
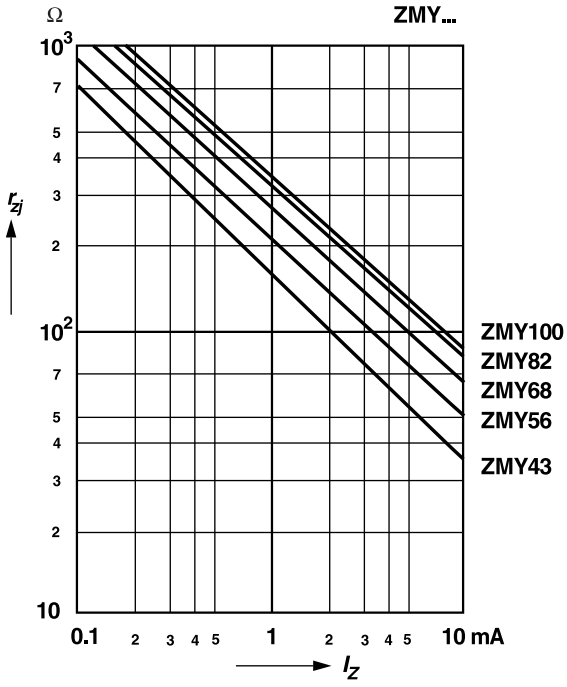
RATINGS AND CHARACTERISTIC CURVES ZMY1 THRU ZMY100

Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current