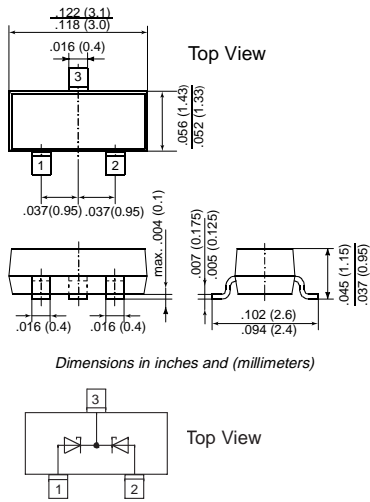


DZ23-C2V7 THRU DZ23-C51

DUAL ZENER DIODES

SOT-23

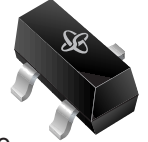


Dimensions in inches and (millimeters)

Dimensions are in inches and (millimeters)

FEATURES

- ◆ Dual Silicon Planar Zener Diodes, Common Cathode
- ◆ The Zener voltages are graded according to the international E 24 standard. Other voltage tolerances and other Zener voltages are available upon request.
- ◆ The parameters are valid for both diodes in one case. ΔV_z and Δr_{zj} of the two diodes in one case is $\leq 5\%$.
- ◆ This diode is also available in other case styles and configurations including: the dual diode common cathode configuration with type designation AZ23, the single diode SOT-23 case with the type designation BZX84C, and the single diode SOD-123 case with the type designation BZT52C.



MECHANICAL DATA

Case: SOT-23 Plastic Package

Weight: approx. 0.008 g

MAXIMUM RATINGS

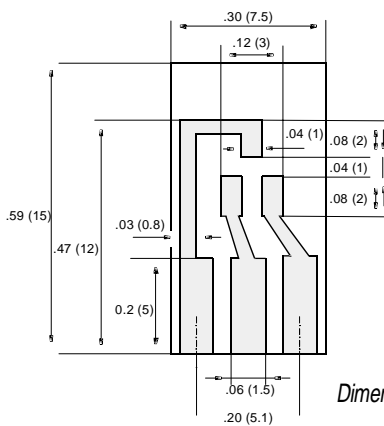
Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	P_{tot}	300 ⁽¹⁾	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_s	- 65 to +150	°C

	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance Junction to Ambient Air	R_{thJA}	-	-	420 ⁽¹⁾	°C/W

NOTES:

(1) Device on fiberglass substrate, see layout



Dimensions in inches (millimeters)

Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in (0.3 mm)

DZ23-C2V7 THRU DZ23-C51

ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Type	Marking	Zener Voltage ⁽¹⁾ at I _Z = 5 mA V _Z (V)	Dynamic Resistance		Temp. Coeff. of Zener Voltage at I _Z = 5 mA $\alpha_V Z (10^{-4}/K)$	Reverse Voltage at I _R = 100 nA V _R (V)
			at I _Z = 5 mA f = 1 kHz r _{Zj} (Ω)	at I _Z = 1 mA f = 1 kHz r _{Zj} (Ω)		
DZ23-C2V7	V1	2.5 ... 2.9	75 (<83)	<500	-9 ... -4	-
DZ23-C3	V2	2.8 ... 3.2	80 (<95)	<500	-9 ... -3	-
DZ23-C3V3	V3	3.1 ... 3.5	80 (<95)	<500	-8 ... -3	-
DZ23-C3V6	V4	3.4 ... 3.8	80 (<95)	<500	-8 ... -3	-
DZ23-C3V9	V5	3.7 ... 4.1	80 (<95)	<500	-7 ... -3	-
DZ23-C4V3	V6	4.0 ... 4.6	80 (<95)	<500	-6 ... -1	-
DZ23-C4V7	V7	4.4 ... 5.0	70 (<78)	<500	-5 ... +2	-
DZ23-C5V1	V8	4.8 ... 5.4	30 (<60)	<480	-3 ... +4	>0.8
DZ23-C5V6	V9	5.2 ... 6.0	10 (<40)	<400	-2 ... +6	>1
DZ23-C6V2	V10	5.8 ... 6.6	4.8 (<10)	<200	-1 ... +7	>2
DZ23-C6V8	V11	6.4 ... 7.2	4.5 (<8)	<150	+2 ... +7	>3
DZ23-C7V5	V12	7.0 ... 7.9	4 (<7)	<50	-3 ... +7	>5
DZ23-C8V2	V13	7.7 ... 8.7	4.5 (<7)	<50	+4 ... +7	>6
DZ23-C9V1	V14	8.5 ... 9.6	4.8 (<10)	<50	+5 ... +8	>7
DZ23-C10	V15	9.4 ... 10.6	5.2 (<15)	<70	+5 ... +8	>7.5
DZ23-C11	V16	10.4 ... 11.6	6 (<20)	<70	+5 ... +9	>8.5
DZ23-C12	V17	11.4 ... 12.7	7 (<20)	<90	+6 ... +9	>9
DZ23-C13	V18	12.4 ... 14.1	9 (<25)	<110	+7 ... +9	>10
DZ23-C15	V19	13.8 ... 15.6	11 (<30)	<110	+7 ... +9	>11
DZ23-C16	V20	15.3 ... 17.1	13 (<40)	<170	+8 ... +9.5	>12
DZ23-C18	V21	16.8 ... 19.1	18 (<50)	<170	+8 ... +9.5	>14
DZ23-C20	V22	18.8 ... 21.2	20 (<50)	<220	+8 ... +10	>15
DZ23-C22	V23	20.8 ... 23.3	25 (<55)	<220	+8 ... +10	>17
DZ23-C24	V24	22.8 ... 25.6	28 (<80)	<220	+8 ... +10	>18
DZ23-C27	V25	25.1 ... 28.9	30 (<80)	<250	+8 ... +10	>20
DZ23-C30	V26	28 ... 32	35 (<80)	<250	+8 ... +10	>22.5
DZ23-C33	V27	31 ... 35	40 (<80)	<250	+8 ... +10	>25
DZ23-C36	V28	34 ... 38	40 (<90)	<250	+8 ... +10	>27
DZ23-C39	V29	37 ... 41	50 (<90)	<300	+10 ... +12	>29
DZ23-C43	V30	40 ... 46	60 (<100)	<700	+10 ... +12	>32
DZ23-C47	V31	44 ... 50	70 (<100)	<750	+10 ... +12	>35
DZ23-C51	V32	48 ... 54	70 (<100)	<750	+10 ... +12	>38

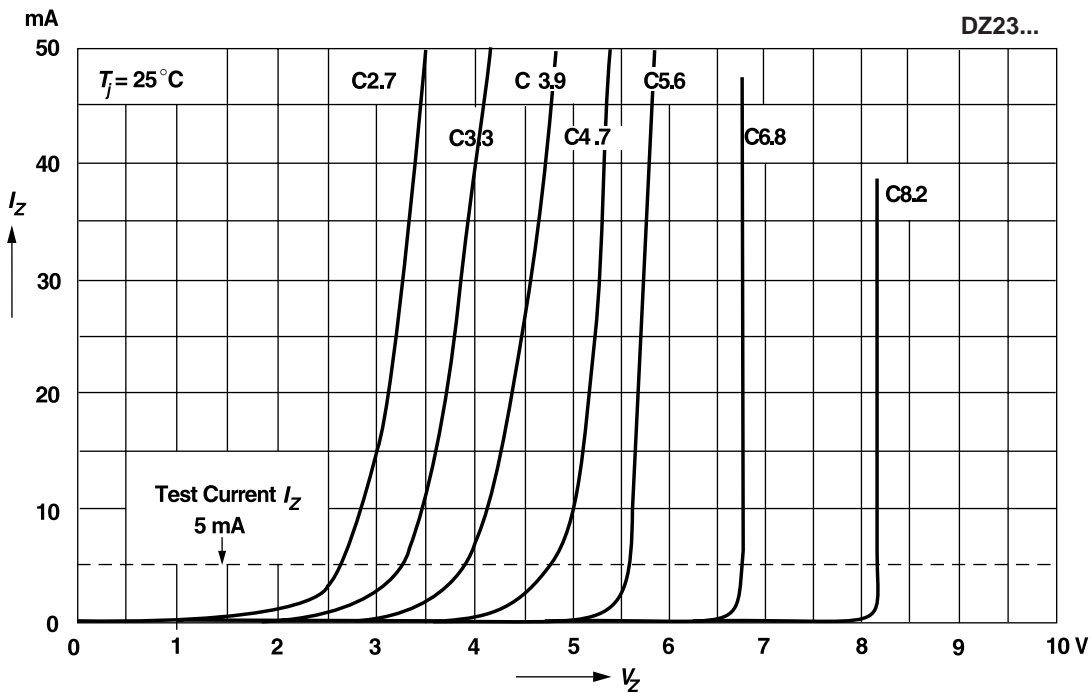
NOTES:

(1) Tested with pulses t_p = 3 ms

RATINGS AND CHARACTERISTIC CURVES DZ23-C2V7 THRU DZ23-C51

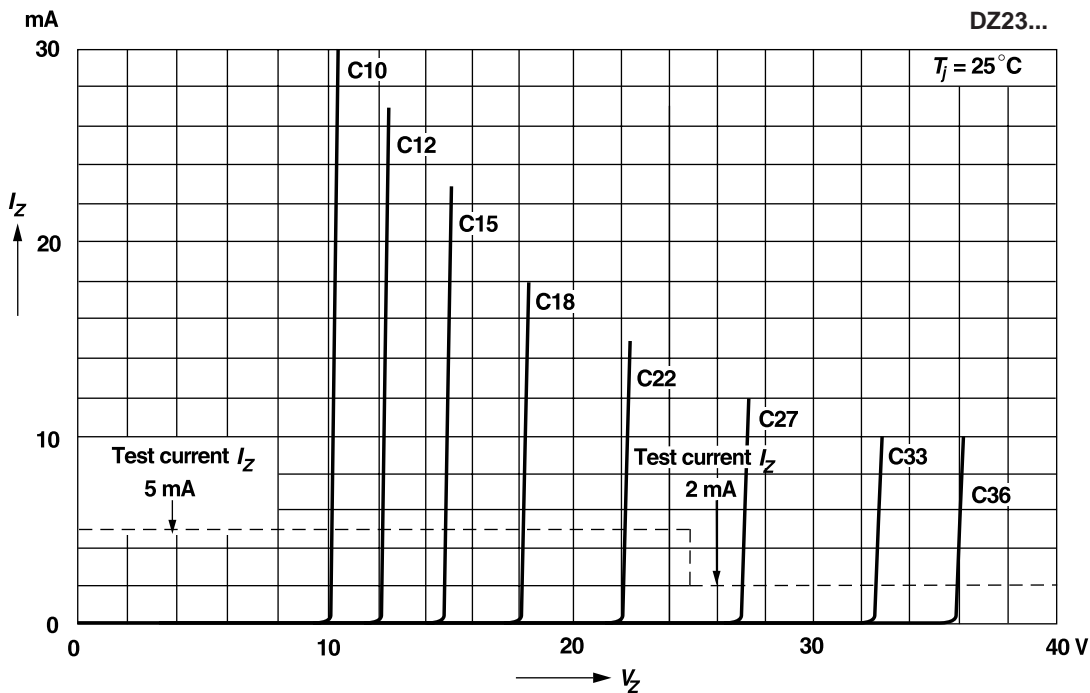
Breakdown characteristics

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



Breakdown characteristics

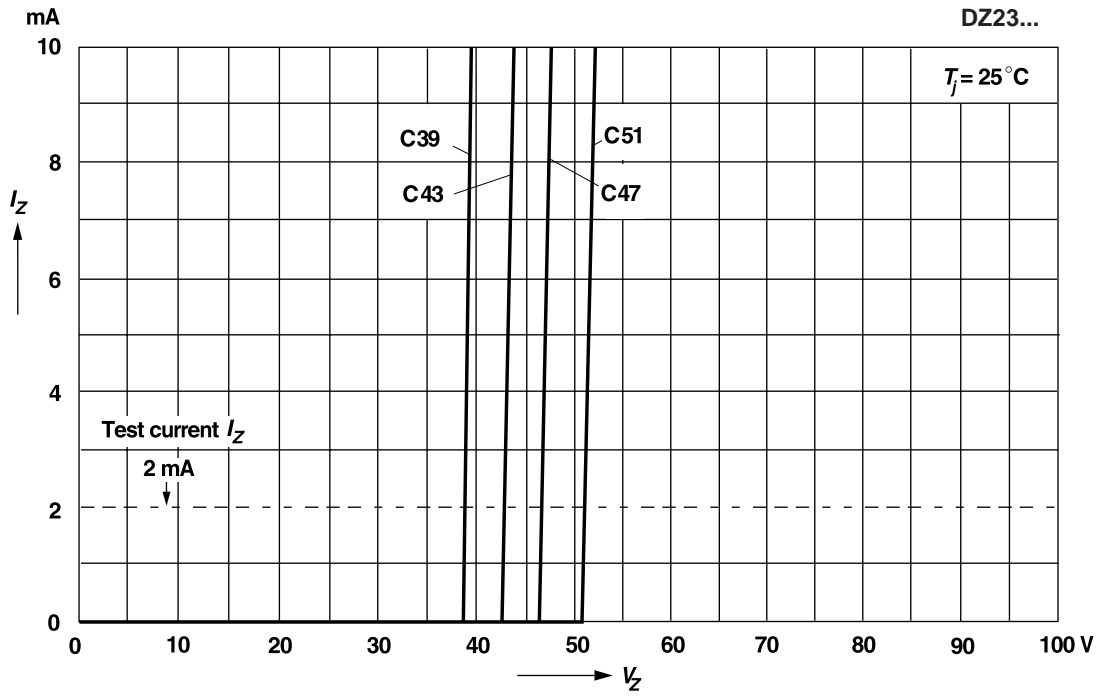
$T_j = \text{constant (pulsed)}$



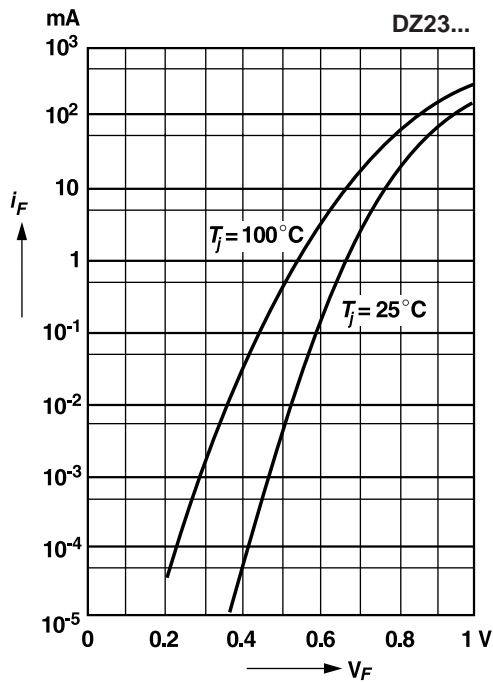
RATINGS AND CHARACTERISTIC CURVES DZ23-C2V7 THRU DZ23-C51

Breakdown characteristics

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



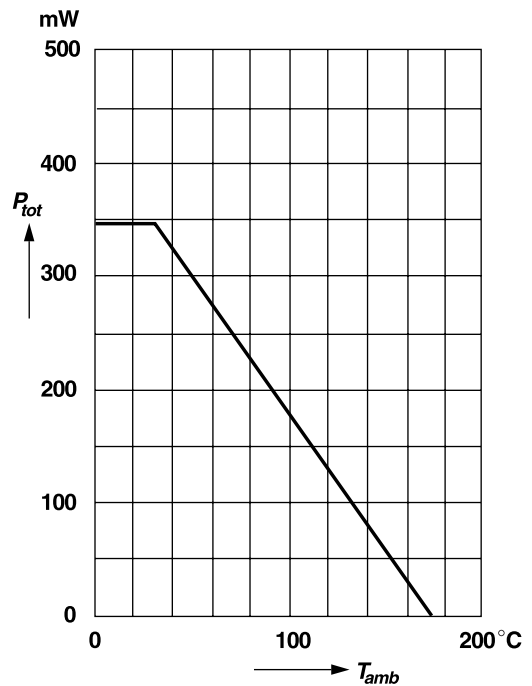
Forward characteristics



Admissible power dissipation versus ambient temperature

For conditions, see footnote in table "Absolute Maximum Ratings"

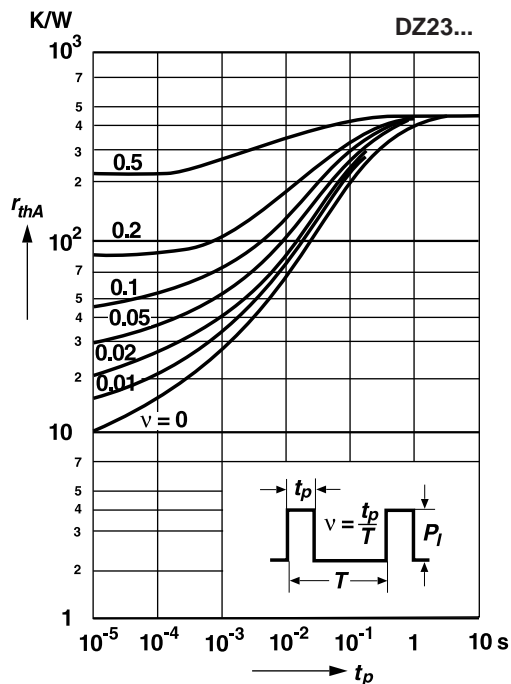
DZ23...



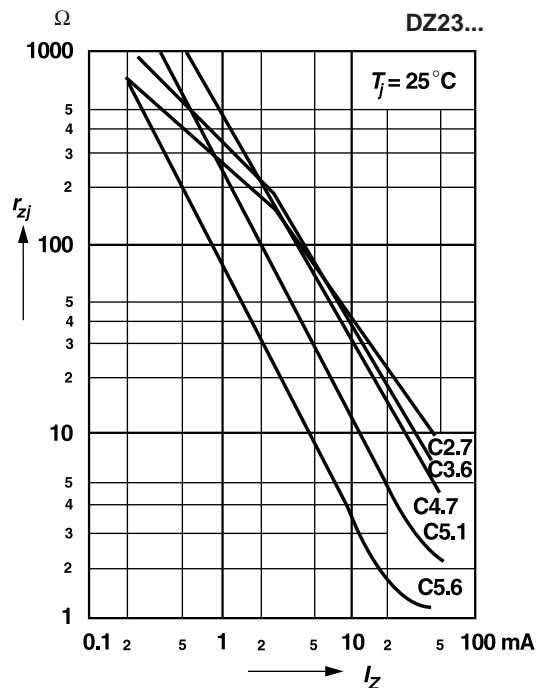
RATINGS AND CHARACTERISTIC CURVES DZ23-C2V7 THRU DZ23-C51

Pulse thermal resistance versus pulse duration

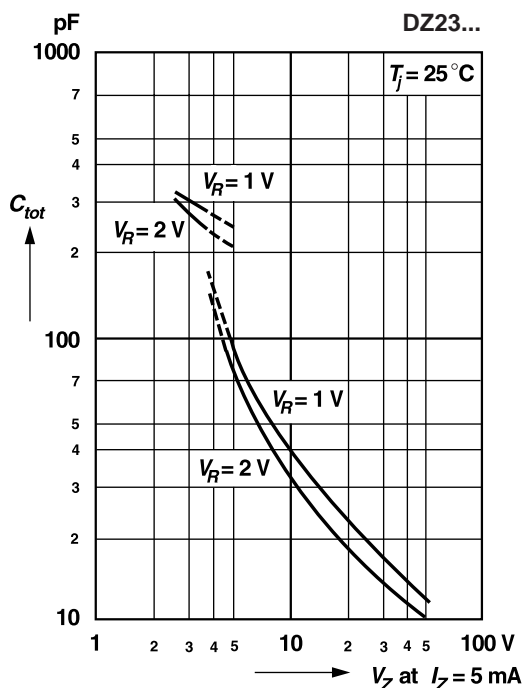
For conditions, see footnote in table "Absolute Maximum Ratings"



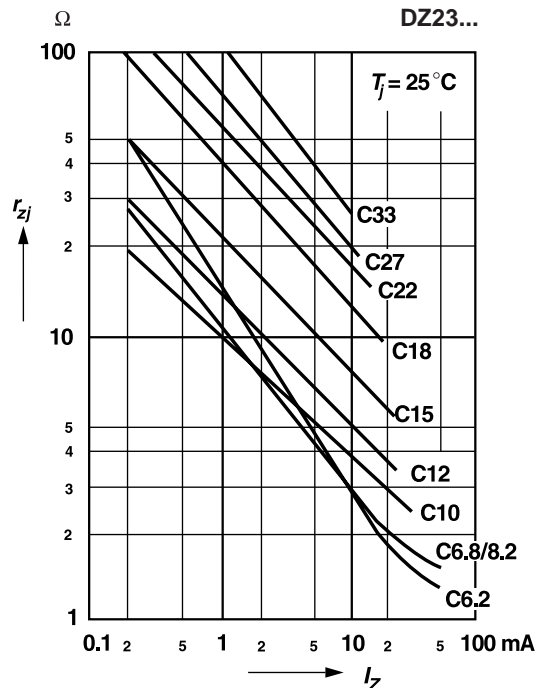
Dynamic resistance versus Zener current



Capacitance versus Zener voltage

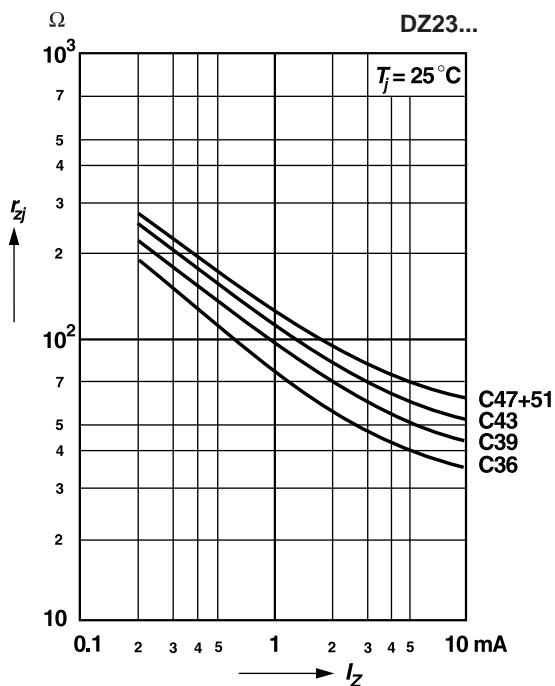


Dynamic resistance versus Zener current



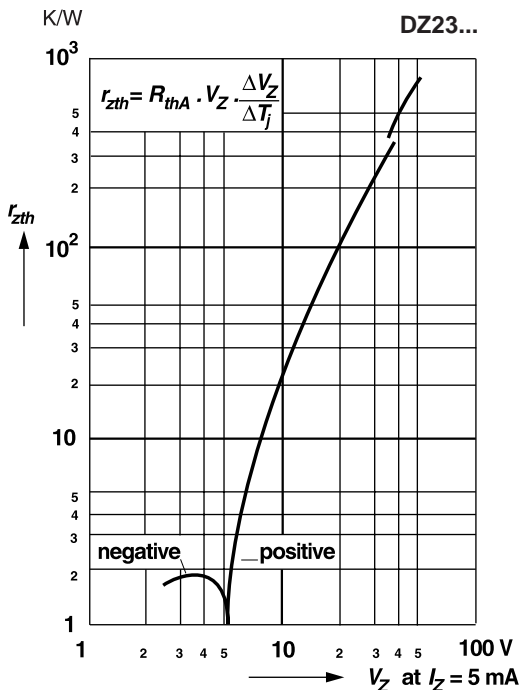
RATINGS AND CHARACTERISTIC CURVES DZ23-C2V7 THRU DZ23-C51

Dynamic resistance versus Zener current

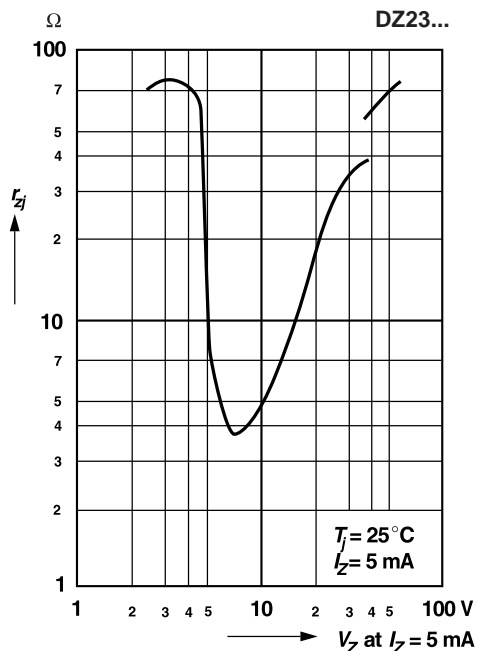


Thermal differential resistance versus Zener voltage

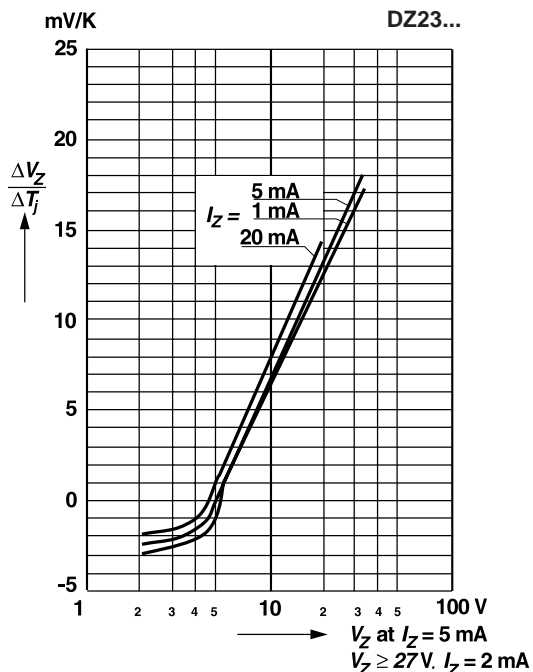
For conditions, see footnote in table "Absolute Maximum Ratings"



Dynamic resistance versus Zener voltage

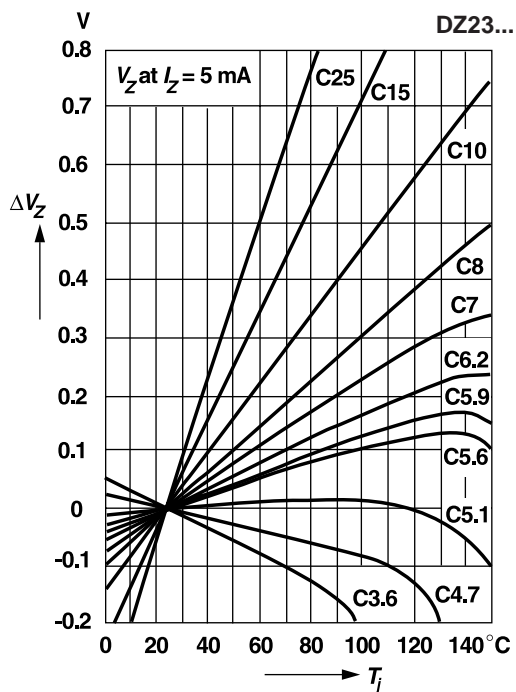


Temperature dependence of Zener voltage versus Zener voltage

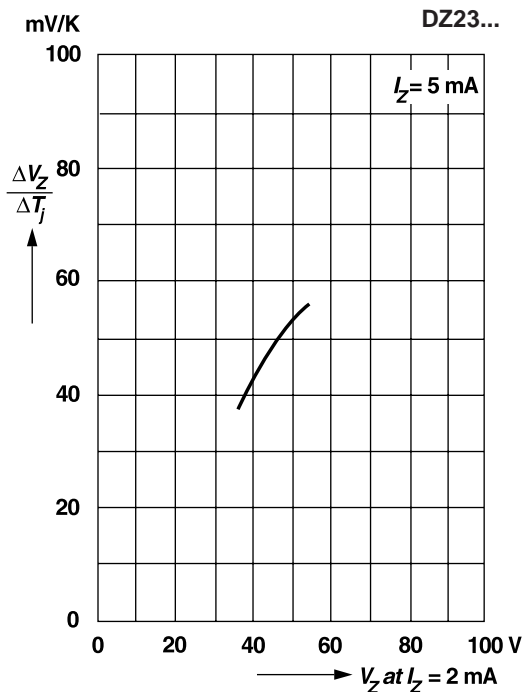


RATINGS AND CHARACTERISTIC CURVES DZ23-C2V7 THRU DZ23-C51

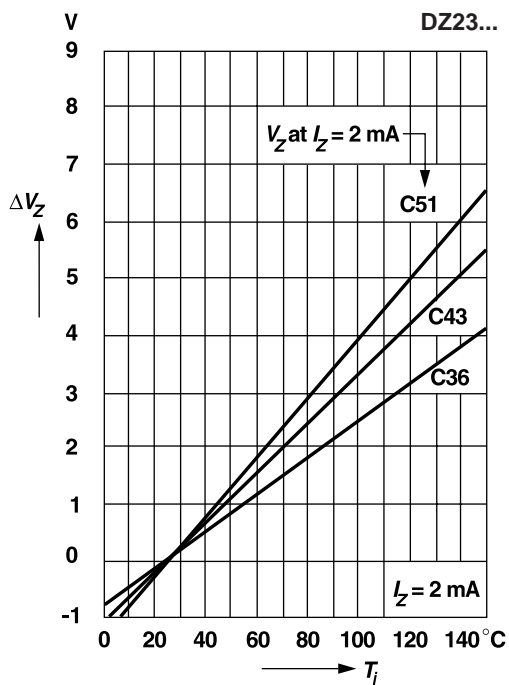
Change of Zener voltage versus junction temperature



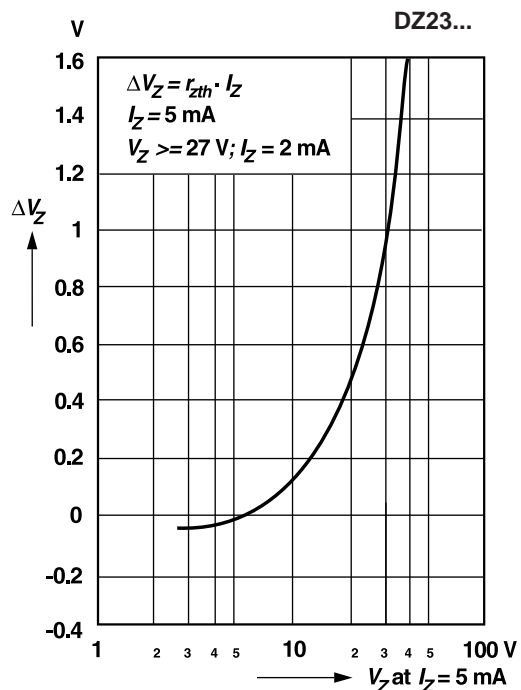
Temperature dependence of Zener voltage versus Zener voltage



Change of Zener voltage versus junction temperature



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



RATINGS AND CHARACTERISTIC CURVES DZ23-C2V7 THRU DZ23-C51

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

