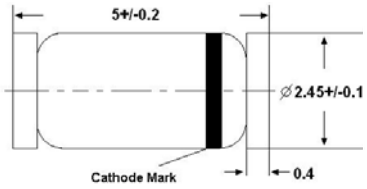
ZMY1...ZMY75

Silicon Epitaxial Planar Power Zener Diodes

For use in stabilizing and clipping circuits with high power rating. The Zener voltages are graded according to the international E24 standard. Smaller voltage tolerances are upon request.

LL-41



Glass case MELF
Dimensions in mm

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	1 [1)]	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	- 55 to + 175	°C
[1)] Valid provided that electrodes are kept at ambient temperature.			

Characteristics at T_a = 25 °C

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	170 [1)]	K/W
Forward Voltage at I_F = 200 mA	V_F	1.2	V
[1)] Valid provided that electrodes are kept at ambient temperature.			

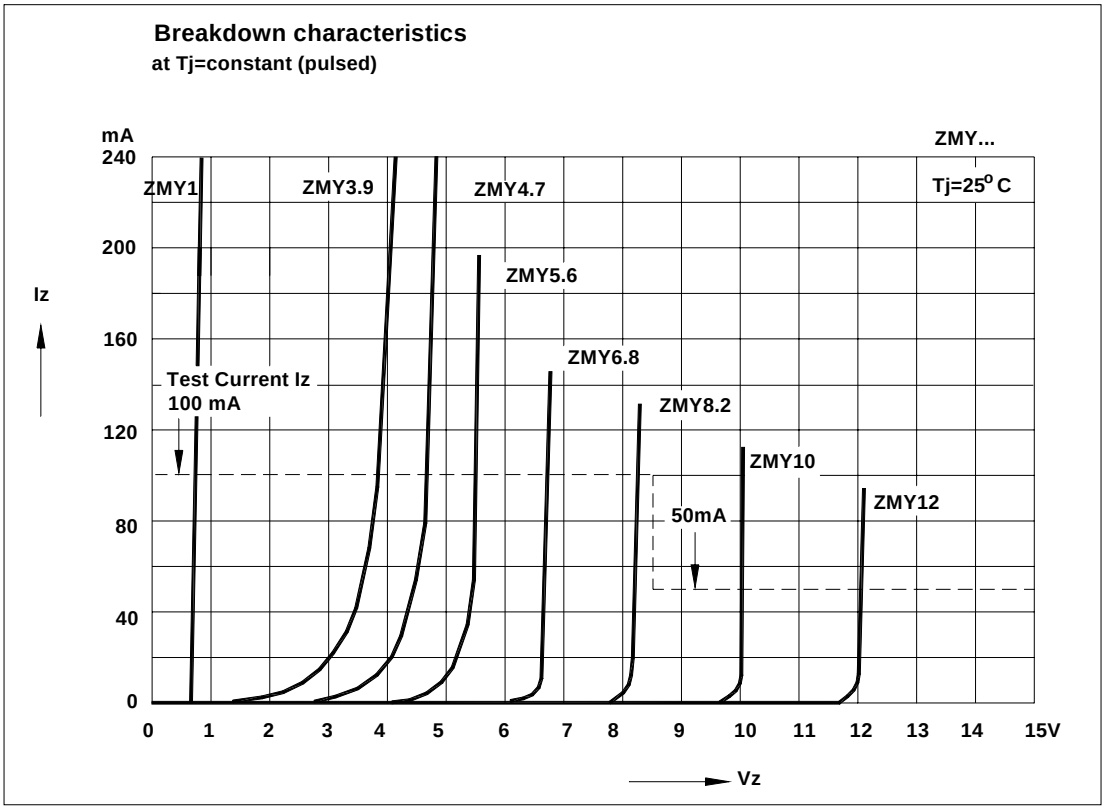
Characteristics at T_a = 25 °C

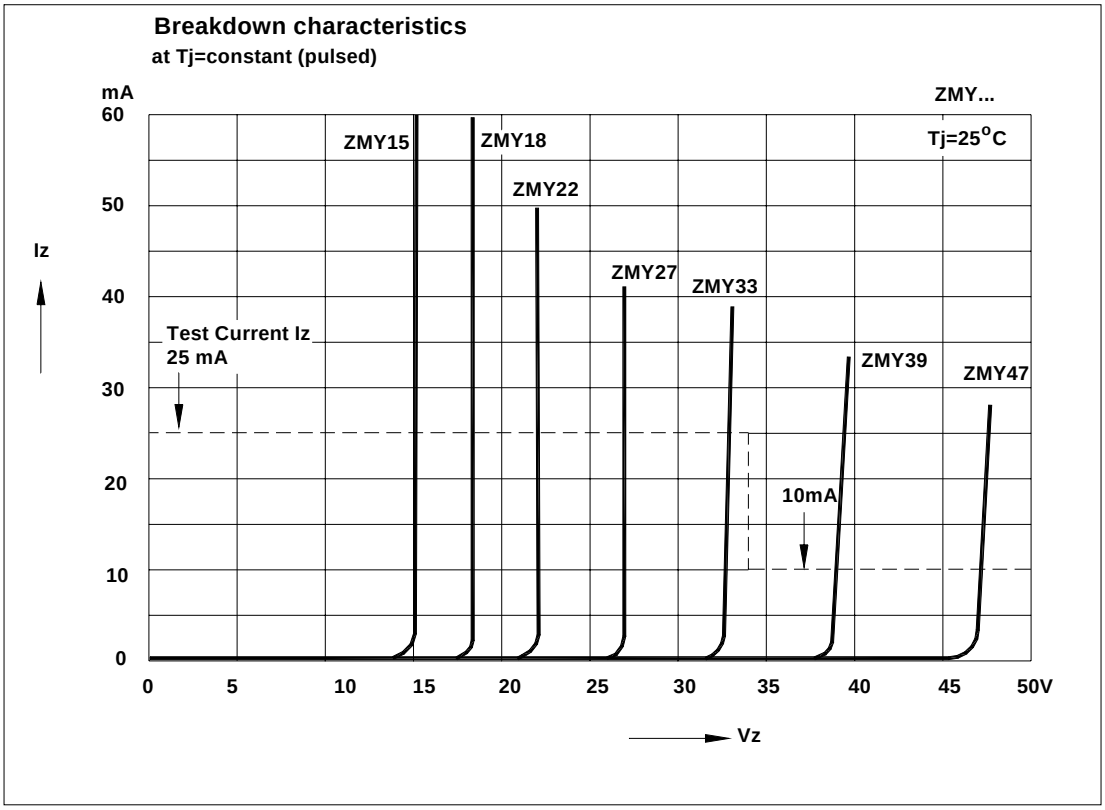
Type	Zener Voltage [2]			Dynamic Resistance		Reverse Current		Admissible Zener Current [1]
	V_{ZT}		at I_{ZT}	Z_{ZT}	at I_{ZT}	I_R	at V_R	
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (µA)	(V)	I_{ZM} (mA)
ZMY1 [3]	0.65	0.75	5	8	5	-	-	406
ZMY3V0	2.8	3.2	100	8	100	-	-	260
ZMY3V3	3.1	3.5	100	8	100	150	1	240
ZMY3V6	3.4	3.8	100	8	100	100	1	220
ZMY3V9	3.7	4.1	100	7	100	100	1	203
ZMY4V3	4	4.6	100	7	100	50	1	182
ZMY4V7	4.4	5	100	7	100	10	1	165
ZMY5V1	4.8	5.4	100	5	100	10	1	150
ZMY5V6	5.2	6	100	2	100	0.5	2	135
ZMY6V2	5.8	6.6	100	2	100	0.5	3	128
ZMY6V8	6.4	7.2	100	2	100	0.5	4	110
ZMY7V5	7	7.9	100	2	100	0.5	5	100
ZMY8V2	7.7	8.7	100	2	100	0.5	6	89
ZMY9V1	8.5	9.6	50	4	50	0.5	7	82
ZMY10	9.4	10.6	50	4	50	0.5	7.6	74
ZMY11	10.4	11.6	50	7	50	0.5	8.4	66
ZMY12	11.4	12.7	50	7	50	0.5	9.1	60
ZMY13	12.4	14.1	50	9	50	0.5	9.9	55
ZMY15	13.8	15.8	50	9	50	0.5	11.4	49
ZMY16	15.3	17.1	25	10	25	0.5	12.2	44
ZMY18	16.8	19.1	25	11	25	0.5	13.7	40
ZMY20	18.8	21.2	25	12	25	0.5	15.2	36
ZMY22	20.8	23.3	25	13	25	0.5	16.7	34
ZMY24	22.8	25.6	25	14	25	0.5	18.2	29
ZMY27	25.1	28.9	25	15	25	0.5	20.6	27
ZMY30	28	32	25	20	25	0.5	22.8	25
ZMY33	31	35	25	20	25	0.5	25.1	22
ZMY36	34	38	10	60	10	0.5	27.4	20
ZMY39	37	41	10	60	10	0.5	29.7	18
ZMY43	40	46	10	80	10	0.5	32.7	17
ZMY47	44	50	10	80	10	0.5	35.8	15
ZMY51	48	54	10	100	10	0.5	38.8	14
ZMY56	52	60	10	100	10	0.5	42.6	13
ZMY62	58	66	10	130	10	0.5	47.1	11
ZMY68	64	72	10	130	10	0.5	51.7	10
ZMY75	70	79	10	160	10	0.5	56.0	9

[1] Valid provided that electrodes are kept at ambient temperature.

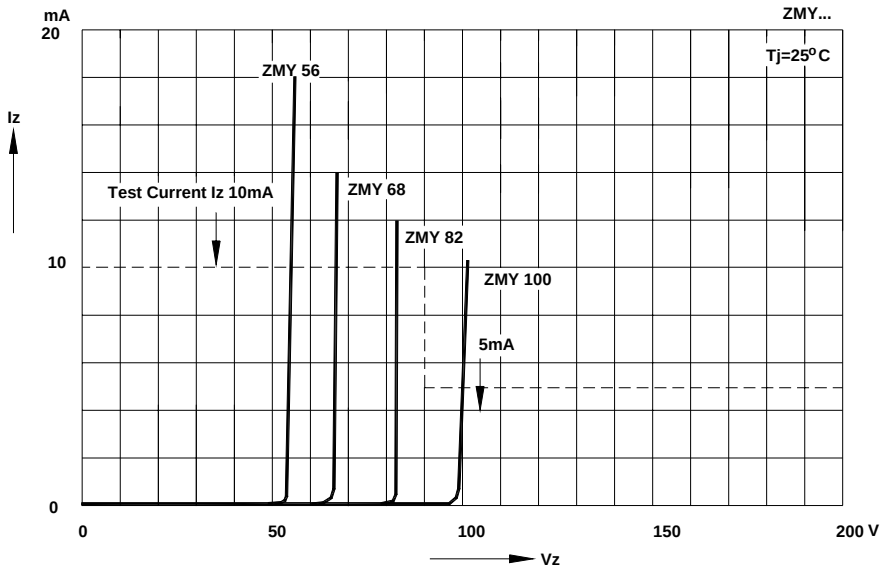
[2] Tested with pulses tp = 20 ms

[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.

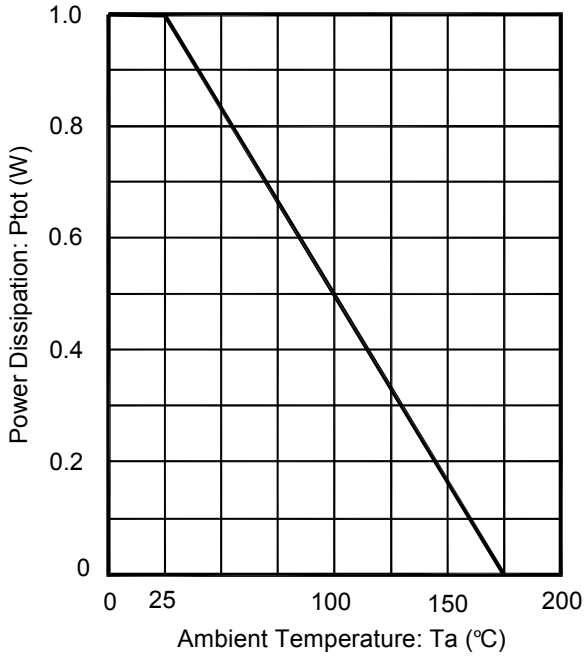

Breakdown characteristics
at Tj=constant (pulsed)
mA
240
200
160
120
80
40
0
Iz
ZMY...
Tj=25° C
ZMY1
ZMY3.9
ZMY4.7
ZMY5.6
ZMY6.8
ZMY8.2
ZMY10
ZMY12
Test Current Iz
100 mA
50mA
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15V
Vz


Breakdown characteristics
at Tj=constant (pulsed)
mA
60
50
40
30
20
10
0
Iz
ZMY...
Tj=25°C
ZMY15
ZMY18
ZMY22
ZMY27
ZMY33
ZMY39
ZMY47
Test Current Iz
25 mA
10mA
0 5 10 15 20 25 30 35 40 45 50V
Vz

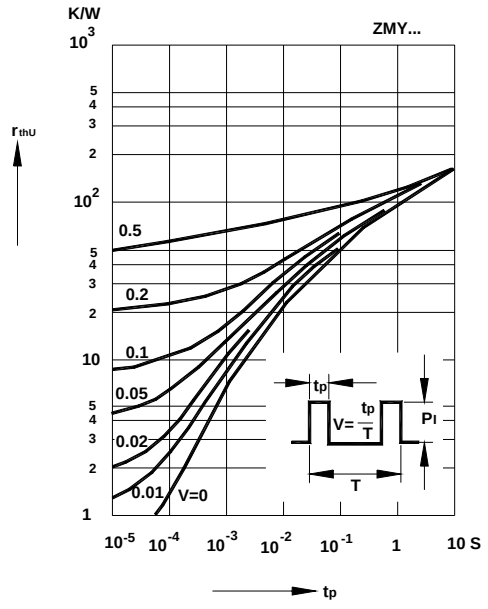
Breakdown characteristics
T_j = constant (pulsed)



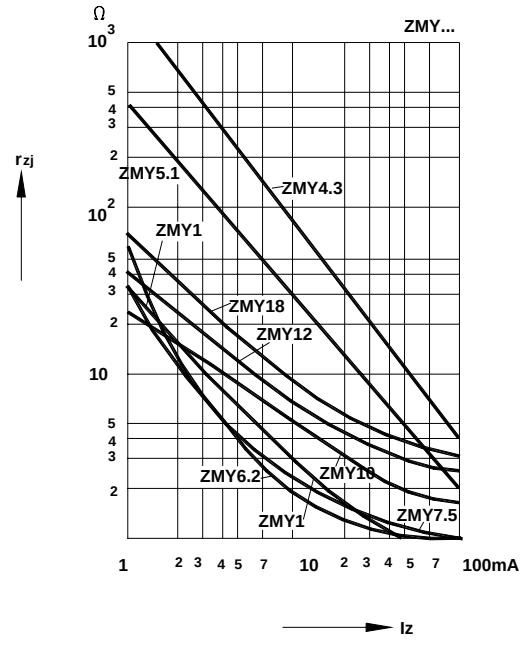
Admissible power dissipation
versus ambient temperature
Valid provided that electrodes are kept at ambient temperature.



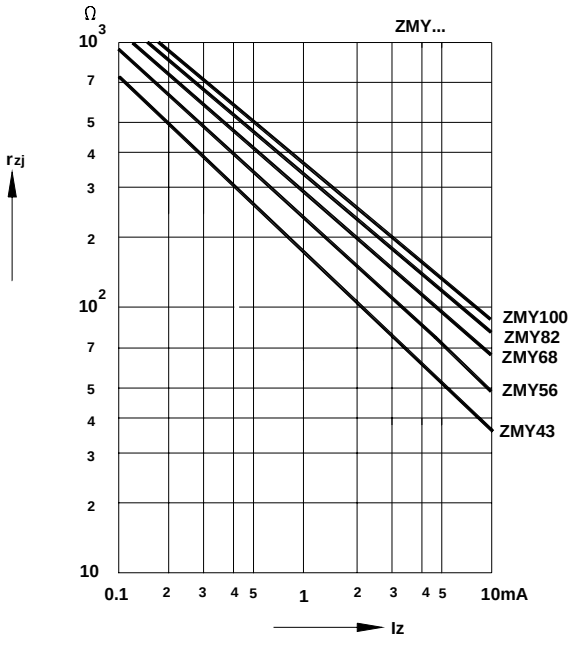
Pulse thermal resistance versus pulse duration
Valid provided that electrodes are kept at ambient temperature.



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener Current