



## SURFACE MOUNT GLASS PASSIVATED ZENER DIODE

**MZ1.0GM3V9-100 THRU MZ100-5**

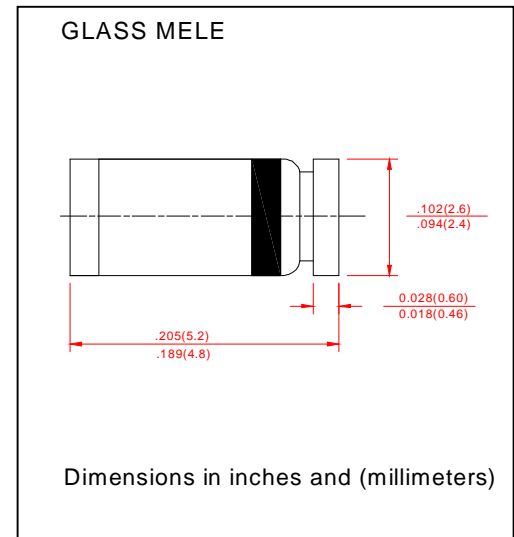
**Zener Voltage** **3.9 to 100 Volts**  
**Standby State Power** **1.0 Watt**

### 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.

### MECHANICAL DATA

- Case: MELF Glass Case
- Weight: approx.0.25g



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Zener Current (see Tamb “Characteristics”)			
Power Dissipation at Tamb=75°C	P <sub>tot</sub>	1.0 <sup>(1)</sup>	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>s</sub>	-55 to ~+150	°C

Characteristics at Tamb=25°C

	Symbol	Min	Typ	Max	Unit
Thermal resistance Junction to Ambient Air	R <sub>thJA</sub>	-	-	170 <sup>(1)</sup>	°C/W

### Notes

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



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### ELECTRICAL CHARACTERISTIC

Ratings at 25°C ambient temperature unless otherwise specified

Type	Device Marking Code	Zener Voltage <sup>(2)</sup> at I <sub>ZT</sub> min.max. V <sub>Z</sub> (V)	Dynamic resistance at L <sub>ZT</sub> f=1kHz max rzj(Ω )	Temp.coeff. of Zener volt at L <sub>ZT</sub> α vz(10 <sup>-4</sup> /K)	Test current I <sub>ZT</sub> (mA)	Reverse voltage at I <sub>R</sub> =0.5 μ A V <sub>R</sub> (V)	Admissible Zener current <sup>(1)</sup> at T <sub>amb</sub> =25°C I <sub>Z</sub> (mA)
MZ1.0GM3V9	3V9-100	3.7...4.1	4(<7)	-7...+2	100	-	203
MZ1.0GM4V3	4V3-100	4.0...4.6	4(<7)	-7...+3	100	-	182
MZ1.0GM4V7	4V7-100	4.4...5.0	4(<7)	-7...+4	100	-	165
MZ1.0GM5V1	5V1-100	4.8...5.4	2(<5)	-6...+5	100	>0.7	150
MZ1.0GM5V6	5V6-100	5.2...6.0	1(<2)	-3...+5	100	>1.5	135
MZ1.0GM6V2	6V2-100	5.8...6.6	1(<2)	-1...+6	100	>2.0	128
MZ1.0GM6V8	6V8-100	6.4...7.2	1(<2)	0...+7	100	>3.0	110
MZ1.0GM7V5	7V5-100	7.0...7.9	1(<2)	0...+7	100	>5.0	100
MZ1.0GM8V2	8V2-100	7.7...8.7	1(<2)	+3...+8	100	>6.0	89
MZ1.0GM9V1	9V1-50	8.5...9.6	2(<4)	+3...+8	50	>7.0	82
MZ1.0GM10V	10V-50	9.4...10.6	2(<4)	+5...+9	50	>7.5	74
MZ1.0GM11V	11V-50	10.4...11.6	3(<7)	+5...+10	50	>8.5	66
MZ1.0GM12V	12V-50	11.4...12.7	3(<7)	+5...+10	50	>9.0	60
MZ1.0GM13V	13V-50	12.4...14.1	4(<9)	+5...+10	50	>10	55
MZ1.0GM15V	15V-50	13.8...15.8	4(<9)	+5...+10	50	>11	49
MZ1.0GM 16V	16V-25	15.3...17.1	5(<10)	+5...+11	25	>12	44
MZ1.0GM18V	18V-25	16.8...19.1	5(<11)	+7...+11	25	>14	40
MZ1.0GM20V	20V-25	18.8...21.2	6(<12)	+7...+11	25	>15	36
MZ1.0GM22V	22V-25	20.8...23.3	7(<13)	+7...+11	25	>17	34
MZ1.0GM24V	24V-25	22.8...25.6	8(<14)	+7...+12	25	>18	29
MZ1.0GM27V	27V-25	25.1...28.9	9(<15)	+7...+12	25	>20	27
MZ1.0GM30V	30V-25	28...32	10(<20)	+7...+12	25	>22.5	25
MZ1.0GM33V	33V-25	31...35	11(<20)	+7...+12	25	>25	22
MZ1.0GM36V	36V-10	34...38	25(<60)	+7...+12	10	>27	20
MZ1.0GM39V	39V-10	37...41	30(<60)	+8...+12	10	>29	18
MZ1.0GM43V	43V-10	40...46	35(<80)	+8...+13	10	>32	17
MZ1.0GM47V	47V-10	44...50	40(<80)	+8...+13	10	>35	15
MZ1.0GM51V	51V-10	48...54	45(<100)	+8...+13	10	>38	14
MZ1.0GM56V	56V-10	52...60	50(<100)	+8...+13	10	>42	13
MZ1.0GM62V	62V-10	58...66	60(<130)	+8...+13	10	>47	11
MZ1.0GM68V	68V-10	64...72	65(<130)	+8...+13	10	>51	10
MZ1.0GM75V	75V-10	70...79	70(<160)	+8...+13	10	>56	9
MZ1.0GM85V	82V-10	77...88	80(<160)	+8...+13	10	>61	8
MZ1.0GM91V	91V-5	85...96	120(<250)	+9...+13	5	>68	7.5
MZ1.0GM100V	100V-5	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=5ms



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Zener Voltage

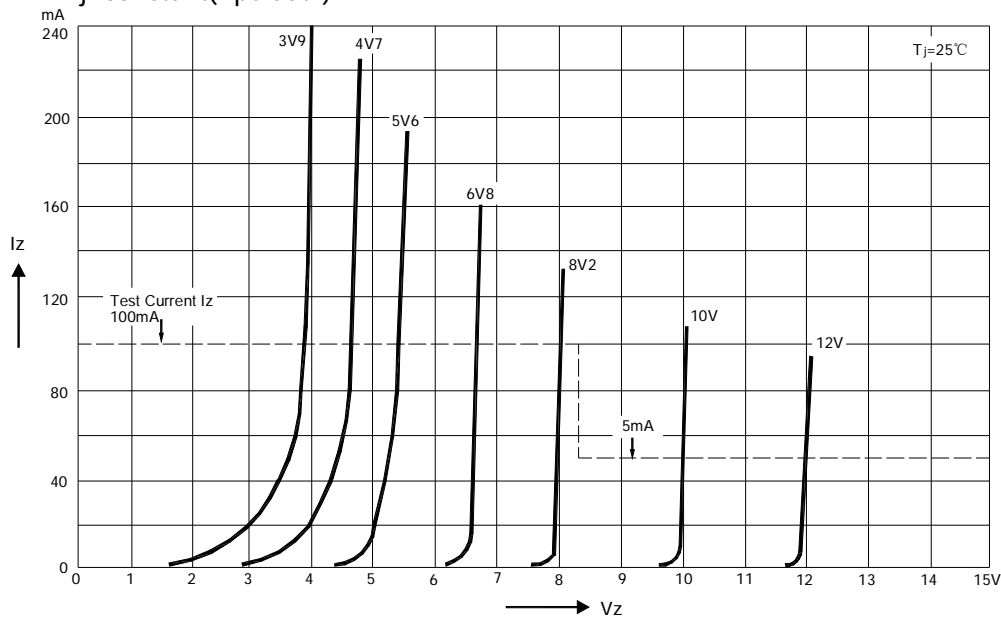
3.9 to 100 Volts

Standby State Power

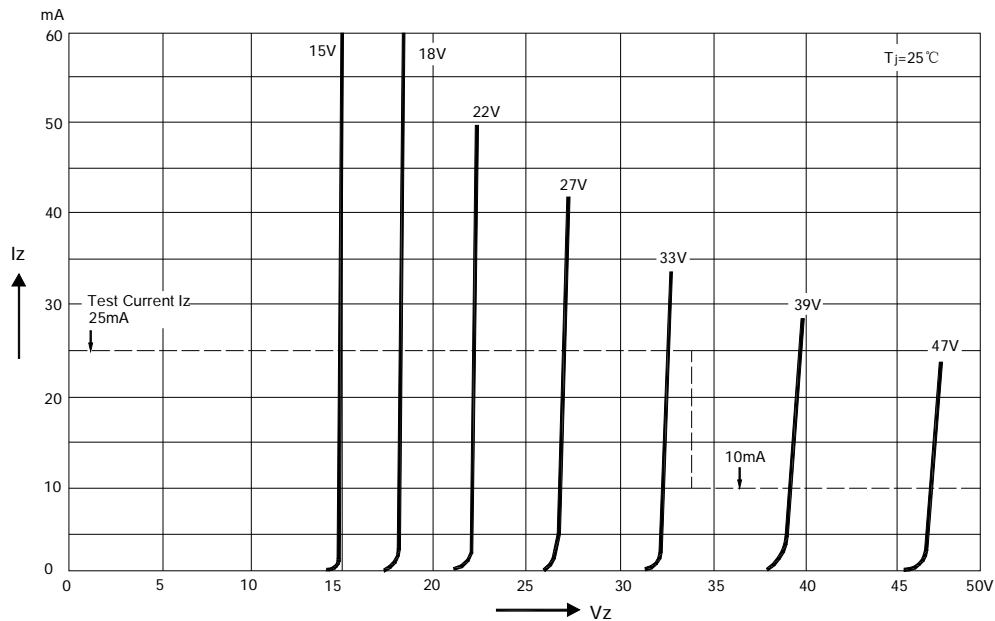
1.0 Watt

## RATING AND CHARACTERISTIC CURVES MZ1.0GM3V9-100 THRU MZ1.0GM100-5

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



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MZ1.0GM3V9-100 THRU MZ100-5

Zener Voltage

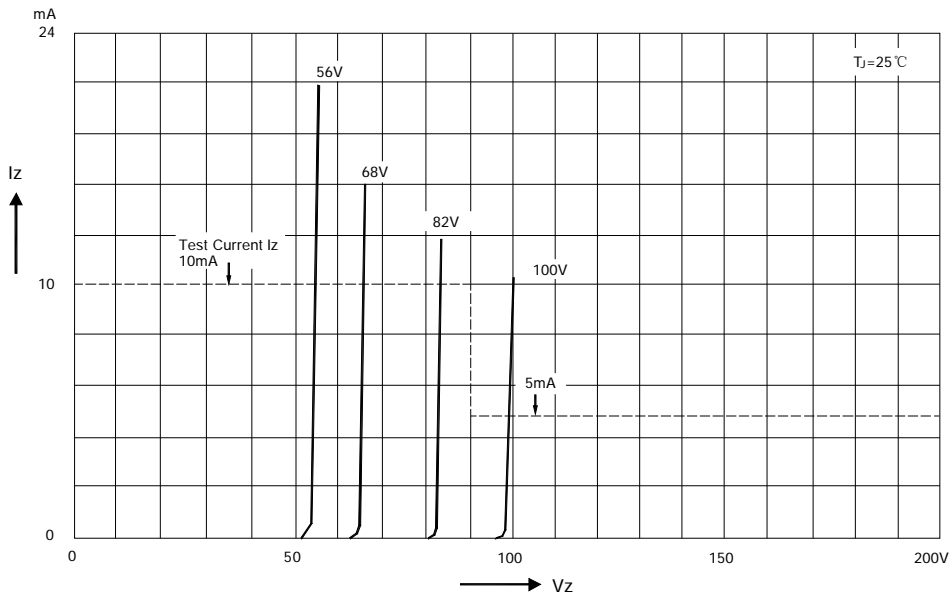
3.9 to 100 Volts

Standby State Power

1.0 Watt

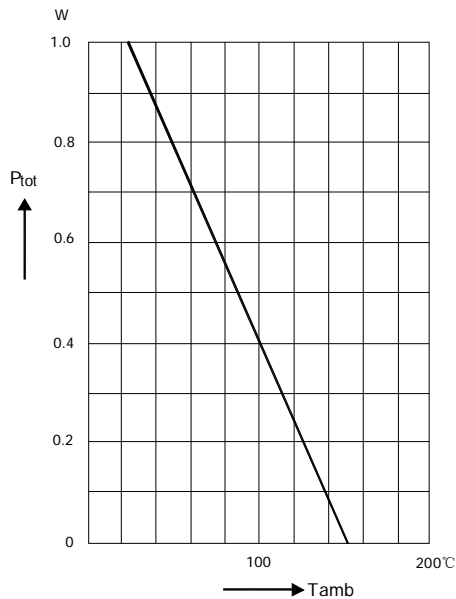
## RATING AND CHARACTERISTIC CURVES MZ1.0GM3V9-100 THRU MZ1.0GM100-5

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



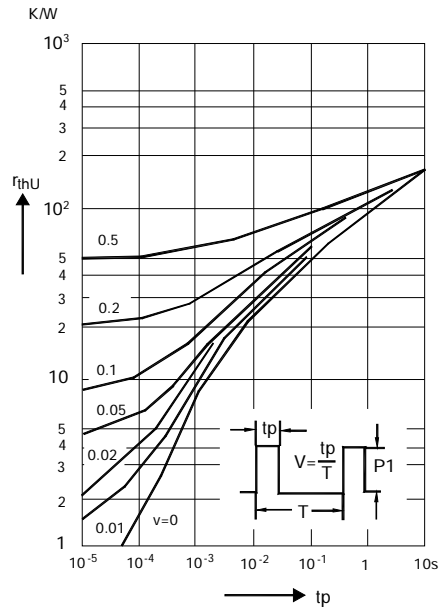
Admissible power dissipation  
versus ambient temperature

Valid provided that electrodes  
are kept at ambient temperature



Pulse thermal resistance  
versus pulse duration

Valid provided that electrodes  
are kept at ambient temperature





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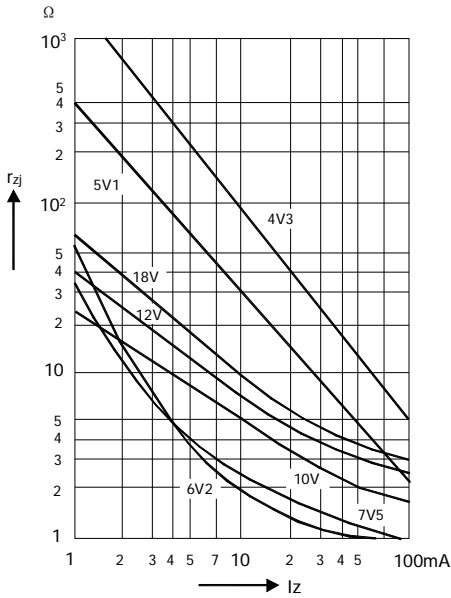
MZ0.5GN SERIES

MZ0.5GE2V0-20 THRU MZ0.5GE75V-1.7

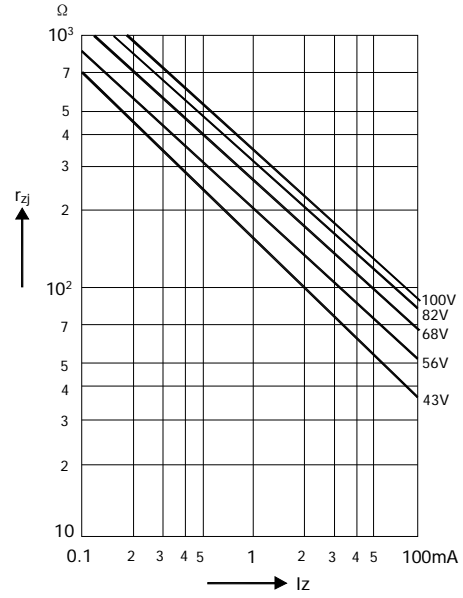
MZ0.5GE2V THRU MZ0.5GE75V

## RATING AND CHARACTERISTIC CURVES MZ1.0GM3V9-100 THRU MZ1.0GM100-5

Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current

