

ZMY3.9C - ZMY100C

V_Z : 3.9 to 100V

P_D : 1W

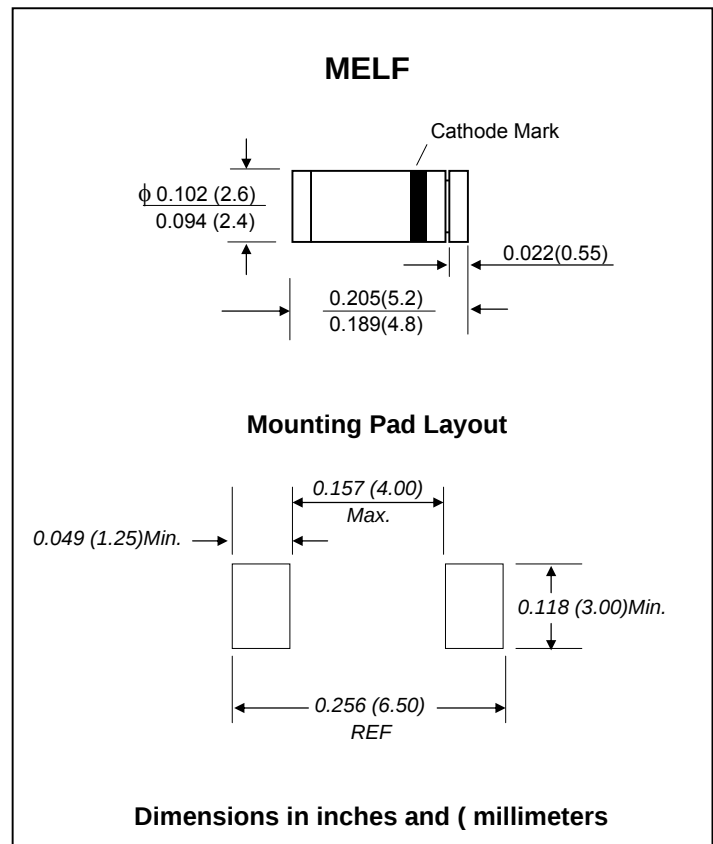
FEATURES :

- Silicon planar power zener diodes
- For use in stabilizing and clipping circuits with higher power rating.
- These diodes are also available in the DO-41 case with the type designation ZPY3.6... ZPY100.
- Pb / RoHS Free

MECHANICAL DATA :

- * Case : MELF Glass Case
- * Weight : 0.25 g (approx.)

ZENER DIODES



Maximum Ratings and Thermal Characteristics (Rating at 25 °C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Zener Current see Table "Characteristics"			
Power Dissipation	P_D	1 ⁽¹⁾	W
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	170 ⁽¹⁾	°C/W
Thermal Resistance Junction to Case (Typ.)	$R_{\theta JC}$	60	°C/W
Junction temperature	T_J	-65 to + 175	°C
Storage temperature range	T_S	-65 to + 175	°C

Note :

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

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Type	Zener Voltage ⁽¹⁾ at I_{ZT} V_Z (V)		Dynamic Resistance at I_{ZT} , $f = 1\text{kHz}$ r_{Zj} (Ω)	Temp. Coeff. Of Zener Voltage at I_{ZT} α_{VZ} ($10^{-4}/^{\circ}\text{C}$)		Test Current I_{ZT} (mA)	Reverse Voltage at $I_R = 0.5\mu\text{A}$ V_R V_R (V)	Asmissible Zener Current ⁽²⁾ I_Z (mA)
	min.	max.		min.	max.			
ZMY3.9C	3.82	3.97	4(<7)	-7	2	100	-	203
ZMY4.3C	4.21	4.38	4(<7)	-7	3	100	-	182
ZMY4.7C	4.60	4.79	4(<7)	-7	4	100	-	165
ZMY5.1C	4.99	52.02	2(<5)	-6	5	100	>0.7	150
ZMY5.6C	5.48	5.71	1(<2)	-3	5	100	>1.5	135
ZMY6.2C	6.07	6.32	1(<2)	-1	6	100	>2.0	128
ZMY6.8C	6.66	6.93	1(<2)	0	7	100	>3.0	110
ZMY7.5C	7.35	7.65	1(<2)	0	7	100	>5.0	100
ZMY8.2C	8.03	8.36	1(<2)	3	8	100	>6.0	89
ZMY9.1C	8.91	9.28	2(<4)	3	8	50	>7.0	82
ZMY10C	9.80	10.20	2(<4)	5	9	50	>7.5	74
ZMY11C	10.78	1.22	3(<7)	5	10	50	>8.5	66
ZMY12C	11.76	12.24	3(<7)	5	10	50	>9.0	60
ZMY13C	12.74	13.26	4(<9)	5	10	50	>10	55
ZMY15C	14.70	15.30	4(<9)	5	10	50	>11	49
ZMY16C	15.68	16.32	5(<10)	7	11	25	>12	44
ZMY18C	17.64	18.36	5(<11)	7	11	25	>14	40
ZMY20C	19.60	20.40	6(<12)	7	11	25	>15	36
ZMY22C	21.56	22.44	7(<13)	7	11	25	>17	34
ZMY24C	23.52	24.48	8(<14)	7	12	25	>18	29
ZMY27C	26.46	27.54	9(<15)	7	12	25	>20	27
ZMY30C	29.40	30.60	10(<20)	7	12	25	>22.5	25
ZMY33C	32.34	33.66	11(<20)	7	12	25	>25	22
ZMY36C	35.28	36.72	25(<60)	7	12	10	>27	20
ZMY39C	38.22	39.78	30(<60)	8	12	10	>29	18
ZMY43C	42.14	43.86	35(<80)	8	13	10	>32	17
ZMY47C	46.06	47.94	40(<80)	8	13	10	>35	15
ZMY51C	49.98	52.02	45(<100)	8	13	10	>38	14
ZMY56C	54.08	57.12	50(<100)	8	13	10	>42	13
ZMY62C	60.76	63.24	60(<130)	8	13	10	>47	11
ZMY68C	66.64	69.36	65(<130)	8	13	10	>51	10
ZMY75C	73.50	76.50	70(<160)	8	13	10	>56	9
ZMY82C	80.36	83.64	80(<160)	8	13	10	>61	8
ZMY91C	89.18	92.82	120(<250)	9	13	5	>68	7.5
ZMY100C	98.00	102.00	130(<250)	9	13	5	>75	7

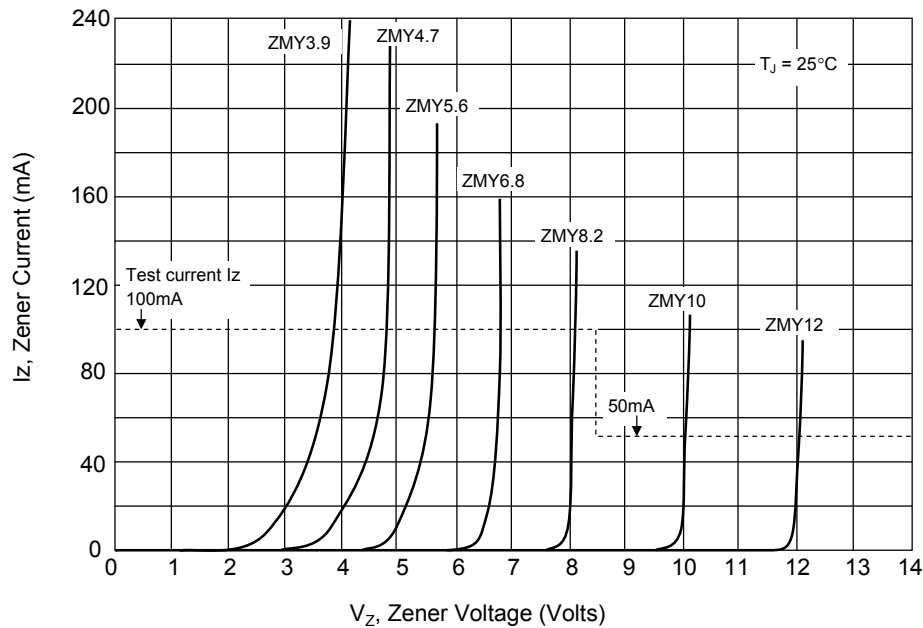
Notes:

- (1) Tested with pulses $t_p = 5\text{ms}$
- (2) Standard Zener voltage tolerance is $\pm 2\%$ tolerance.

RATING AND CHARACTERISTIC CURVES (ZMY3.9C ~ ZMY100C)

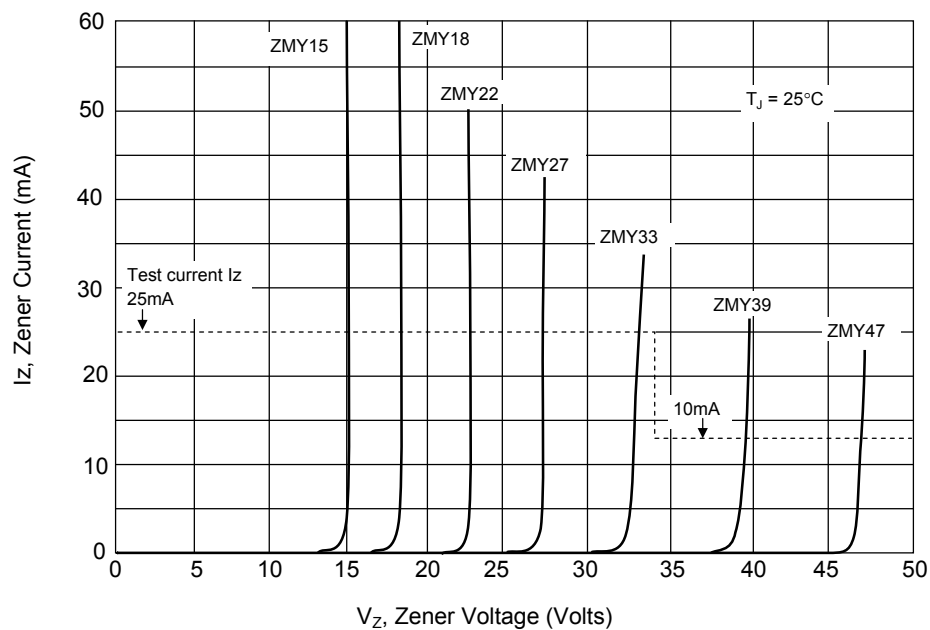
Breakdown Characteristics

$T_J = \text{Constant (Pulsed)}$



Breakdown Characteristics

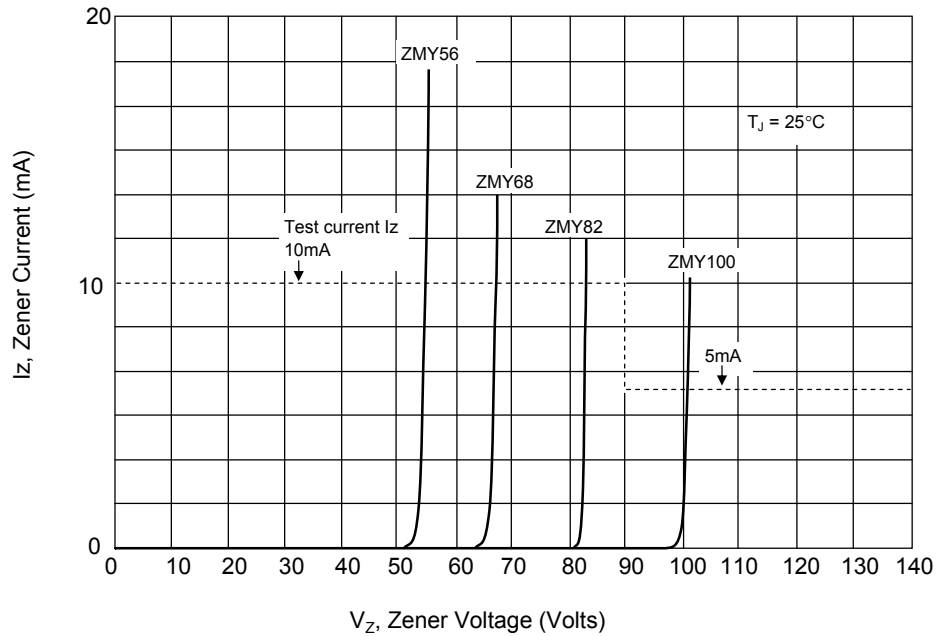
$T_J = \text{Constant (Pulsed)}$



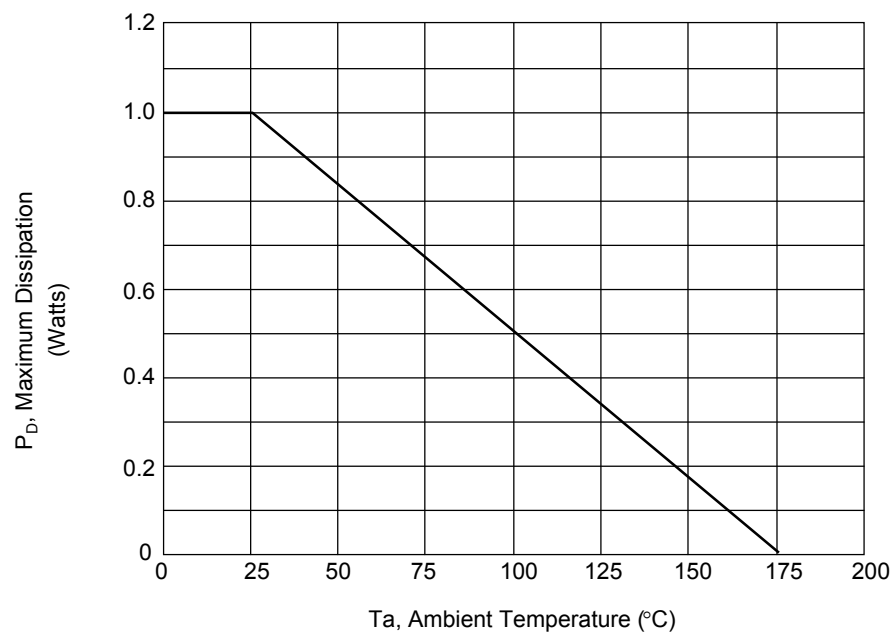
RATING AND CHARACTERISTIC CURVES (ZMY3.9C ~ ZMY100C

Breakdown Characteristics

$T_J = \text{Constant (Pulsed)}$

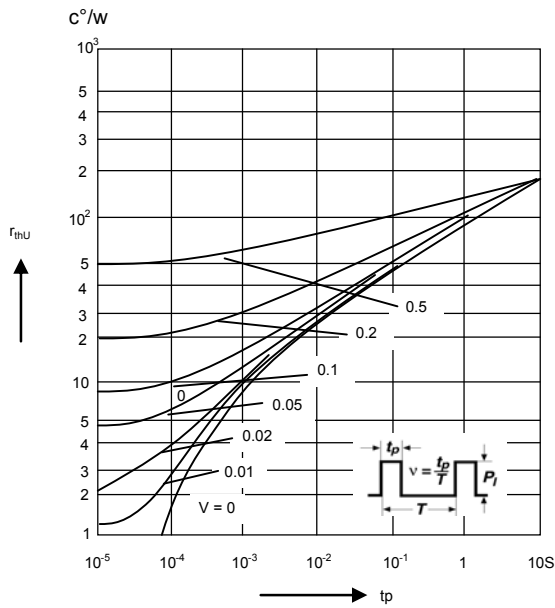


Power Temperature Derating Curve

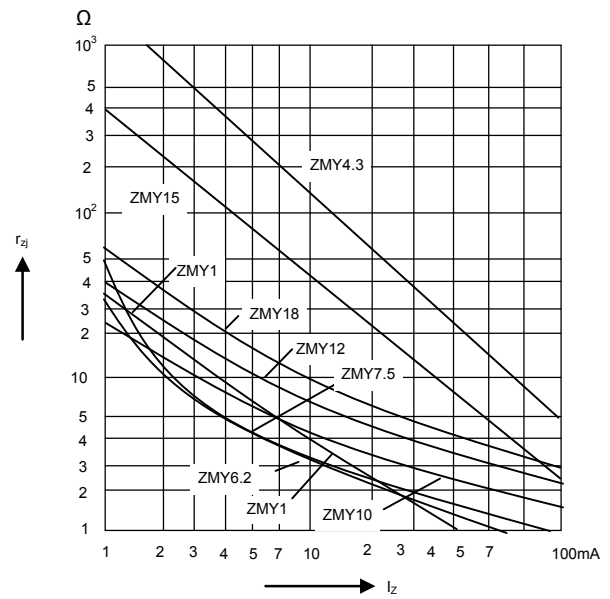


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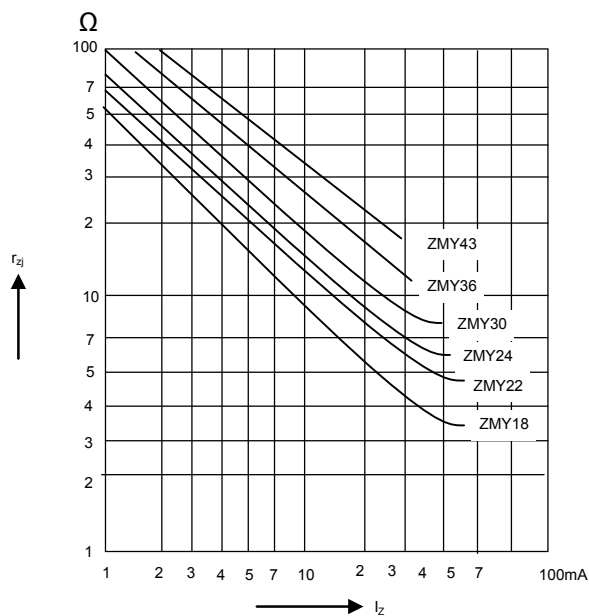
**FIG.1 - PULSE THERMAL RESISTANCE
VERSUS PULSE DURATION**



**FIG.2 - DYNAMIC RESISTANCE
VERSUS ZENER CURRENT**



**FIG.3 - DYNAMIC RESISTANCE
VERSUS ZENER CURRENT**



**FIG.4 - DYNAMIC RESISTANCE
VERSUS ZENER CURRENT**

