ZENER DIODE

MZ0.5GE SERIES

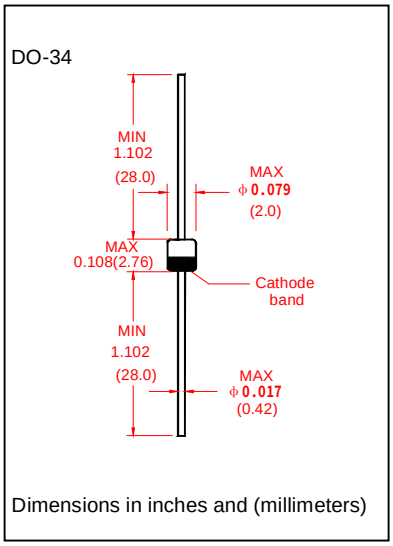
MZ0.5GE2V0-20 THRU MZ0.5GE75V-1.7

MZ0.5GE2V THRU MZ0.5GE75V

TECHHICAL SPECIFICATION

FEATURES

- Silicon Planar Power Zener Diodes
- Standard Zener Voltage Tolerance is ±5%
- DO-34 Glass Case
- High Reliability
- Weight: Approx. 0.09g



Dimensions in inches and (millimeters)

ABSOLUTE MAXIMUM RATINGE: (Ta=25℃)

Parameter	Symbols	Limits	Unit
Power Dissipation at T_{amb}=75℃	P_{tot}	500(1)	mw
Maximum Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～+150	℃

	Symbols	Min	Typ	Max	Unit
Thermal Resistance Junction to Ambient Air	R_{thJA}	-	-	300(1)	℃/W
Forward Voltage at I_F=100mA	V_F	-	-	1.2	Volts

Notes

1. Valid provided that at a distance of 8mm from case are kept at ambient temperature :
2. Tested with pulse t_p=5ms
3. Valid provided that leads are kept at ambient temperature at a distance of 8mm from case
4. Standard zener voltage tolerance is ±5%. Add suffix "A" for ±10% tolerance.
5. At Iz = 0.15mA
6. At Iz = 0.125mA.

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Ratings at 25℃ ambient temperature unless otherwise specified

Type	Zener Valtage[2] $V_{Z(v)}$ ($\triangle V_Z <= \pm 5\%$)[4]		Dynamic Resistance		Temp coeff of Zener Volotage α Vz(%/k)	Reverse leakage current $I_{R(Ma)}$		Admissible Zener Current[3] $I_{ZT(Ma)}$
			f=1KHz $Z_{ZT}(\Omega)$ At I_{ZT}	f=1KHZ I_{ZK}=0.25Ma $Z_{ZK}(\Omega)$				
		at $I_{zt(mA)}$	MAX	MIN		MAX	$V_{R(VA)}$	MAX
MZO.5GE2V0-20	2.0	20	38	1500		150	0.5	205
MZO.5GE2V2-20	2.2	20	35	1500		150	0.5	192
MZO.5GE2V4-20	2.4	20	32	1200		100	0.7	189
MZO.5GE2V7-20	2.7	20	30	1300	-0.08…-0.06	75	0.7	165
MZO.5GE3V0-20	3.0	20	29	1600	-0.08…-0.06	50	1	152
MZO.5GE3V3-20	3.3	20	28	1600	-0.08…-0.05	25	1	138
MZO.5GE3V6-20	3.6	20	24	1700	-0.08…-0.04	15	1	126
MZO.5GE3V9-20	3.9	20	23	1900	-0.07…-0.03	10	1	115
MZO.5GE4V3-20	4.3	20	22	2000	-0.04…-0.01	5	1	106
MZO.5GE4V7-20	4.7	20	19	1900	-0.03…-0.01	5	2	97
MZO.5GE5V1-20	5.1	20	17	1600	-0.02…-0.05	5	2	89
MZO.5GE5V6-20	5.6	20	11	1600	-0.01…-0.06	5	3	81
MZO.5GE6V0-20	6.0	20	7	1600	-0.01…-0.07	5	3.5	76
MZO.5GE6V2-20	6.2	20	7	1000	-0…-0.07	5	4	73
MZO.5GE6V8-20	6.8	20	5	750	+0.01...+0.08	3	5	67
MZO.5GE7V5-20	7.5	20	6	500	+0.01…+0.09	3	6	61
MZO.5GE8V2-20	8.2	20	8	500	+0.01…+0.09	3	6.5	55
MZO.5GE8V7-20	8.7	20	8	600	+0.01…+0.10	3	6.5	52
MZO.5GE9V1-20	9.1	20	10	600	+0.02…+0.10	3	7	50
MZO.5GE10V-20	10	20	17	600	+0.03…+0.11	3	8	45
MZO.5GE11V-20	11	20	22	600	+0.03…+0.11	2	8.4	41
MZO.5GE12V-20	12	20	30	600	+0.03…+0.11	1	9.1	38
MZO.5GE13V-9.5	13	9.5	13	600	+0.03…+0.11	0.5	9.9	35
MZO.5GE14V-9.0	14	9	15	600	+0.03…+0.11	0.5	10	32
MZO.5GE15V-8.5	15	8.5	16	600	+0.03…+0.11	0.1	11	30
MZO.5GE16V-7.8	16	7.8	17	600	+0.03…+0.11	0.1	12	28
MZO.5GE17V-7.4	17	7.4	19	600	+0.03…+0.11	0.1	13	27
MZO.5GE18V-7.0	18	7	21	600	+0.03…+0.11	0.1	14	25
MZO.5GE19V-6.6	19	6.6	23	600	+0.03…+0.11	0.1	14	24
MZO.5GE20V-6.2	20	6.2	25	600	+0.03…+0.11	0.1	15	23
MZO.5GE22V-5.6	22	5.6	29	600	+0.03…+0.11	0.1	17	21
MZO.5GE24V-5.2	24	5.2	33	600	+0.04…+0.12	0.1	18	19.1
MZO.5GE25V-5.0	25	5	35	600	+0.03…+0.12	0.1	19	18.2
MZO.5GE27V-4.6	27	4.6	41	600	+0.04…+0.12	0.1	21	16.8
MZO.5GE28V-4.5	28	4.5	44	600	+0.03…+0.12	0.1	21	16.2
MZO.5GE30V-4.2	30	4.2	49	600	+0.04…+0.12	0.1	23	15.1
MZO.5GE33V-3.8	33	3.8	58	700	+0.04…+0.12	0.1	25	13.8
MZO.5GE36V-3.4	36	3.4	70	700	+0.04…+0.12	0.1	27	12.6
MZO.5GE39V-3.2	39	3.2	80	800	+0.04…+0.12	0.1	30	11.6
MZO.5GE43V-3	43	3	93	900	+0.04…+0.13	0.1	33	10.6
MZO.5GE47V-2.7	47	2.7	105	1000	+0.05…+0.13	0.1	36	9.7
MZO.5GE51V-2.5	51	2.5	125	1100	+0.05…+0.14	0.1	39	8.9
MZO.5GE56V-2.2	56	2.2	150	1300	+0.05…+0.14	0.1	43	-
MZO.5GE60V-2.1	60	2.1	170	1400	+0.05…+0.15	0.1	46	-
MZO.5GE62V-2.0	62	2	185	1500	+0.05…+0.15	0.1	47	-
MZO.5GE68V-1.8	68	1.8	230	1600	+0.05…+0.15	0.1	52	-
MZO.5GE75V-1.7	75	1.7	270	1700	+0.05…+0.15	0.1	56	-

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Ratings at 25℃ ambient temperature unless otherwise specified

Type	Zener Valtage[2] $V_{Z(v)}$ ($\triangle V_Z <= \pm 5\%$)[4]	Dynamic Resistance		Temp coeff of Zener Volotage α Vz(%/k)	Reverse leakage current $I_{R(Ma)}$		Admissible Zener Current[3] $I_{ZT(Ma)}$
		f=1KHz $Z_{ZT}(\Omega)$ At I_{ZT}	f=1KHZ I_{ZK}=0.25Ma $Z_{ZK}(\Omega)$		MAX	$V_{R(VA)}$	MAX
MZO.5GE2V0	2.0	100	2000		150	0.5	150
MZO.5GE2V2	2.2	100	2000		150	0.5	145
MZO.5GE2V4	2.4	100	1800		100	0.7	140
MZO.5GE2V7	2.7	100	1900	-0.08…-0.06	75	0.7	135
MZO.5GE3V0	3.0	95	2000	-0.08…-0.06	50	1	125
MZO.5GE3V3	3.3	95	2200	-0.08…-0.05	25	1	115
MZO.5GE3V6	3.6	90	2300	-0.08…-0.04	15	1	105
MZO.5GE3V9	3.9	90	2400	-0.07…-0.03	10	1	95
MZO.5GE4V3	4.3	88	2500	-0.04…-0.01	5	1	90
MZO.5GE4V7	4.7	70	2200	-0.03…-0.01	3	1.5	85
MZO.5GE5V1	5.1	50	2050	-0.02…0.05	2	2	80
MZO.5GE5V6	5.6	25	1800	-0.01…-0.06	2	3	70
MZO.5GE6V2	6.2	10	1300	0…0.07	1	4	64
MZO.5GE6V8	6.8	8	750	+0.01…+0.08	1	5.2	58
MZO.5GE7V5	7.5	7	600	+0.01…+0.09	0.5	6	53
MZO.5GE8V2	8.2	7	600	+0.01…+0.0.9	0.5	6.4	47
MZO.5GE9V1	9.1	10	600	+0.02…+0.10	0.1	7	43
MZO.5GE10V	10	15	600	+0.03…+0.11	0.1	8	40
MZO.5GE11V	11	18	600	+0.03…+0.11	0.1	8.1	36
MZO.5GE12V	12	22	600	+0.03…+0.11	0.1	9.1	32
MZO.5GE13V	13	25	600	+0.03…+0.11	0.1	9.9	29
MZO.5GE15V	15	32	600	+0.03…+0.11	0.1	11	27
MZO.5GE16V	16	36	600	+0.03…+0.11	0.1	12	24
MZO.5GE18V	18	42	600	+0.03…+0.11	0.1	14	21
MZO.5GE20V	20	48	600	+0.03…+0.11	0.1	15	20
MZO.5GE22V	22	55	600	+0.03…+0.11	0.1	17	18
MZO.5GE24V	24	62	600	+0.04…+0.12	0.1	18	16
MZO.5GE27V	27	70	600	+0.04…+0.12	0.1	21	14
MZO.5GE30V	30	78	600	+0.04…+0.12	0.1	23	13
MZO.5GE33V	33	88	700	+0.04…+0.12	0.1	25	12
MZO.5GE36V	36	95	700	+0.04…+0.12	0.1	27	11
MZO.5GE39V	39	130	800	+0.04…+0.12	0.1	30	10
MZO.5GE43V	43	130	900	+0.04…+0.13	0.1	33	10.6
MZO.5GE47V	47	130	1000	+0.05…+0.13	0.1	36	9.7
MZO.5GE51V	51	140	1100	+0.05…+0.14	0.1	39	8.9
MZO.5GE56V	56	160[5]	1300[6]	+0.05…+0.14[5]	0.1	43	
MZO.5GE60V	60	180[5]	1400[6]	+0.05…+0.15[5]	0.1	46	
MZO.5GE62V	62	210[5]	1500[6]	+0.05…+0.15[5]	0.1	47	
MZO.5GE68V	68	240[5]	1600[6]	+0.05…+0.15[5]	0.1	52	
MZO.5GE75V	75	280[5]	1700[6]	+0.05…+0.15[5]	0.1	56	

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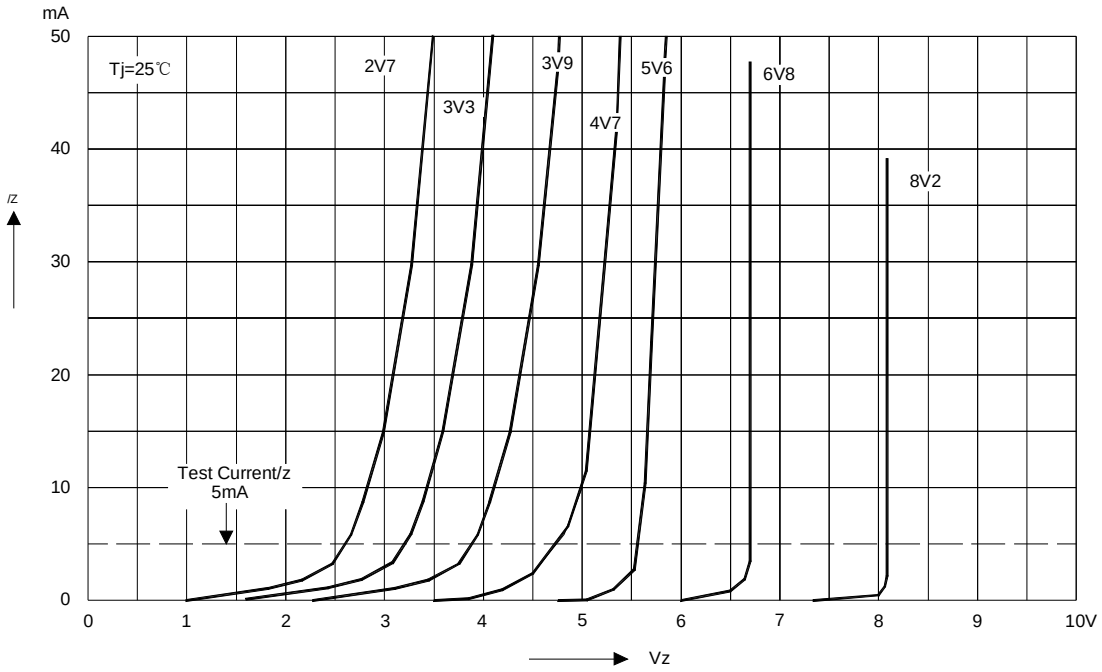
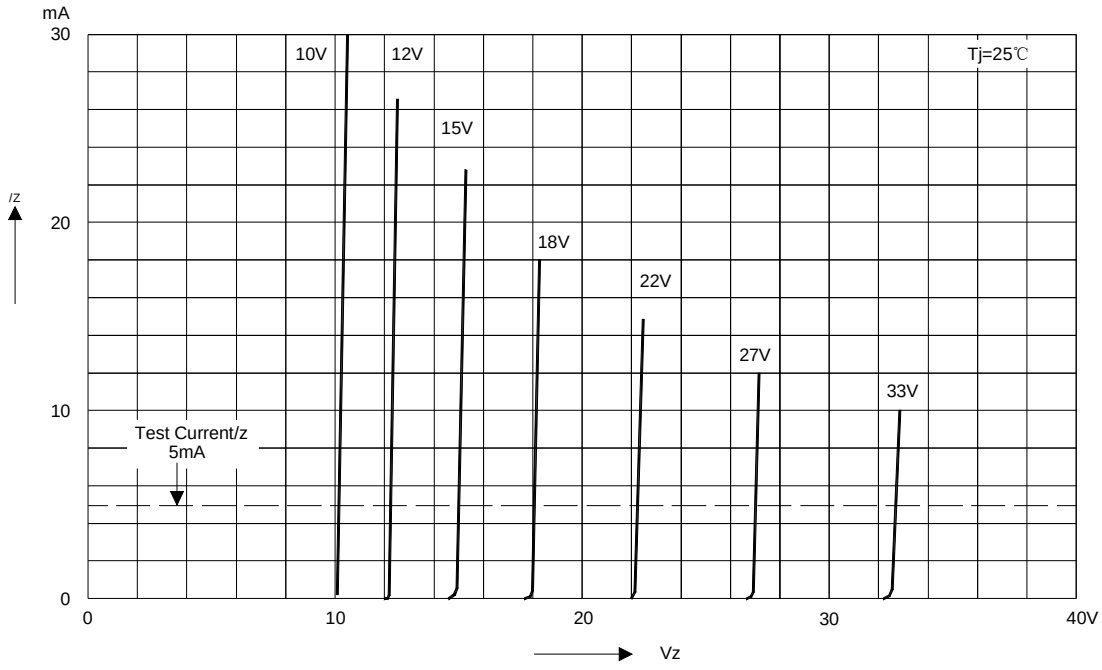
RATINGS AND CHARACTERISTIC CURVES

Breakdown characteristics

Tj=constant(pulsed)





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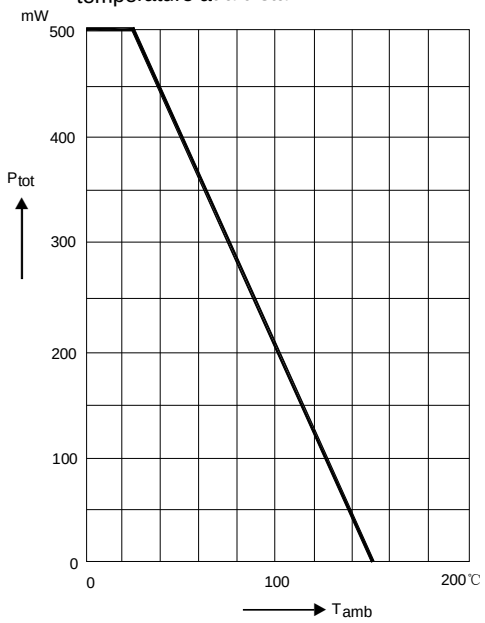
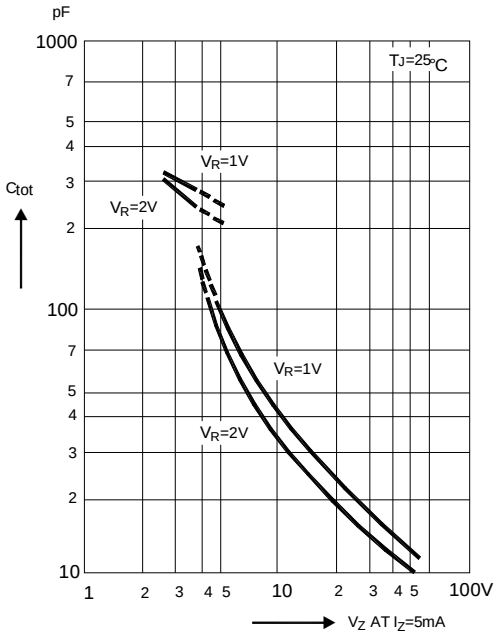
RATINGS AND CHARACTERISTIC CURVES

Admissible power dissipation versus ambient temperature

Valid provided that leads are kept ambient temperature at a distance of 8mm from case

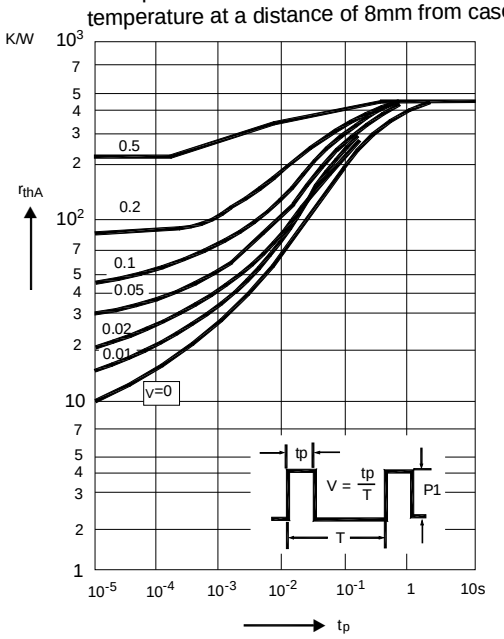


Capacitance Zener voltage

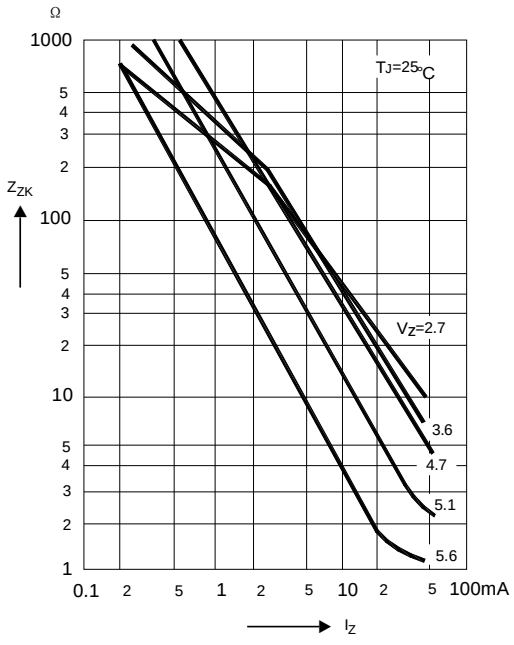


Pulse thermal resistance versus pulse duration

Valid provided that leads are kept ambient temperature at a distance of 8mm from case



Dynamic resistance versus Zener current



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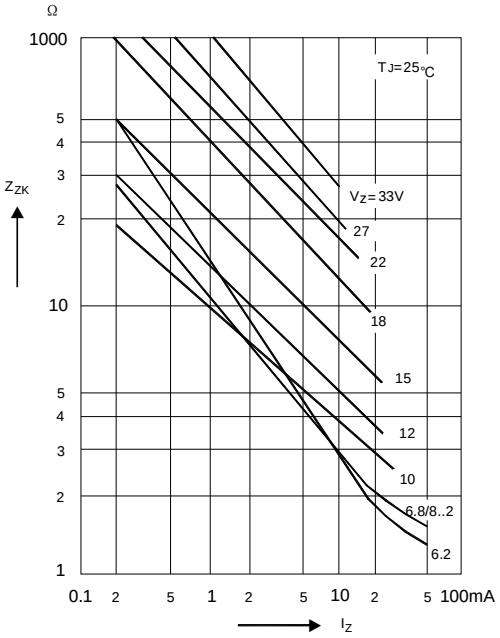
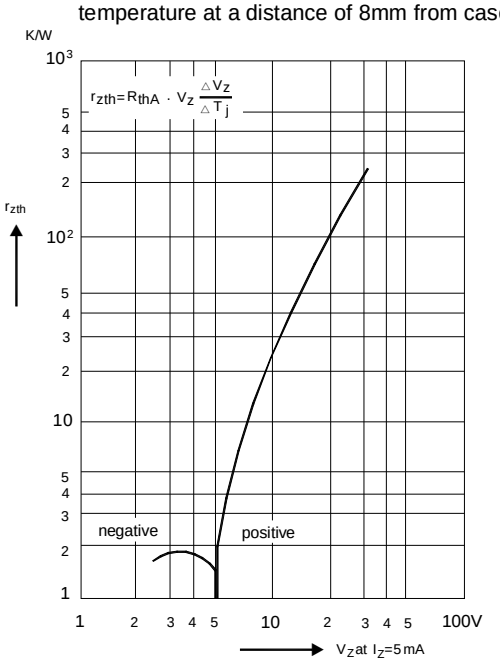
RATINGS AND CHARACTERISTIC CURVES

Dynamic resistance versus Zener current

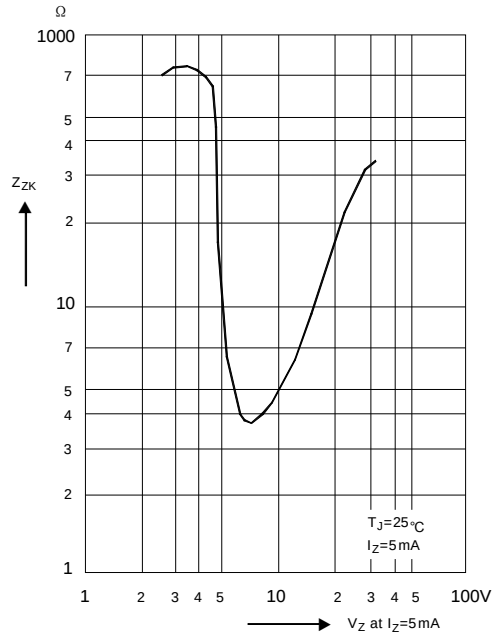


Thermal differential resistance versus Zener voltage

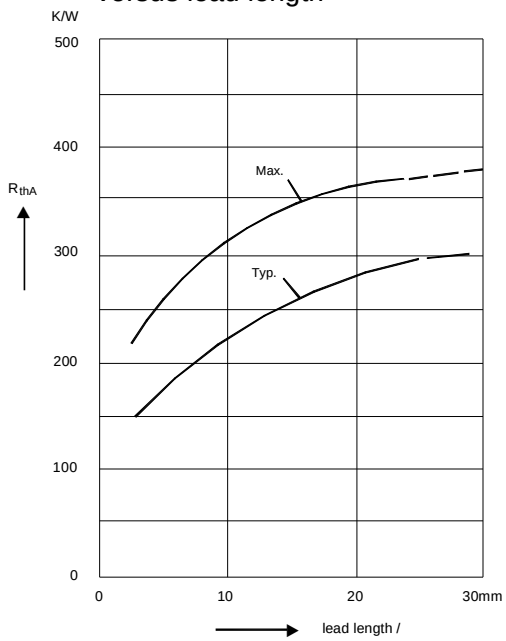
Valid provided that leads are kept at ambient temperature at a distance of 8mm from case



Dynamic resistance versus Zener current



Thermal resistance versus lead length



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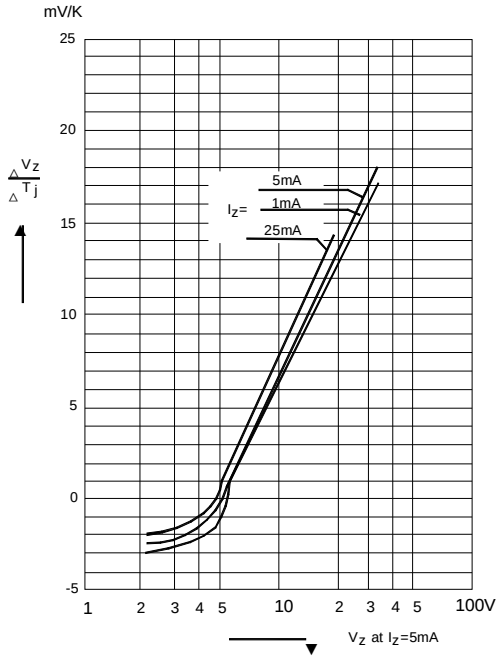
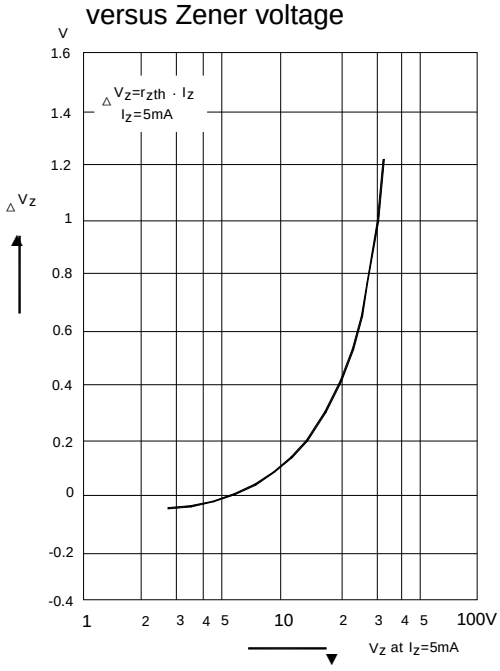
RATINGS AND CHARACTERISTIC CURVES

Temperature dependance of Zener voltage versus Zener voltage



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



Change of Zener voltage versus junction temperature