

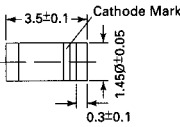
ZMM 1 ... ZMM 200

Silicon Planar Zener Diodes

in MiniMELF case especially for automatic insertion. The Zener voltages are graded according to the international E 24 standrad. Smaller voltage tolerances and higher Zener voltages on request.

These diodes are also available in DO-35 case with the type designation BZX55C...

These diodes are delivered taped.
Details see "Taping".



Glass case MiniMELF

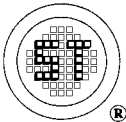
Weight approx. 0.05g
Dimensions in mm

Absolute Maximum Ratings (T_a = 25 °C)

	Symbol	Value	Unit
Zener Current see Table "Characteristics"			
Power Dissipation at T _{amb} = 25 °C	P _{tot}	500 ¹⁾	mW
Junction Temperature	T _j	175	°C
Storage Temperature Range	T _s	-55 to + 175	°C
¹⁾ Valid provided that electrodes are kept at ambient temperature.			

Characteristics at T_{amb} = 25 °C

	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction to Ambient Air	R _{thA}	-	-	0.3 ¹⁾	K/mW
¹⁾ Valid provided that electrodes are kept at ambient temperature.					



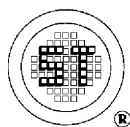
ZMM 1 ... ZMM 200

Type	Zener Voltage range ¹⁾			Dynamic resistance			Reverse leakage current			Temp. coefficient of Zener Voltage
	V _{Znom} V	I _{ZT} for V _{ZT} ²⁾		r _{zT} Ω	r _{zK} at I _{ZK}		T _a =25°C T _a =125°C		I _R at V _R V	TK _{VZ} %/K
		mA	V		Ω	mA	μA	μA		
ZMM1 ³⁾	0.75	5	0.7 ... 0.8	<8	<50	1	--	--	--	-0.26 ... -0.23
ZMM2.0	2.0	5	1.9 ... 2.1	<85	<600	1	<100	<200	1	-0.09 ... -0.06
ZMM2.2	2.2	5	2.08 ... 2.33	<85	<600	1	<75	<160	1	-0.09 ... -0.06
ZMM2.4	2.4	5	2.28 ... 2.56	<85	<600	1	<50	<100	1	-0.09 ... -0.06
ZMM2.7	2.7	5	2.5 ... 2.9	<85	<600	1	<10	<50	1	-0.09 ... -0.06
ZMM3.0	3.0	5	2.8 ... 3.2	<85	<600	1	<4	<40	1	-0.08 ... -0.05
ZMM3.3	3.3	5	3.1 ... 3.5	<85	<600	1	<2	<40	1	-0.08 ... -0.05
ZMM3.6	3.6	5	3.4 ... 3.8	<85	<600	1	<2	<40	1	-0.08 ... -0.05
ZMM3.9	3.9	5	3.7 ... 4.1	<85	<600	1	<2	<40	1	-0.08 ... -0.05
ZMM4.3	4.3	5	4.0 ... 4.6	<75	<600	1	<1	<20	1	-0.06 ... -0.03
ZMM4.7	4.7	5	4.4 ... 5.0	<60	<600	1	<0.5	<10	1	-0.05 ... +0.02
ZMM5.1	5.1	5	4.8 ... 5.4	<35	<550	1	<0.1	<2	1	-0.02 ... +0.02
ZMM5.6	5.6	5	5.2 ... 6.0	<25	<450	1	<0.1	<2	1	-0.05 ... +0.05
ZMM6.2	6.2	5	5.8 ... 6.6	<10	<200	1	<0.1	<2	2	0.03 ... 0.06
ZMM6.8	6.8	5	6.4 ... 7.2	<8	<150	1	<0.1	<2	3	0.03 ... 0.07
ZMM7.5	7.5	5	7.0 ... 7.9	<7	<50	1	<0.1	<2	5	0.03 ... 0.07
ZMM8.2	8.2	5	7.7 ... 8.7	<7	<50	1	<0.1	<2	6.2	0.03 ... 0.08
ZMM9.1	9.1	5	8.5 ... 9.6	<10	<50	1	<0.1	<2	6.8	0.03 ... 0.09
ZMM10	10	5	9.4 ... 10.6	<15	<70	1	<0.1	<2	7.5	0.03 ... 0.1
ZMM11	11	5	10.4 ... 11.6	<20	<70	1	<0.1	<2	8.2	0.03 ... 0.11
ZMM12	12	5	11.4 ... 12.7	<20	<90	1	<0.1	<2	9.1	0.03 ... 0.11
ZMM13	13	5	12.4 ... 14.1	<26	<110	1	<0.1	<2	10	0.03 ... 0.11
ZMM15	15	5	13.8 ... 15.6	<30	<110	1	<0.1	<2	11	0.03 ... 0.11
ZMM16	16	5	15.3 ... 17.1	<40	<170	1	<0.1	<2	12	0.03 ... 0.11
ZMM18	18	5	16.8 ... 19.1	<50	<170	1	<0.1	<2	13	0.03 ... 0.11
ZMM20	20	5	18.8 ... 21.2	<55	<220	1	<0.1	<2	15	0.03 ... 0.11
ZMM22	22	5	20.8 ... 23.3	<55	<220	1	<0.1	<2	16	0.04 ... 0.12
ZMM24	24	5	22.8 ... 25.6	<80	<220	1	<0.1	<2	18	0.04 ... 0.12
ZMM27	27	5	25.1 ... 28.9	<80	<220	1	<0.1	<2	20	0.04 ... 0.12
ZMM30	30	5	28 ... 32	<80	<220	1	<0.1	<2	22	0.04 ... 0.12
ZMM33	33	5	31 ... 35	<80	<220	1	<0.1	<2	24	0.04 ... 0.12
ZMM36	36	5	34 ... 38	<80	<220	1	<0.1	<2	27	0.04 ... 0.12
ZMM39	39	2.5	37 ... 41	<90	<500	0.5	<0.1	<5	30	0.04 ... 0.12
ZMM43	43	2.5	40 ... 46	<90	<500	0.5	<0.1	<5	33	0.04 ... 0.12
ZMM47	47	2.5	44 ... 50	<110	<600	0.5	<0.1	<5	36	0.04 ... 0.12
ZMM51	51	2.5	48 ... 54	<125	<700	0.5	<0.1	<10	39	0.04 ... 0.12
ZMM56	56	2.5	52 ... 60	<135	<700	0.5	<0.1	<10	43	0.04 ... 0.12
ZMM62	62	2.5	58 ... 66	<150	<1000	0.5	<0.1	<10	47	0.04 ... 0.12
ZMM68	68	2.5	64 ... 72	<200	<1000	0.5	<0.1	<10	51	0.04 ... 0.12
ZMM75	75	2.5	70 ... 79	<250	<1000	0.5	<0.1	<10	56	0.04 ... 0.12
ZMM82	82	2.5	77 ... 87	<300	<1500	0.25	<0.1	<10	62	0.05 ... 0.12
ZMM91	91	1	85 ... 96	<450	<2000	0.1	<0.1	<10	68	0.05 ... 0.12
ZMM100	100	1	94 ... 106	<450	<5000	0.1	<0.1	<10	75	0.05 ... 0.12
ZMM110	110	1	104 ... 116	<600	<5000	0.1	<0.1	<10	82	0.05 ... 0.12
ZMM120	120	1	114 ... 127	<800	<5500	0.1	<0.1	<10	91	0.05 ... 0.12
ZMM130	130	1	124 ... 141	<950	<6000	0.1	<0.1	<10	100	0.05 ... 0.12
ZMM150	150	1	138 ... 156	<1250	<6500	0.1	<0.1	<10	110	0.05 ... 0.12
ZMM160	160	1	153 ... 171	<1400	<7000	0.1	<0.1	<10	120	0.05 ... 0.12
ZMM180	180	1	168 ... 191	<1700	<8500	0.1	<0.1	<10	130	0.05 ... 0.12
ZMM200	200	1	188 ... 212	<2000	<10000	0.1	<0.1	<10	150	0.05 ... 0.12

¹⁾ Tested with pulses $t_p = 20$ ms.

²⁾ Valid provided that electrodes are kept at ambient temperature.

³⁾ The ZMM1 is a silicon diode with operation in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode electrode to the negative pole.



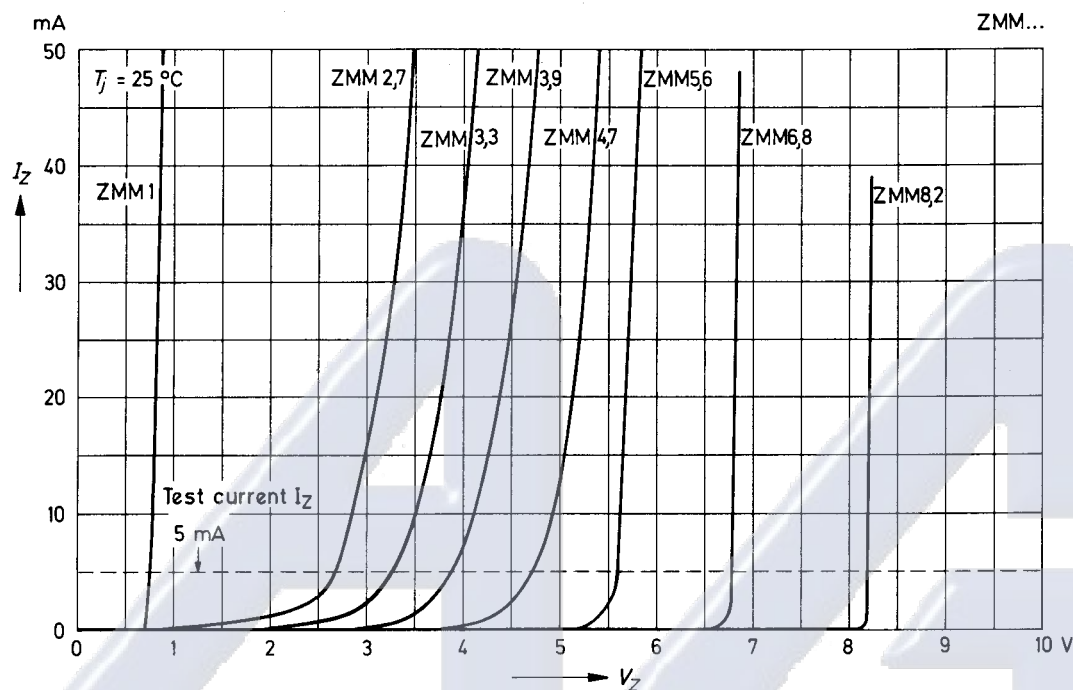
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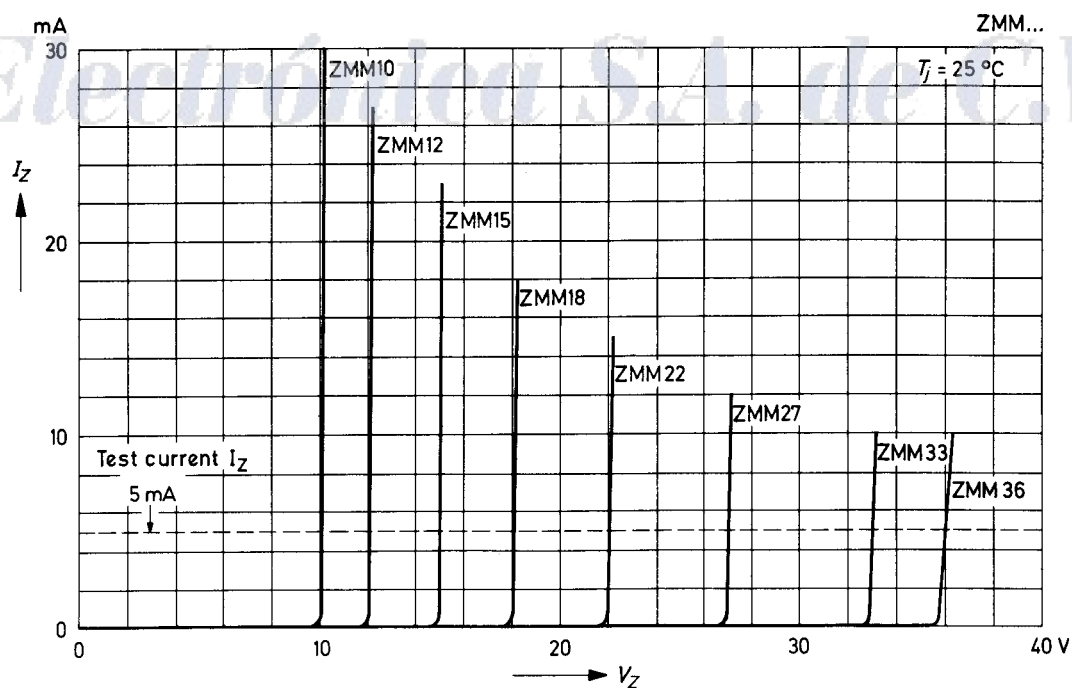


ZMM 1 ... ZMM 200

Breakdown characteristics

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

Breakdown characteristics

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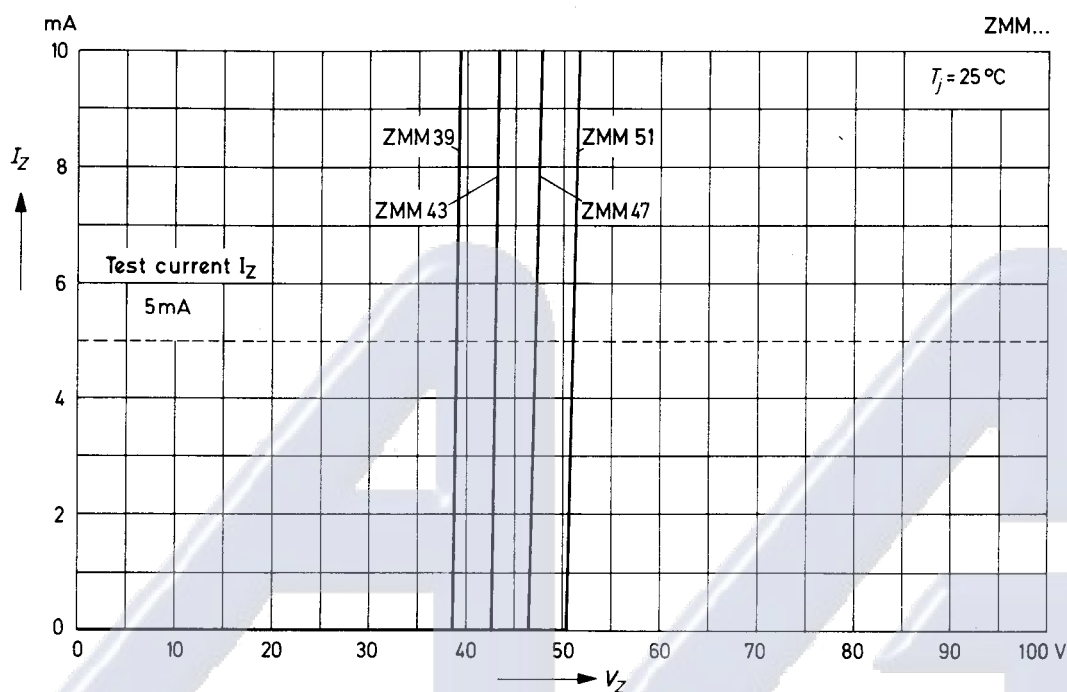
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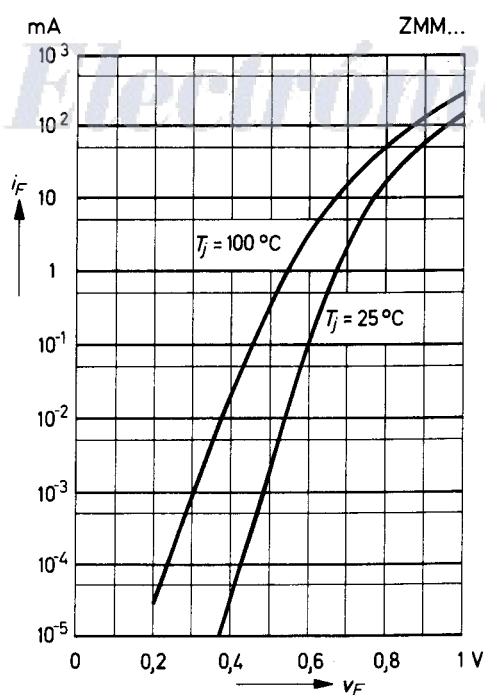


ZMM 1 ... ZMM 200

Breakdown characteristics

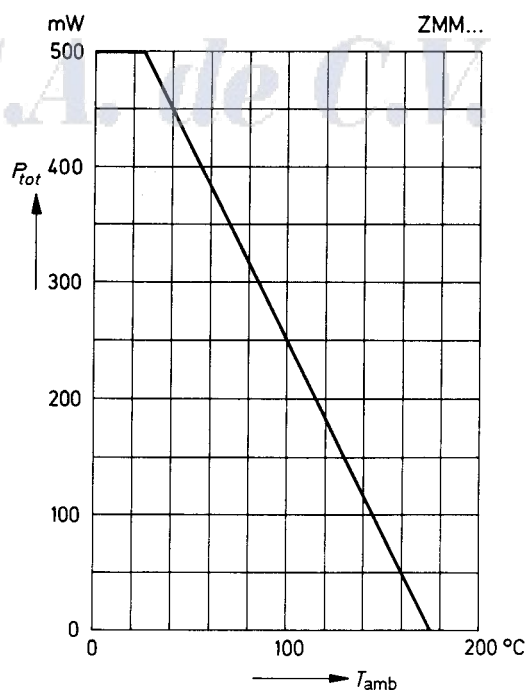
 $T_j = \text{constant (pulsed)}$ 

Forward characteristics



Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature.



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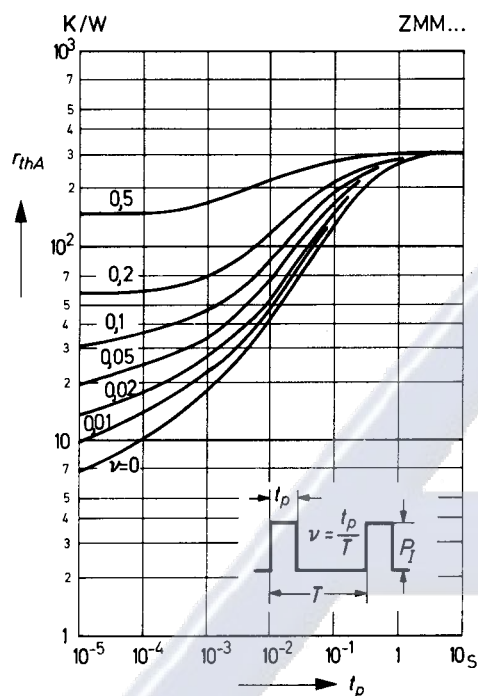
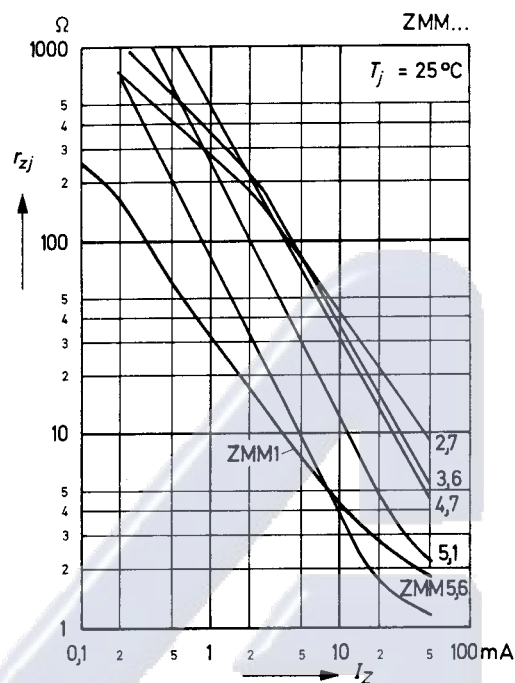
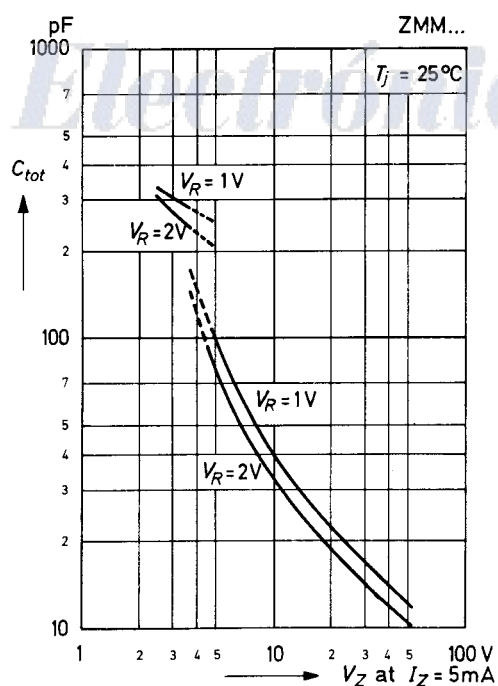
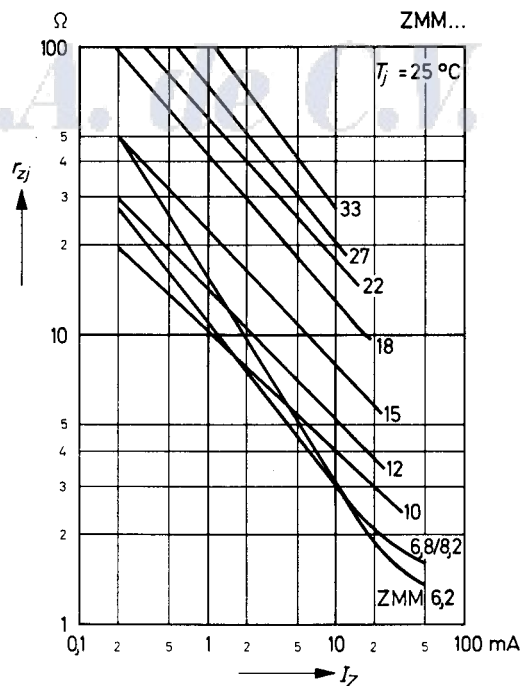
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ZMM 1 ... ZMM 200

Pulse thermal resistance
versus pulse duration

Valid provided that the electrodes are kept
at ambient temperature.

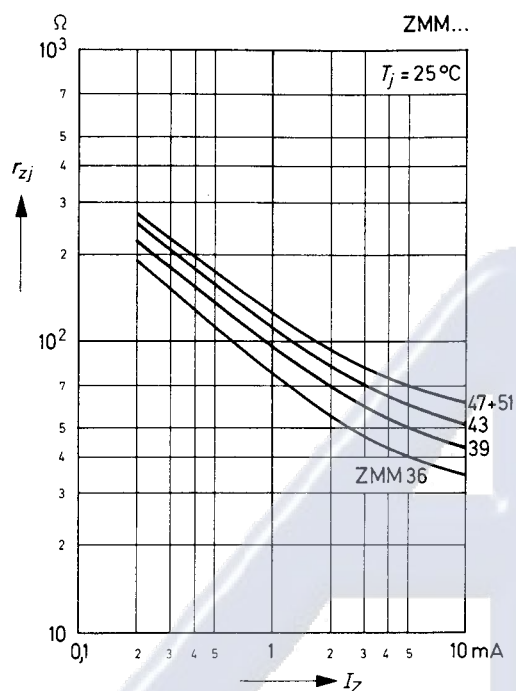
Dynamic resistance
versus Zener currentCapacitance versus
Zener voltageDynamic resistance
versus Zener current

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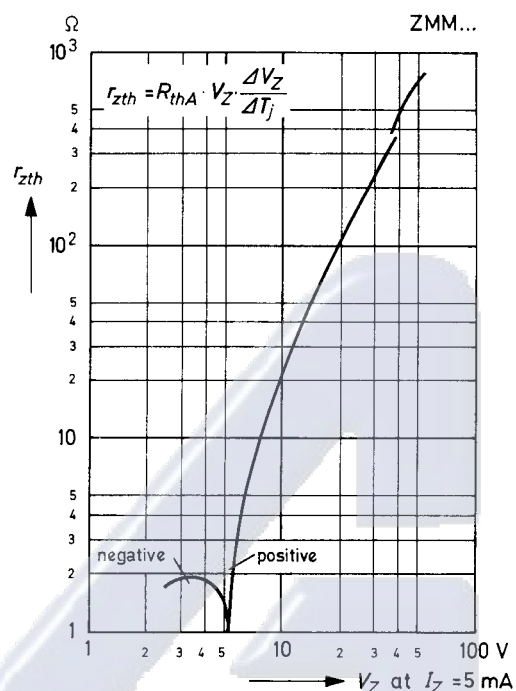
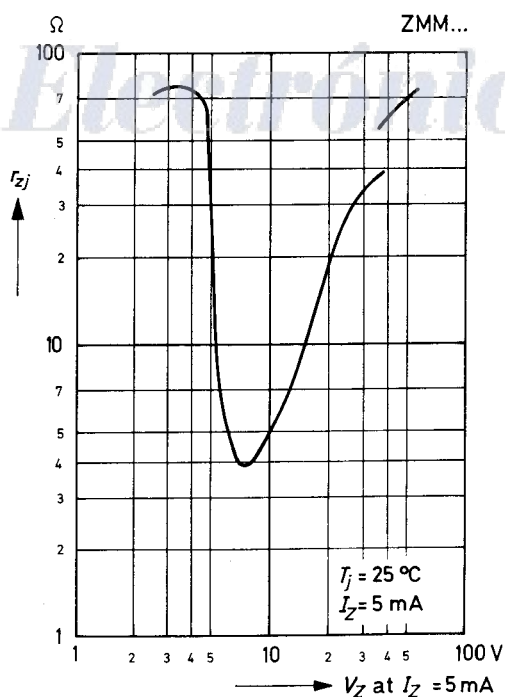
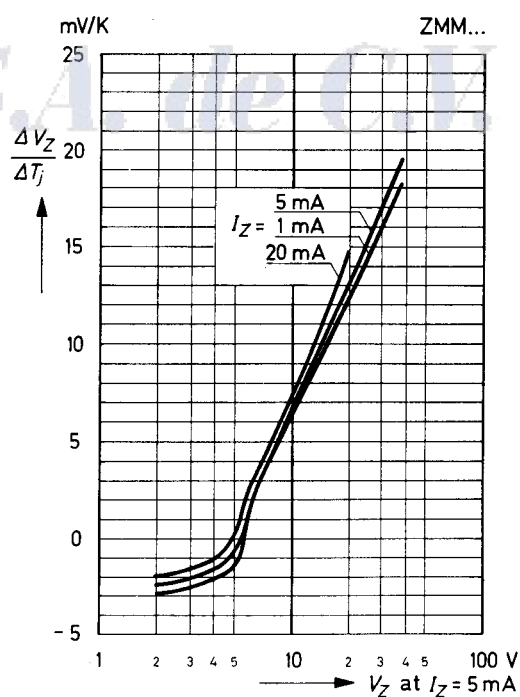
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ZMM 1 ... ZMM 200

**Dynamic resistance
versus Zener current**

**Thermal differential resistance
versus Zener voltage**

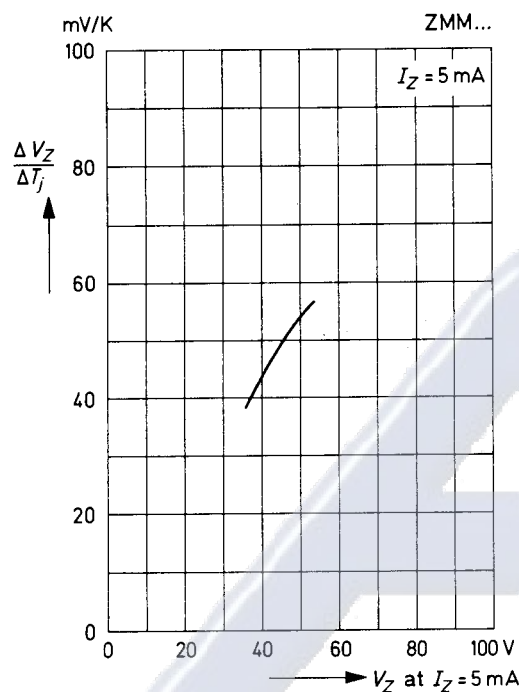
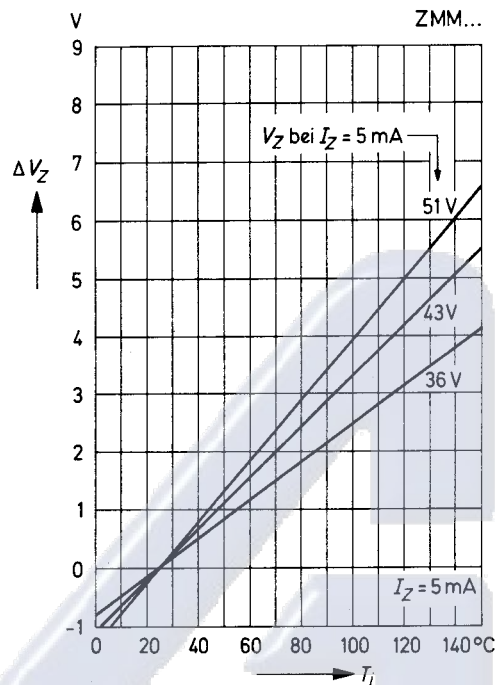
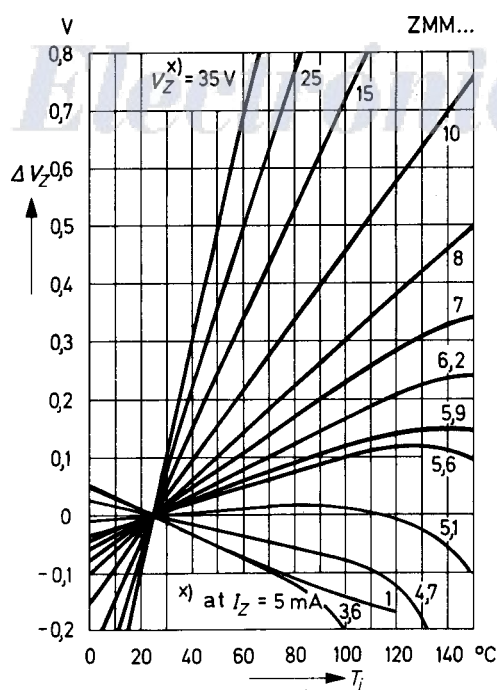
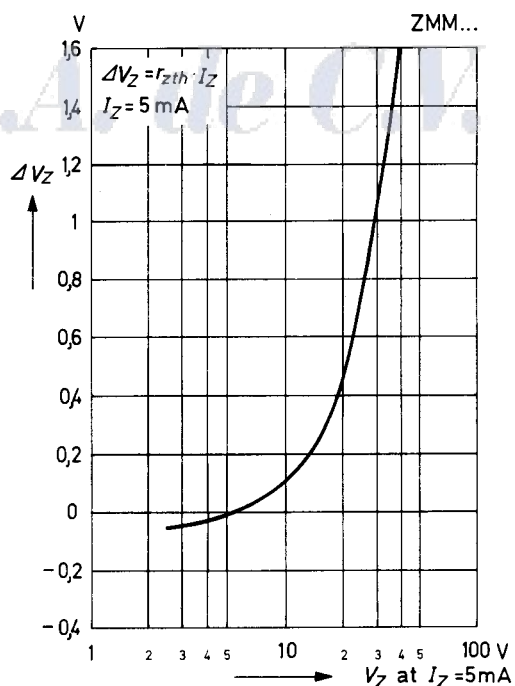
Valid provided that electrodes are kept at ambient temperature.


**Dynamic resistance
versus Zener voltage**

**Temperature dependence of Zener voltage
versus Zener voltage**

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ZMM 1 ... ZMM 200

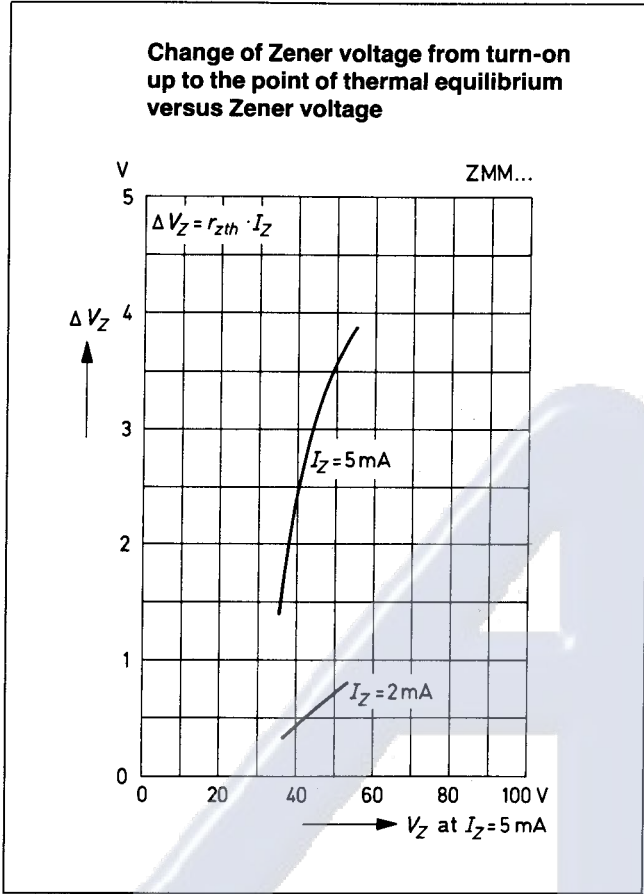
Temperature dependence of Zener voltage
versus Zener voltageChange of Zener voltage
versus junction temperatureChange of Zener voltage
versus junction temperatureChange of Zener voltage from turn-on
up to the point of thermal equilibrium
versus Zener voltage

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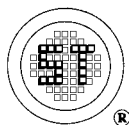
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ZMM 1 ... ZMM 200



Electrónica S.A. de C.V.



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