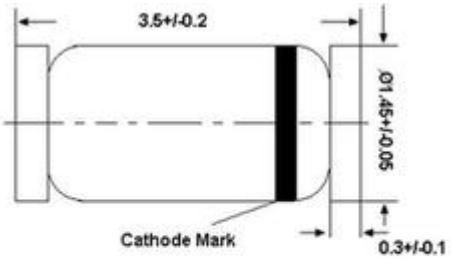
ZMM1B...ZMM75B

Silicon Epitaxial Planar Zener Diodes

In MiniMELF case especially for automatic insertion.

These diodes are also available in DO-35 case with the type designation BZX55B...

LL-34



Glass case MiniMELF
Dimensions in mm

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500 [1]	mW
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	$R_{\theta JA}$	0.3 [1]	K/mW
Forward Voltage at I_F = 100 mA	V_F	1	V
[1] Valid provided that electrodes are kept at ambient temperature			

Characteristics at T_a = 25 °C

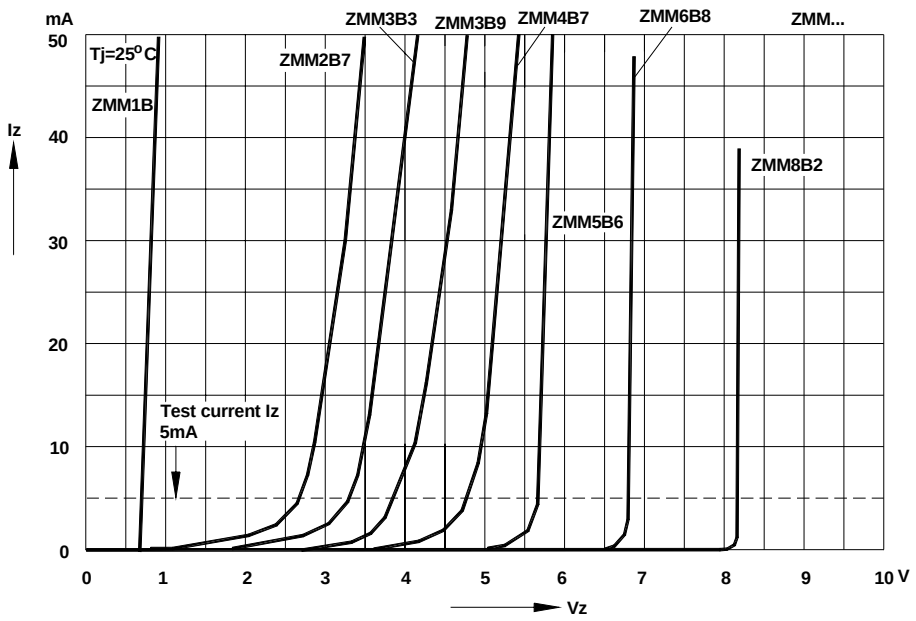
Type	Zener Voltage Range [1]			Dynamic Resistance			Reverse Leakage Current			Temp coefficient of Zener Voltage
	V_{Znom}	V_{ZT}	at I_{ZT}	Z_{ZT}	Z_{ZK}	at I_{ZK}	T_a = 25 °C	T_a = 125 °C	at V_R	
	(V)	(V)	(mA)	Max. (Ω)	Max. (Ω)	(mA)	Max. (µA)	Max. (µA)	(V)	TKvz (%/K)
ZMM1B [2]	0.75	0.73…0.77	5	8	50	1	-	-	-	-0.26...-0.23
ZMM2B0	2	1.96…2.04	5	85	600	1	100	200	1	-0.09...-0.06
ZMM2B2	2.2	2.16…2.24	5	85	600	1	75	160	1	-0.09...-0.06
ZMM2B4	2.4	2.35…2.45	5	85	600	1	50	100	1	-0.09...-0.06
ZMM2B7	2.7	2.65…2.75	5	85	600	1	10	50	1	-0.09...-0.06
ZMM3B0	3	2.94…3.06	5	85	600	1	4	40	1	-0.08...-0.05
ZMM3B3	3.3	3.23…3.37	5	85	600	1	2	40	1	-0.08...-0.05
ZMM3B6	3.6	3.53…3.67	5	85	600	1	2	40	1	-0.08...-0.05
ZMM3B9	3.9	3.82…3.98	5	85	600	1	2	40	1	-0.08...-0.05
ZMM4B3	4.3	4.21…4.39	5	75	600	1	1	20	1	-0.06...-0.03
ZMM4B7	4.7	4.61…4.79	5	60	600	1	0.5	10	1	-0.05...+0.02
ZMM5B1	5.1	5…5.2	5	35	550	1	0.1	2	1	-0.02...+0.02
ZMM5B6	5.6	5.49…5.71	5	25	450	1	0.1	2	1	-0.05...+0.05
ZMM6B2	6.2	6.08…6.32	5	10	200	1	0.1	2	2	0.03...0.06
ZMM6B8	6.8	6.66…6.94	5	8	150	1	0.1	2	3	0.03...0.07
ZMM7B5	7.5	7.35…7.65	5	7	50	1	0.1	2	5	0.03...0.07
ZMM8B2	8.2	8.04…8.36	5	7	50	1	0.1	2	6.2	0.03...0.08
ZMM9B1	9.1	8.92…9.28	5	10	50	1	0.1	2	6.8	0.03...0.09
ZMM10B	10	9.8…10.2	5	15	70	1	0.1	2	7.5	0.03...0.1
ZMM11B	11	10.78…11.22	5	20	70	1	0.1	2	8.2	0.03...0.11
ZMM12B	12	11.76…12.24	5	20	90	1	0.1	2	9.1	0.03...0.11
ZMM13B	13	12.74…13.26	5	26	110	1	0.1	2	10	0.03...0.11
ZMM15B	15	14.7…15.3	5	30	110	1	0.1	2	11	0.03...0.11
ZMM16B	16	15.68…16.32	5	40	170	1	0.1	2	12	0.03...0.11
ZMM18B	18	17.64…18.36	5	50	170	1	0.1	2	13	0.03...0.11
ZMM20B	20	19.6…20.4	5	55	220	1	0.1	2	15	0.03...0.11
ZMM22B	22	21.56…22.44	5	55	220	1	0.1	2	16	0.04...0.12
ZMM24B	24	23.52…24.48	5	80	220	1	0.1	2	18	0.04...0.12
ZMM27B	27	26.46…27.54	5	80	220	1	0.1	2	20	0.04...0.12
ZMM30B	30	29.4…30.6	5	80	220	1	0.1	2	22	0.04...0.12
ZMM33B	33	32.34…33.66	5	80	220	1	0.1	2	24	0.04...0.12
ZMM36B	36	35.28…36.72	5	80	220	1	0.1	2	27	0.04...0.12
ZMM39B	39	38.22…39.78	2.5	90	500	0.5	0.1	5	30	0.04...0.12
ZMM43B	43	42.14…43.86	2.5	90	500	0.5	0.1	5	33	0.04...0.12
ZMM47B	47	46.06…47.94	2.5	110	600	0.5	0.1	5	36	0.04...0.12
ZMM51B	51	49.98…52.02	2.5	125	700	0.5	0.1	10	39	0.04...0.12
ZMM56B	56	54.88…57.12	2.5	135	700	0.5	0.1	10	43	0.04...0.12
ZMM62B	62	60.76…63.24	2.5	150	1000	0.5	0.1	10	47	0.04...0.12
ZMM68B	68	66.64…69.36	2.5	200	1000	0.5	0.1	10	51	0.04...0.12
ZMM75B	75	73.5…76.5	2.5	250	1000	0.5	0.1	10	56	0.04...0.12

[1] Tested with pulses t_p = 20 ms.

[2] The ZMM1B 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.

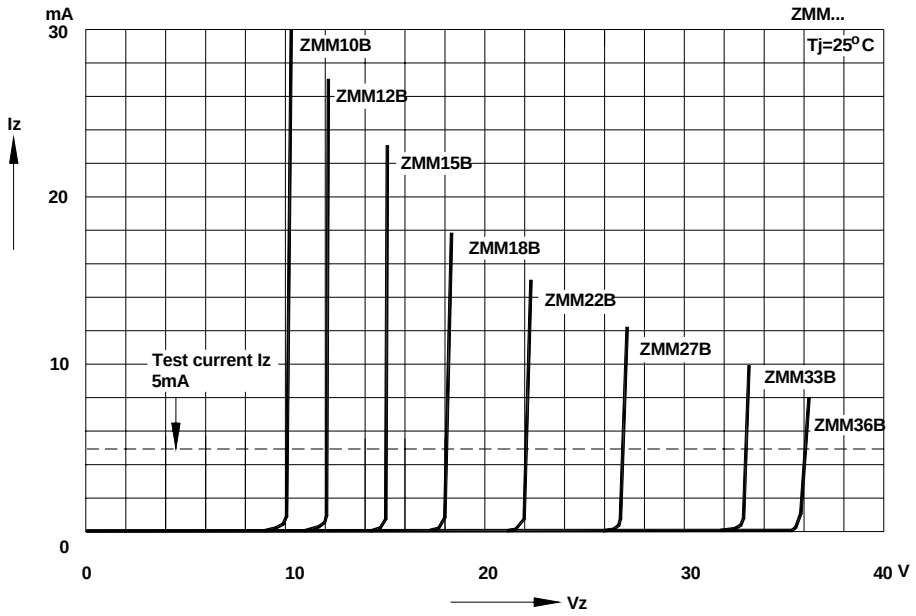
Breakdown characteristics

T_j = constant (pulsed)



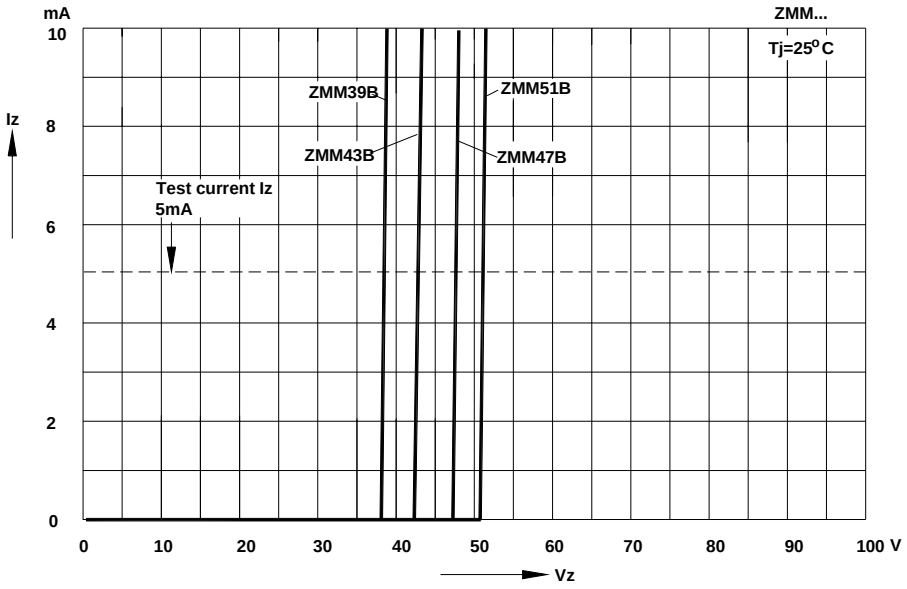
Breakdown characteristics

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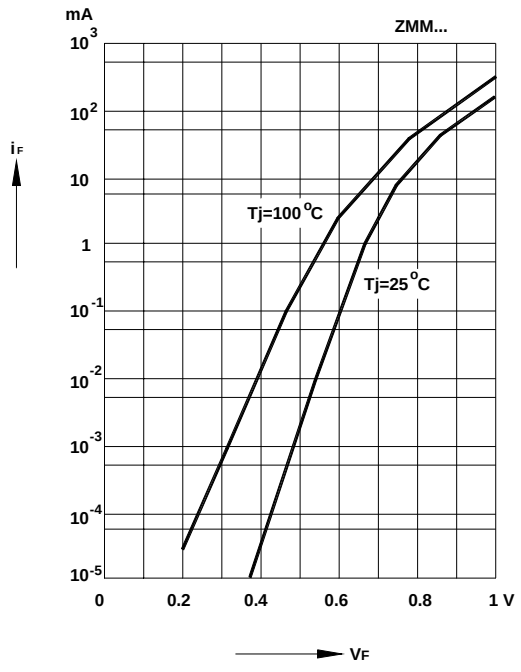


Breakdown characteristics

T_j = constant (pulsed)

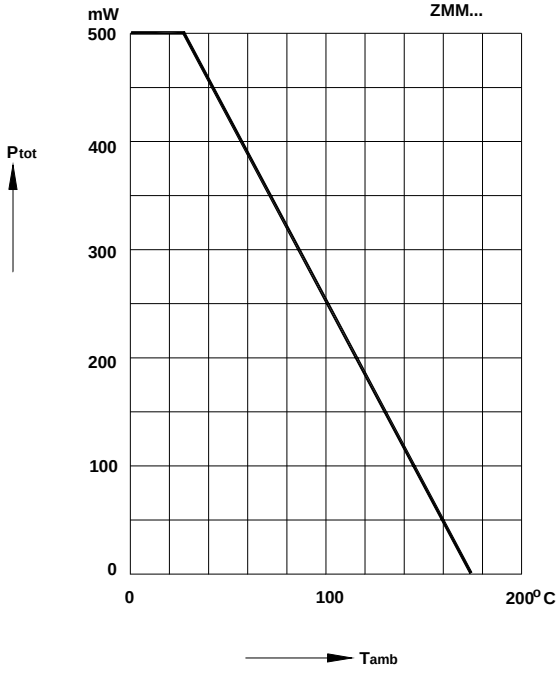


Forward characteristics



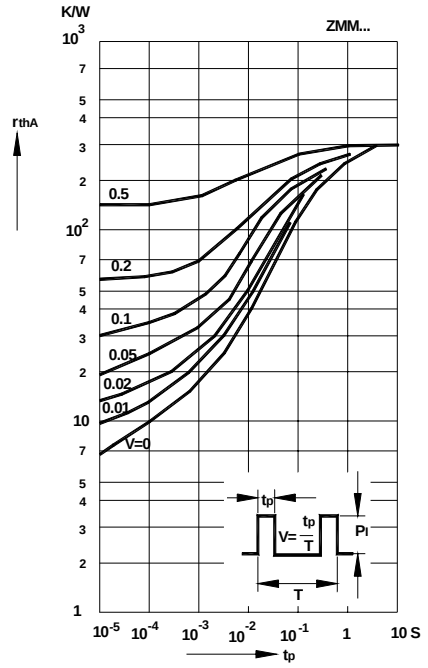
Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature.

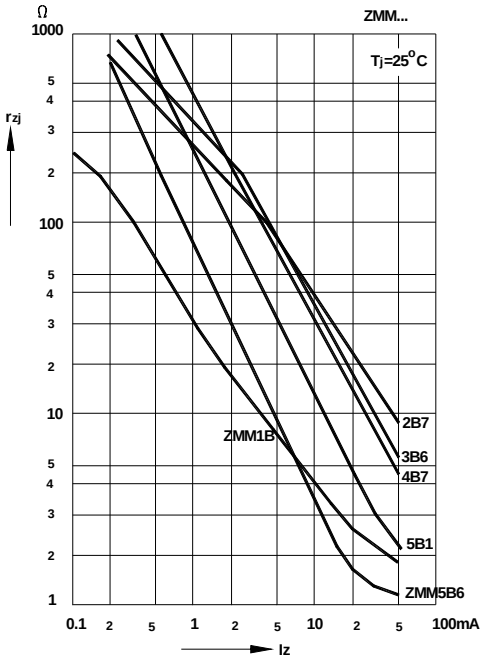


Pulse thermal resistance versus pulse duration

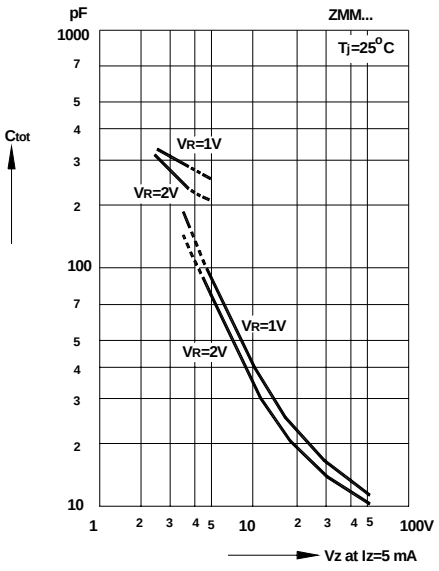
Valid provided that the electrodes are kept at ambient temperature.



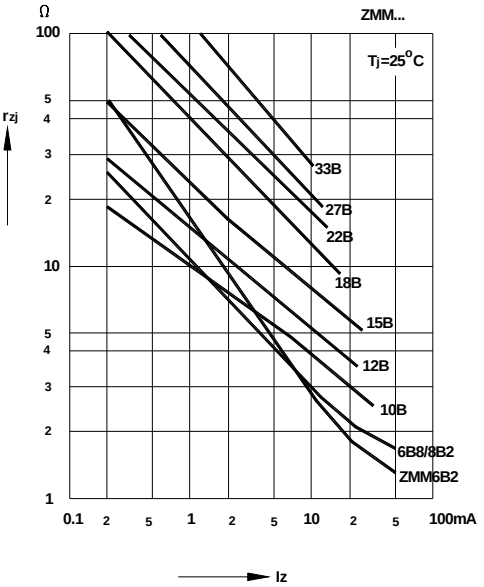
Dynamic resistance versus Zener current



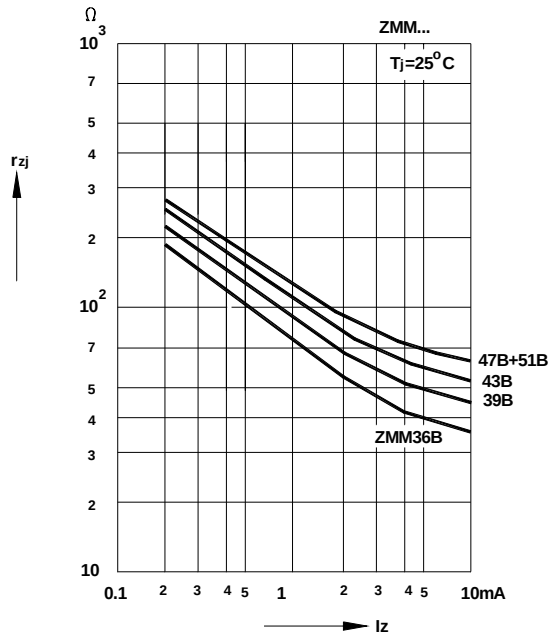
Capacitance versus Zener voltage



Dynamic resistance versus Zener current

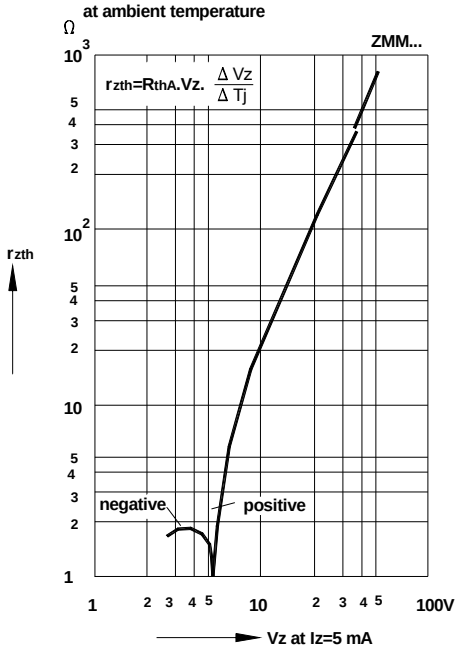


Dynamic resistance versus Zener current

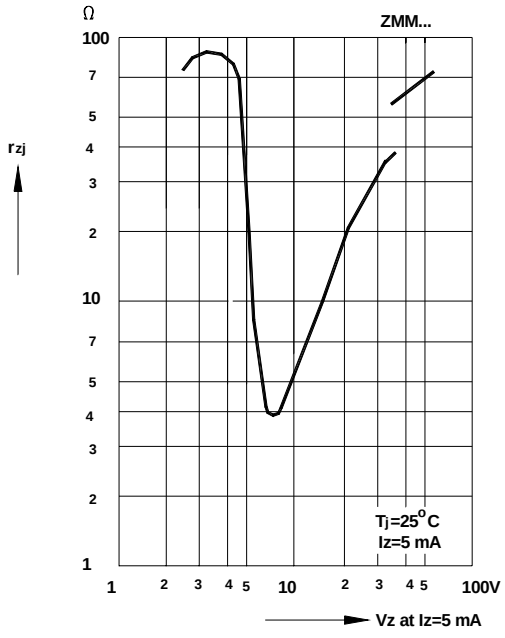


Thermal differential resistance versus Zener voltage

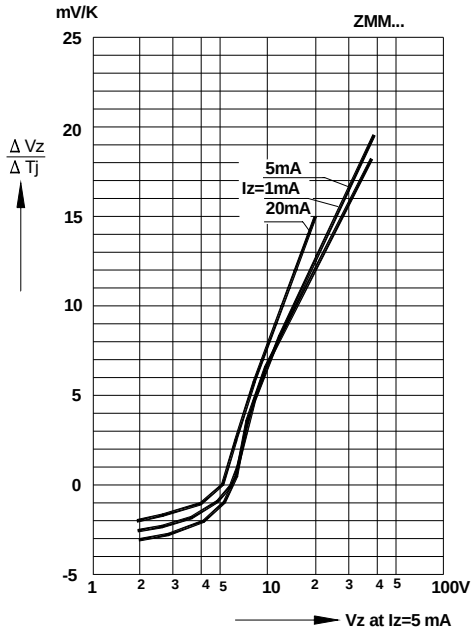
Valid provided that electrodes are kept at ambient temperature



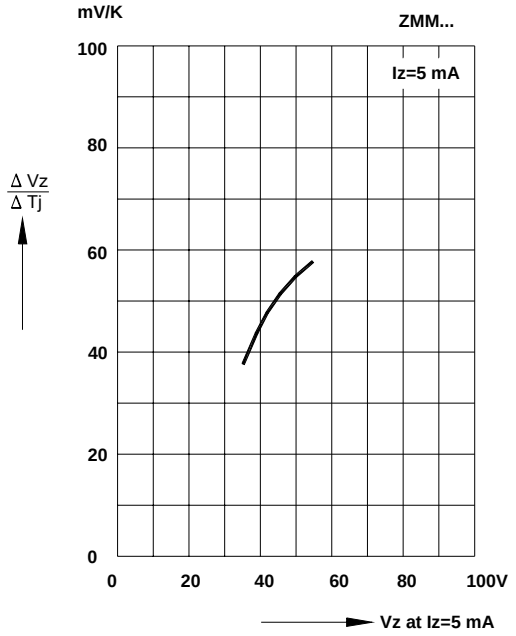
Dynamic resistance versus Zener voltage



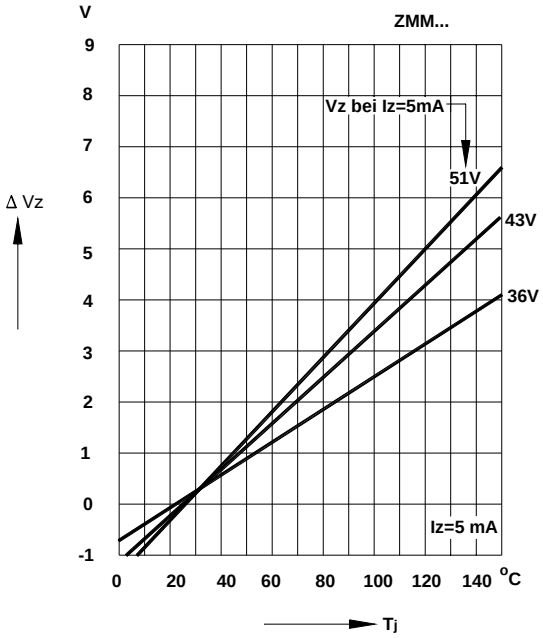
Temperature dependence of Zener voltage versus Zener voltage



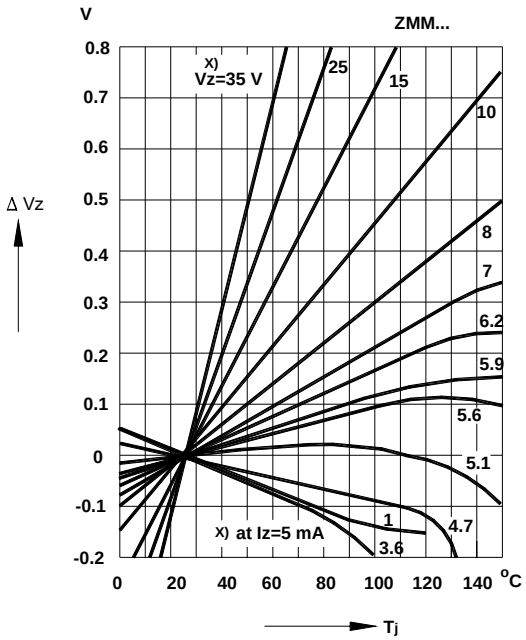
Temperature dependence of Zener voltage versus Zener voltage



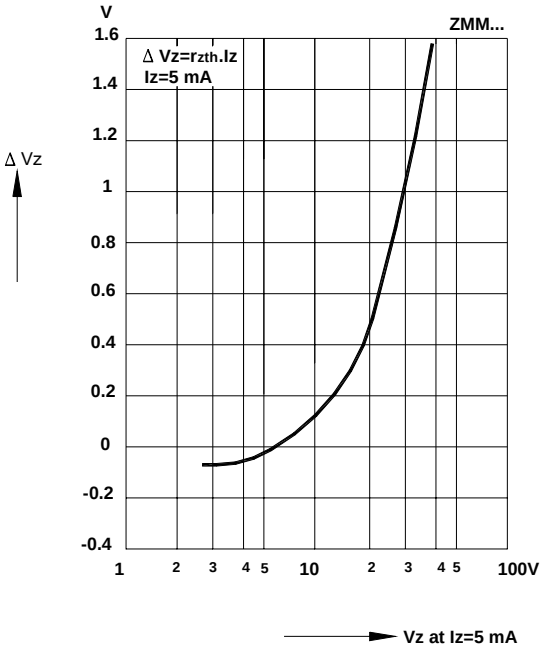
Change of Zener voltage versus junction temperature



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

