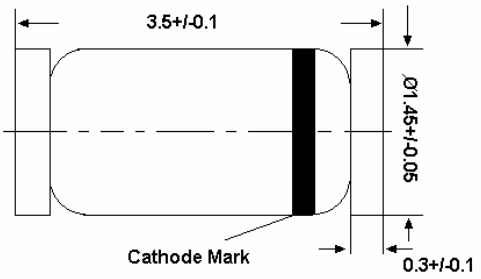
SILICON PLANAR ZENER DIODES

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

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

LL-34



Glass case MiniMELF
Dimensions in mm

Absolute Maximum Ratings (T_a = 25°C)

	Symbol	Value	Unit
Power Dissipation	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

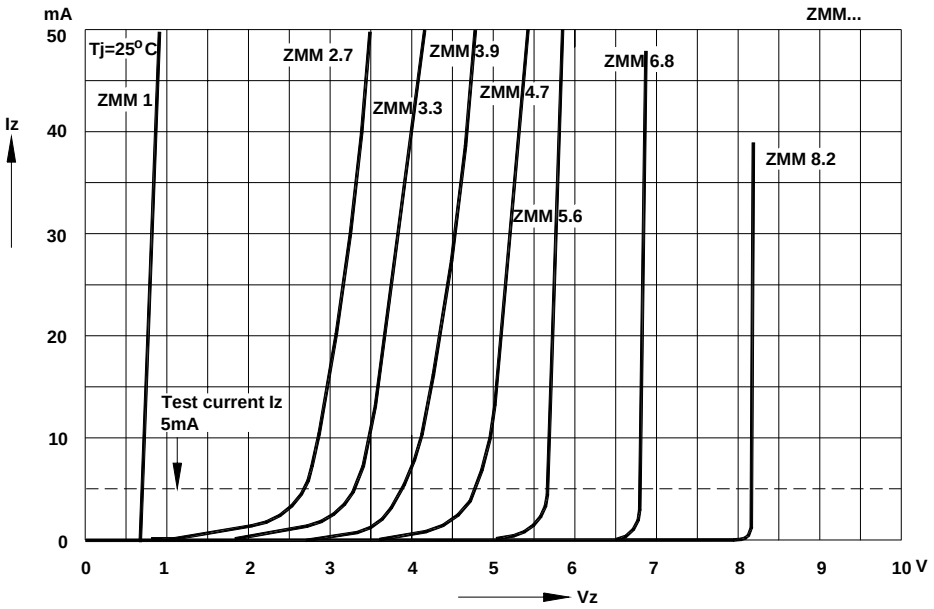
	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	-	-	0.3[1)]	K/mW
Forward Voltage at I_F = 100mA	V_F	-	-	1	V
[1)] Valid provided that electrodes are kept at ambient temperature					

Type	Zener Voltage Range[1]			Dynamic Resistance			Reverse Leakage Current			Temp coefficient of Zener Voltage
	Vznom	I_{ZT} for V_{ZT}[2]		r_{ZJT}	r_{ZJK} at	I_{ZK}	T_a =25°C	T_a = 125°C	I_R at V_R	TKvz
	V	mA	V	Ω	Ω	mA	μA	μA	V	%/K
ZMM 1[3]	0.75	5	0.7...0.8	<8	<50	1	--	--	--	-0.26...-0.23
ZMM 2V0	2.0	5	1.80...2.15	<85	<600	1	<100	<200	1	-0.09...-0.06
ZMM 2V2	2.2	5	2.08...2.33	<85	<600	1	<75	<160	1	-0.09...-0.06
ZMM 2V4	2.4	5	2.28...2.56	<85	<600	1	<50	<100	1	-0.09...-0.06
ZMM 2V7	2.7	5	2.5...2.9	<85	<600	1	<10	<50	1	-0.09...-0.06
ZMM 3V0	3.0	5	2.8...3.2	<85	<600	1	<4	<40	1	-0.08...-0.05
ZMM 3V3	3.3	5	3.1...3.5	<85	<600	1	<2	<40	1	-0.08...-0.05
ZMM 3V6	3.6	5	3.4...3.8	<85	<600	1	<2	<40	1	-0.08...-0.05
ZMM 3V9	3.9	5	3.7...4.1	<85	<600	1	<2	<40	1	-0.08...-0.05
ZMM 4V3	4.3	5	4.0...4.6	<75	<600	1	<1	<20	1	-0.06...-0.03
ZMM 4V7	4.7	5	4.4...5.0	<60	<600	1	<0.5	<10	1	-0.05...+0.02
ZMM 5V1	5.1	5	4.8...5.4	<35	<550	1	<0.1	<2	1	-0.02...+0.02
ZMM 5V6	5.6	5	5.2...6.0	<25	<450	1	<0.1	<2	1	-0.05...+0.05
ZMM 6V2	6.2	5	5.8...6.6	<10	<200	1	<0.1	<2	2	0.03...0.06
ZMM 6V8	6.8	5	6.4...7.2	<8	<150	1	<0.1	<2	3	0.03...0.07
ZMM 7V5	7.5	5	7.0...7.9	<7	<50	1	<0.1	<2	5	0.03...0.07
ZMM 8V2	8.2	5	7.7...8.7	<7	<50	1	<0.1	<2	6.2	0.03...0.08
ZMM 9V1	9.1	5	8.5...9.6	<10	<50	1	<0.1	<2	6.8	0.03...0.09
ZMM 10	10	5	9.4...10.6	<15	<70	1	<0.1	<2	7.5	0.03...0.1
ZMM 11	11	5	10.4...11.6	<20	<70	1	<0.1	<2	8.2	0.03...0.11
ZMM 12	12	5	11.4...12.7	<20	<90	1	<0.1	<2	9.1	0.03...0.11
ZMM 13	13	5	12.4...14.1	<26	<110	1	<0.1	<2	10	0.03...0.11
ZMM 15	15	5	13.8...15.6	<30	<110	1	<0.1	<2	11	0.03...0.11
ZMM 16	16	5	15.3...17.1	<40	<170	1	<0.1	<2	12	0.03...0.11
ZMM 18	18	5	16.8...19.1	<50	<170	1	<0.1	<2	13	0.03...0.11
ZMM 20	20	5	18.8...21.2	<55	<220	1	<0.1	<2	15	0.03...0.11
ZMM 22	22	5	20.8...23.3	<55	<220	1	<0.1	<2	16	0.04...0.12
ZMM 24	24	5	22.8...25.6	<80	<220	1	<0.1	<2	18	0.04...0.12
ZMM 27	27	5	25.1...28.9	<80	<220	1	<0.1	<2	20	0.04...0.12
ZMM 30	30	5	28...32	<80	<220	1	<0.1	<2	22	0.04...0.12
ZMM 33	33	5	31...35	<80	<220	1	<0.1	<2	24	0.04...0.12
ZMM 36	36	5	34...38	<80	<220	1	<0.1	<2	27	0.04...0.12
ZMM 39	39	2.5	37...41	<90	<500	0.5	<0.1	<5	30	0.04...0.12
ZMM 43	43	2.5	40...46	<90	<500	0.5	<0.1	<5	33	0.04...0.12
ZMM 47	47	2.5	44...50	<110	<600	0.5	<0.1	<5	36	0.04...0.12
ZMM 51	51	2.5	48...54	<125	<700	0.5	<0.1	<10	39	0.04...0.12
ZMM 56	56	2.5	52...60	<135	<700	0.5	<0.1	<10	43	0.04...0.12
ZMM 62	62	2.5	58...66	<150	<1000	0.5	<0.1	<10	47	0.04...0.12
ZMM 68	68	2.5	64...72	<200	<1000	0.5	<0.1	<10	51	0.04...0.12
ZMM 75	75	2.5	70...79	<250	<1000	0.5	<0.1	<10	56	0.04...0.12
ZMM 82	82	2.5	77...87	<300	<1500	0.25	<0.1	<10	62	0.05...0.12
ZMM 91	91	1	85...96	<450	<2000	0.1	<0.1	<10	68	0.05...0.12
ZMM 100	100	1	94...106	<450	<5000	0.1	<0.1	<10	75	0.05...0.12
ZMM 110	110	1	104...116	<600	<5000	0.1	<0.1	<10	82	0.05...0.12
ZMM 120	120	1	114...127	<800	<5500	0.1	<0.1	<10	91	0.05...0.12
ZMM 130	130	1	124...141	<950	<6000	0.1	<0.1	<10	100	0.05...0.12
ZMM 150	150	1	138...156	<1250	<6500	0.1	<0.1	<10	110	0.05...0.12
ZMM 160	160	1	153...171	<1400	<7000	0.1	<0.1	<10	120	0.05...0.12
ZMM 180	180	1	168...191	<1700	<8500	0.1	<0.1	<10	130	0.05...0.12
ZMM 200	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.

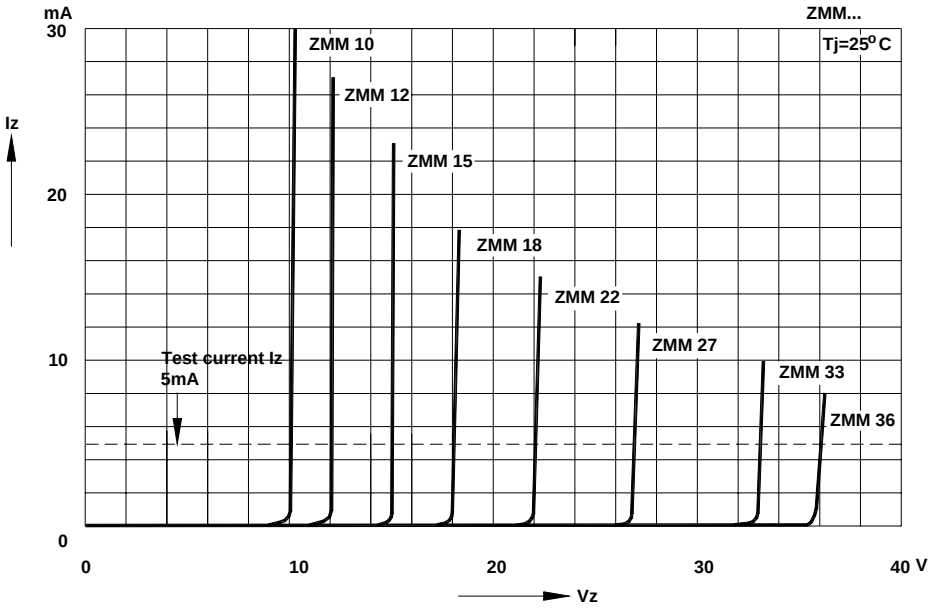
Breakdown characteristics

T_j = constant (pulsed)



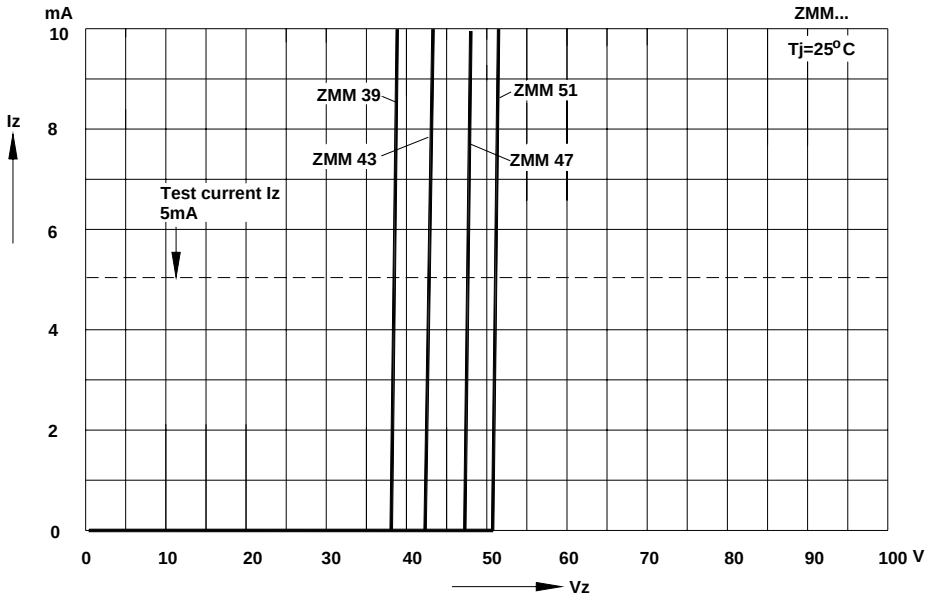
Breakdown characteristics

T_j = constant (pulsed)

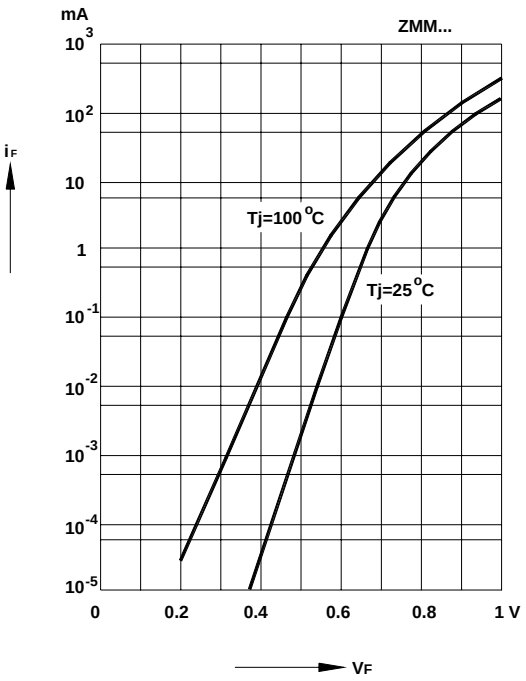


Breakdown characteristics

T_j = constant (pulsed)

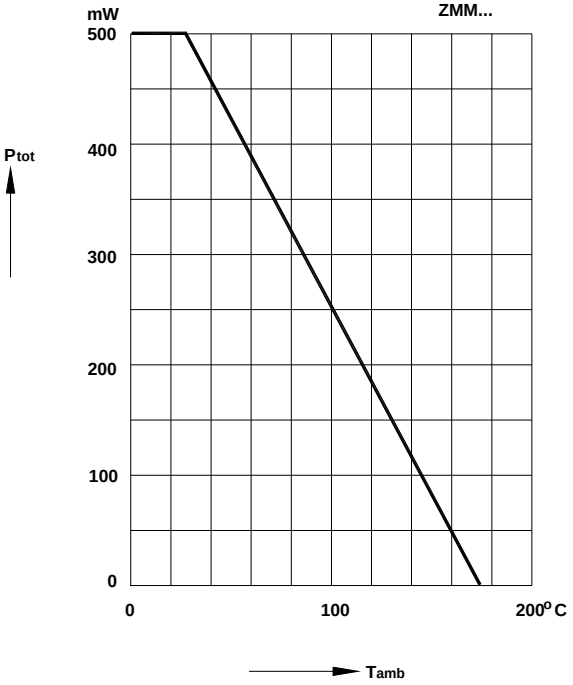


Forward characteristics



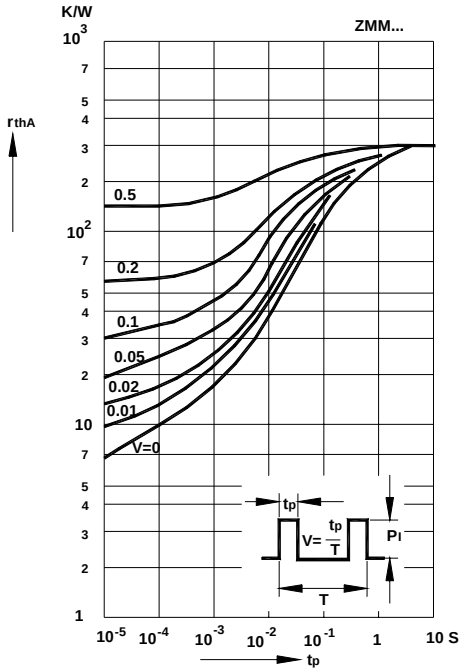
Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature.

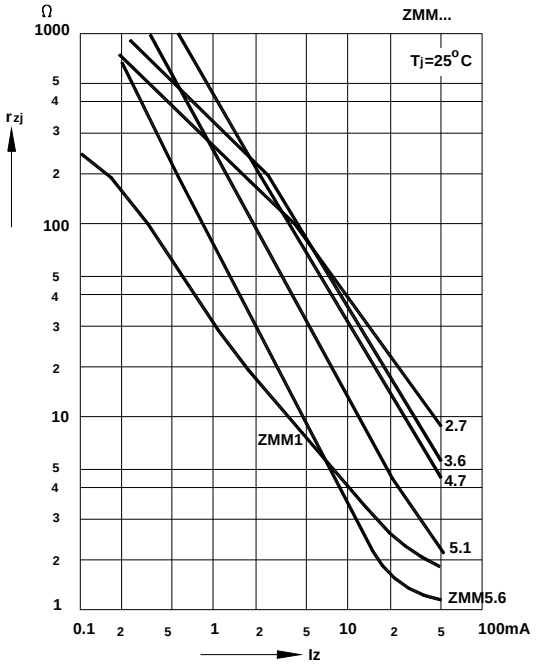


Pulse thermal resistance versus pulse duration

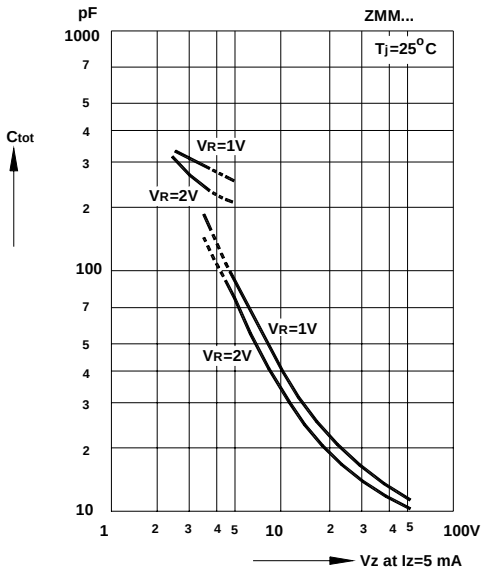
Valid provided that the electrodes are kept at ambient temperature.



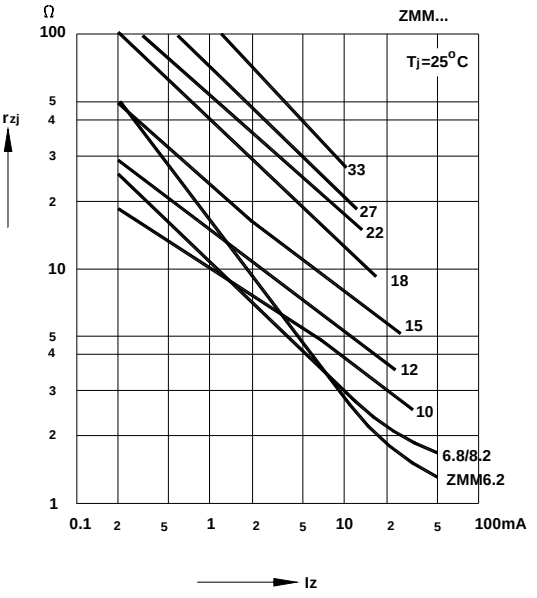
Dynamic resistance versus Zener current



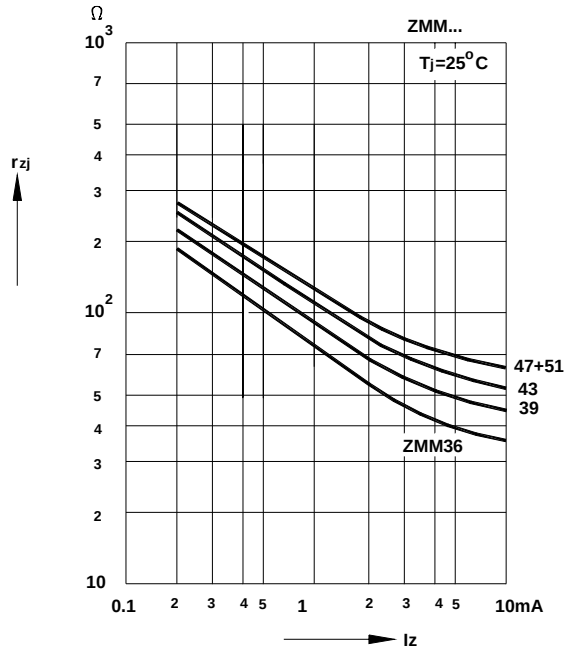
Capacitance versus Zener voltage



Dynamic resistance versus Zener current

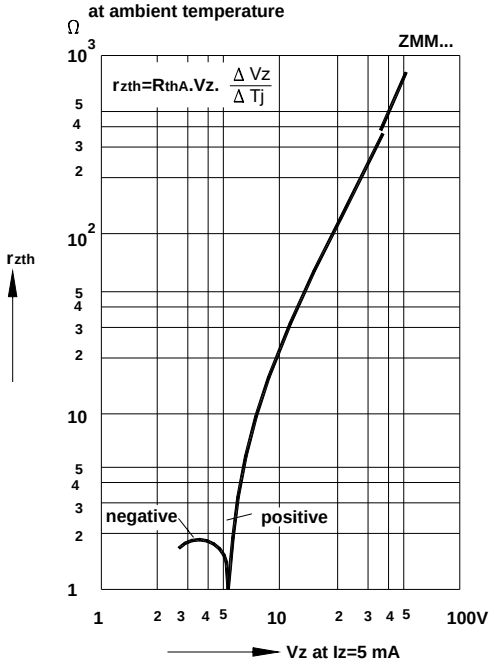


Dynamic resistance versus Zener current

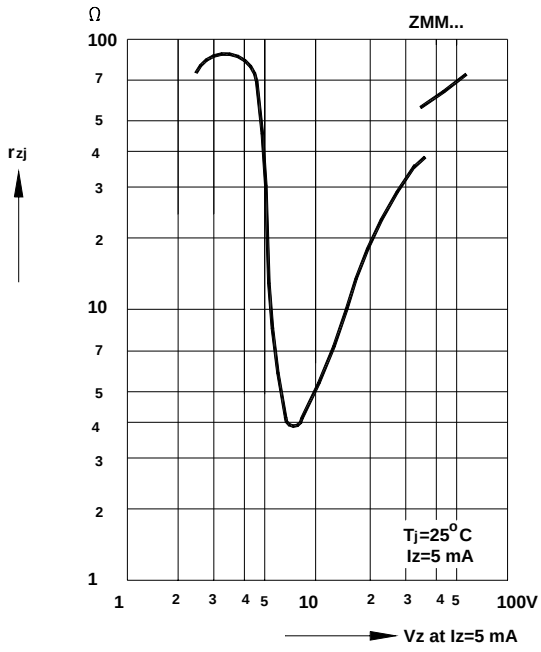


Thermal differential resistance versus Zener voltage

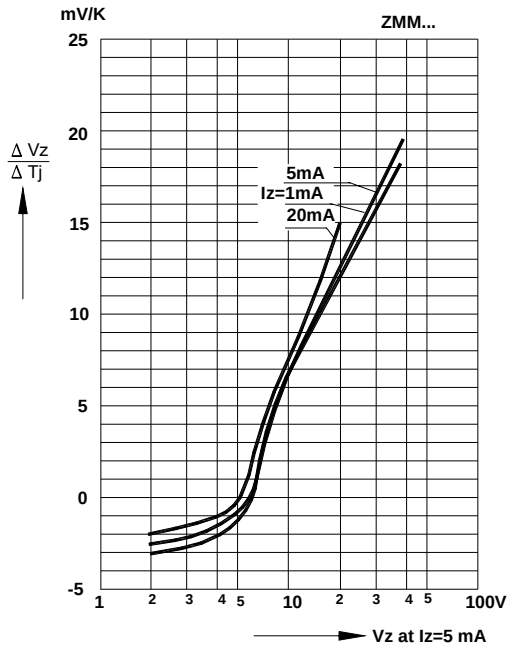
Valid provided that electrodes are kept at ambient temperature



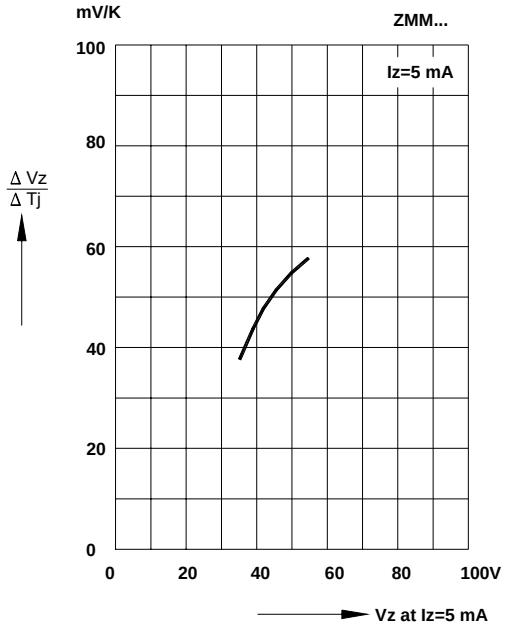
Dynamic resistance versus Zener voltage



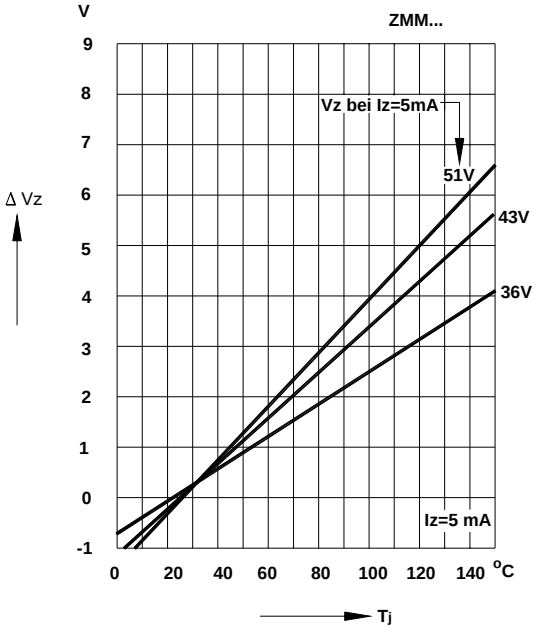
Temperature dependence of Zener voltage versus Zener voltage



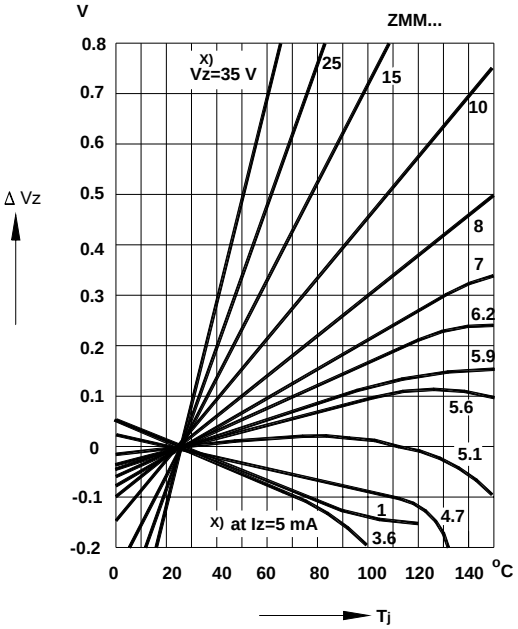
Temperature dependence of Zener voltage versus Zener voltage



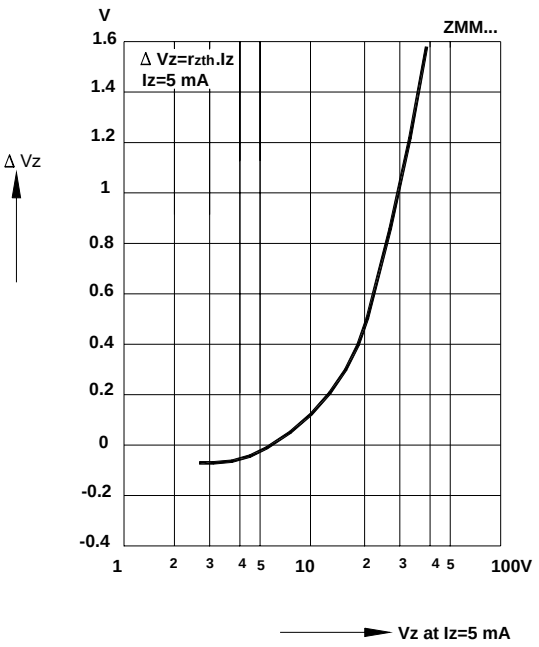
Change of Zener voltage versus junction temperature



Change of Zener voltage versus junction temperature



Change of Zener voltge from turn-on up to the point of thermal equilibrium versus Zener voltage



Change of Zener voltge from turn-on up to the point of thermal equilibrium versus Zener voltage

