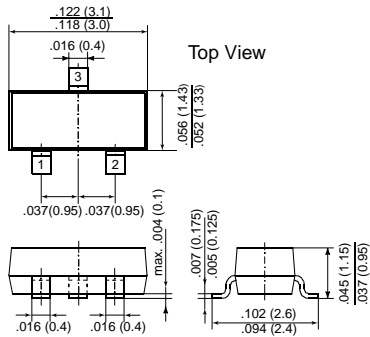


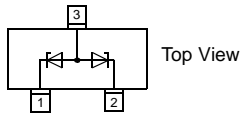
# AZ23-C2V7 THRU AZ23-C51

## DUAL ZENER DIODES

### SOT-23



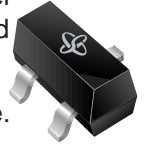
Dimensions in inches and (millimeters)



Dimensions are in inches and (millimeters)

### FEATURES

- ◆ Dual Silicon Planar Zener Diodes, Common Anode
- ◆ 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.  $\Delta V_z$  and  $\Delta r_{zj}$  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 DZ23, 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

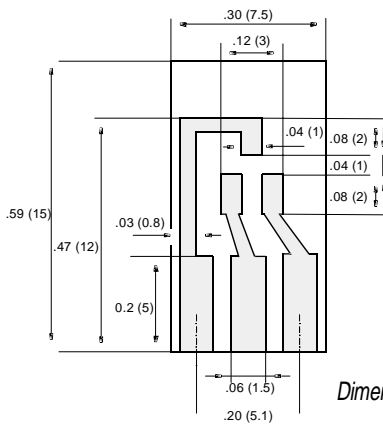
Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	$P_{tot}$	300 <sup>(1)</sup>	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 <sup>(1)</sup>	°C/W

#### NOTES:

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)

# AZ23-C2V7 THRU AZ23-C51

## ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Type	Marking	Zener Voltage <sup>(1)</sup> at I <sub>Z</sub> = 5 mA V <sub>Z</sub> (V)	Dynamic Resistance		Temp. Coeff. of Zener Voltage at I <sub>Z</sub> = 5 mA <sup>α</sup> V <sub>Z</sub> (10 <sup>-4</sup> /K)	Reverse Voltage at I <sub>R</sub> = 100 nA V <sub>R</sub> (V)
			at I <sub>Z</sub> = 5 mA f = 1 kHz r <sub>Zj</sub> (Ω)	at I <sub>Z</sub> = 1 mA f = 1 kHz r <sub>Zj</sub> (Ω)		
AZ23-C2V7	D1	2.5 ... 2.9	75 (<83)	<500	-9 ... -4	-
AZ23-C3	D2	2.8 ... 3.2	80 (<95)	<500	-9 ... -3	-
AZ23-C3V3	D3	3.1 ... 3.5	80 (<95)	<500	-8 ... -3	-
AZ23-C3V6	D4	3.4 ... 3.8	80 (<95)	<500	-8 ... -3	-
AZ23-C3V9	D5	3.7 ... 4.1	80 (<95)	<500	-7 ... -3	-
AZ23-C4V3	D6	4.0 ... 4.6	80 (<95)	<500	-6 ... -1	-
AZ23-C4V7	D7	4.4 ... 5.0	70 (<78)	<500	-5 ... +2	-
AZ23-C5V1	D8	4.8 ... 5.4	30 (<60)	<480	-3 ... +4	>0.8
AZ23-C5V6	D9	5.2 ... 6.0	10 (<40)	<400	-2 ... +6	>1
AZ23-C6V2	D10	5.8 ... 6.6	4.8 (<10)	<200	-1 ... +7	>2
AZ23-C6V8	D11	6.4 ... 7.2	4.5 (<8)	<150	+2 ... +7	>3
AZ23-C7V5	D12	7.0 ... 7.9	4 (<7)	<50	-3 ... +7	>5
AZ23-C8V2	D13	7.7 ... 8.7	4.5 (<7)	<50	+4 ... +7	>6
AZ23-C9V1	D14	8.5 ... 9.6	4.8 (<10)	<50	+5 ... +8	>7
AZ23-C10	D15	9.4 ... 10.6	5.2 (<15)	<70	+5 ... +8	>7.5
AZ23-C11	D16	10.4 ... 11.6	6 (<20)	<70	+5 ... +9	>8.5
AZ23-C12	D17	11.4 ... 12.7	7 (<20)	<90	+6 ... +9	>9
AZ23-C13	D18	12.4 ... 14.1	9 (<25)	<110	+7 ... +9	>10
AZ23-C15	D19	13.8 ... 15.6	11 (<30)	<110	+7 ... +9	>11
AZ23-C16	D20	15.3 ... 17.1	13 (<40)	<170	+8 ... +9.5	>12
AZ23-C18	D21	16.8 ... 19.1	18 (<50)	<170	+8 ... +9.5	>14
AZ23-C20	D22	18.8 ... 21.2	20 (<50)	<220	+8 ... +10	>15
AZ23-C22	D23	20.8 ... 23.3	25 (<55)	<220	+8 ... +10	>17
AZ23-C24	D24	22.8 ... 25.6	28 (<80)	<220	+8 ... +10	>18
AZ23-C27	D25	25.1 ... 28.9	30 (<80)	<250	+8 ... +10	>20
AZ23-C30	D26	28 ... 32	35 (<80)	<250	+8 ... +10	>22.5
AZ23-C33	D27	31 ... 35	40 (<80)	<250	+8 ... +10	>25
AZ23-C36	D28	34 ... 38	40 (<90)	<250	+8 ... +10	>27
AZ23-C39	D29	37 ... 41	50 (<90)	<300	+10 ... +12	>29
AZ23-C43	D30	40 ... 46	60 (<100)	<700	+10 ... +12	>32
AZ23-C47	D31	44 ... 50	70 (<100)	<750	+10 ... +12	>35
AZ23-C51	D32	48 ... 54	70 (<100)	<750	+10 ... +12	>38

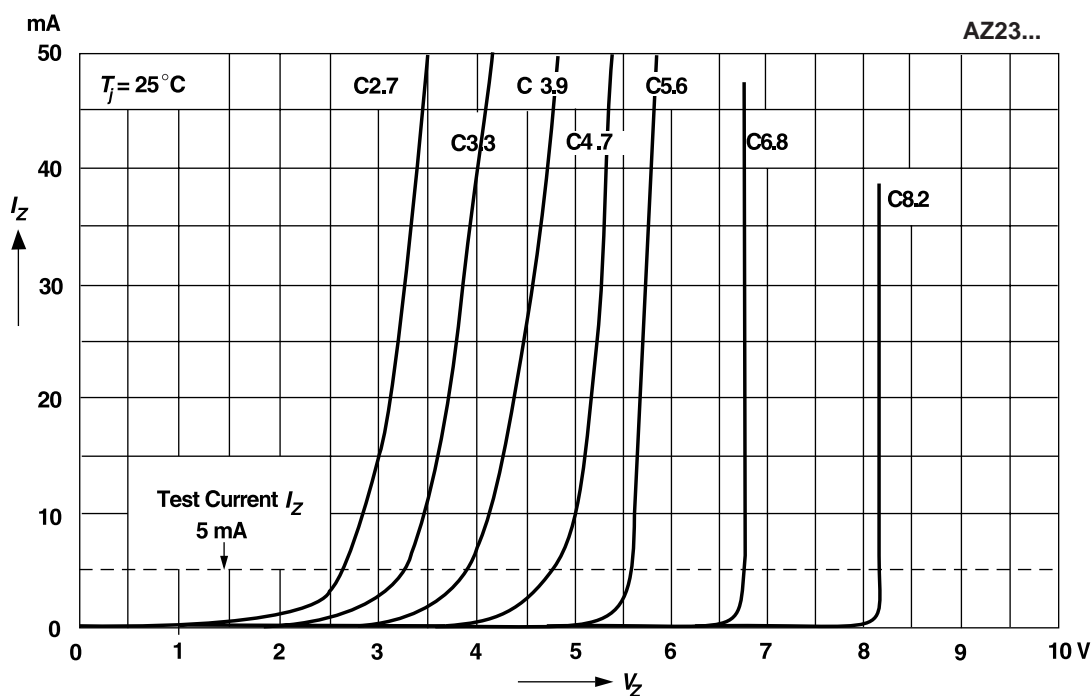
### NOTES:

(1) Tested with pulses t<sub>p</sub> = 3 ms

# RATINGS AND CHARACTERISTIC CURVES AZ23-C2V7 THRU AZ23-C51

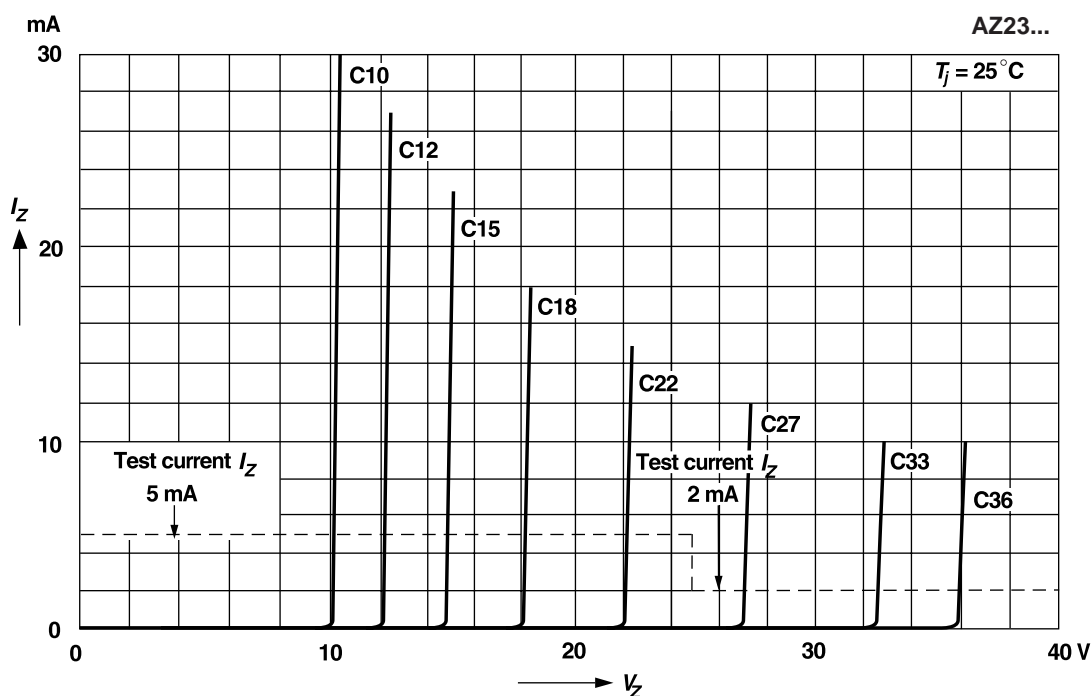
## Breakdown characteristics

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



## Breakdown characteristics

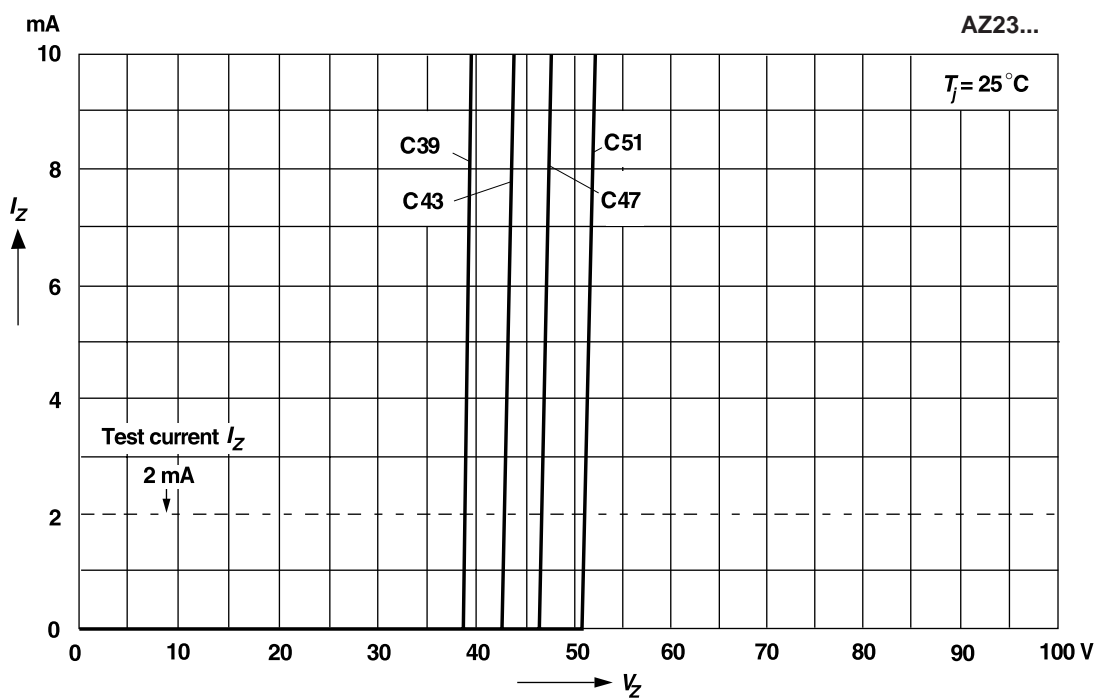
$T_j = \text{constant (pulsed)}$



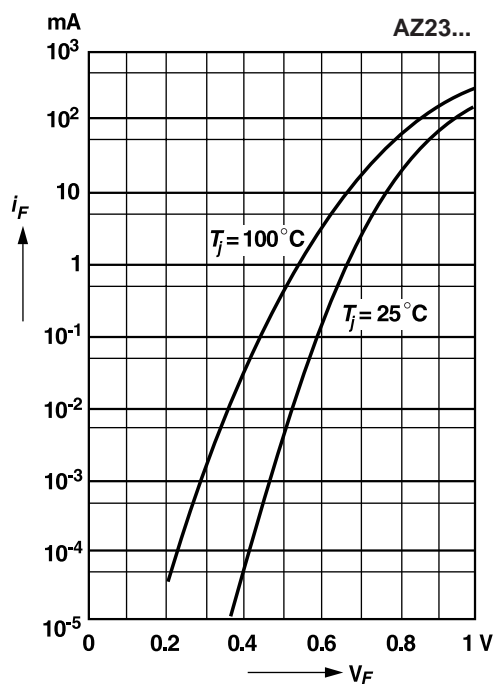
# RATINGS AND CHARACTERISTIC CURVES AZ23-C2V7 THRU AZ23-C51

## Breakdown characteristics

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



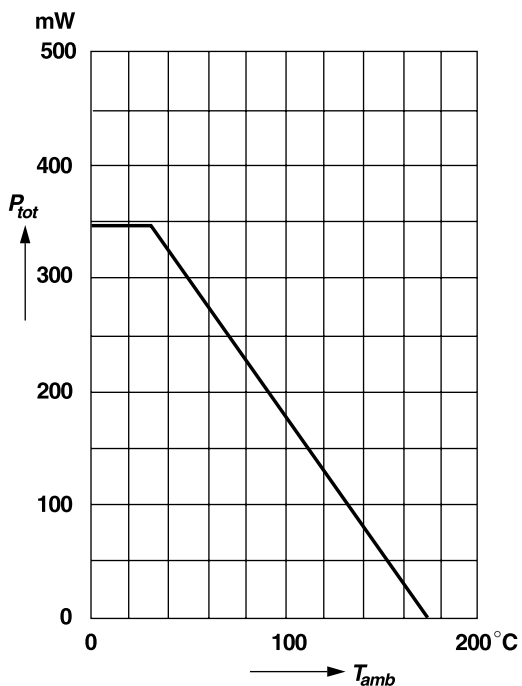
## Forward characteristics



## Admissible power dissipation versus ambient temperature

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

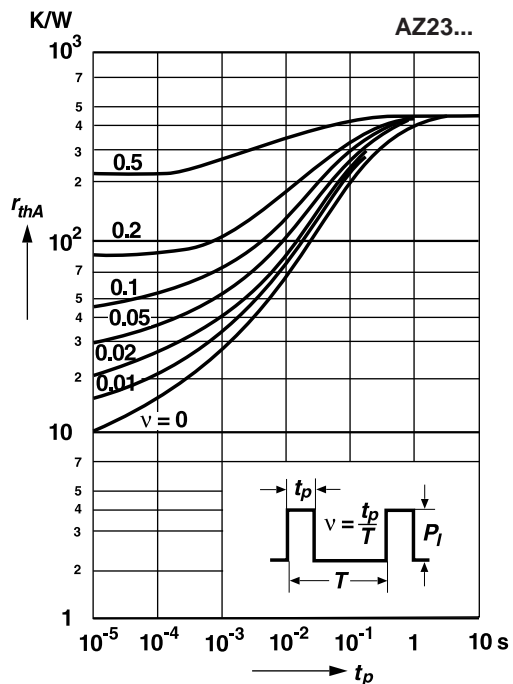
AZ23...



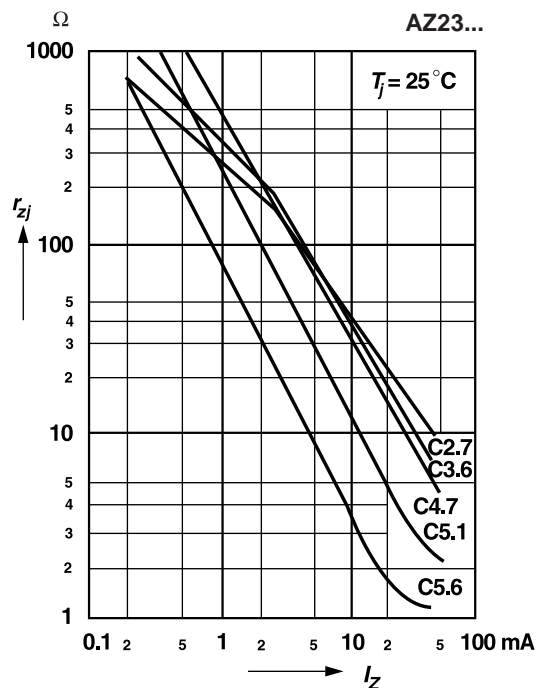
# RATINGS AND CHARACTERISTIC CURVES AZ23-C2V7 THRU AZ23-C51

## Pulse thermal resistance versus pulse duration

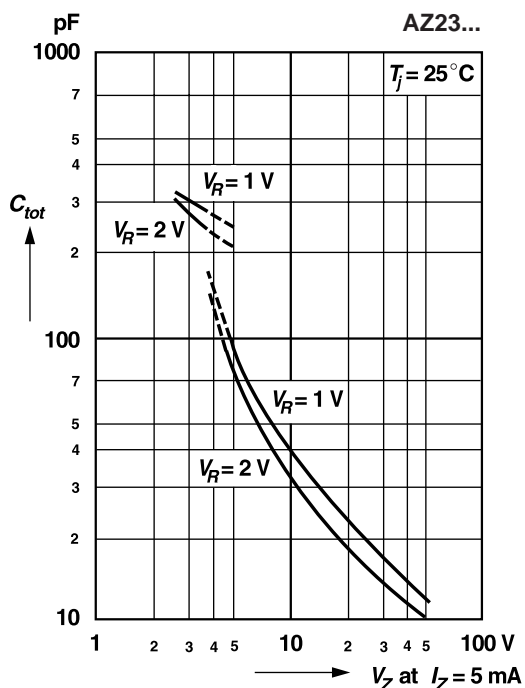
For conditions, see footnote in table "Absolute Maximum Ratings"



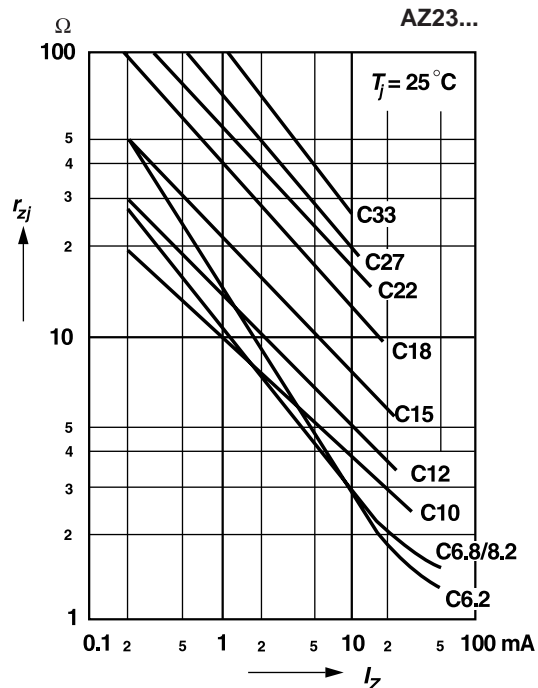
## Dynamic resistance versus Zener current



## Capacitance versus Zener voltage

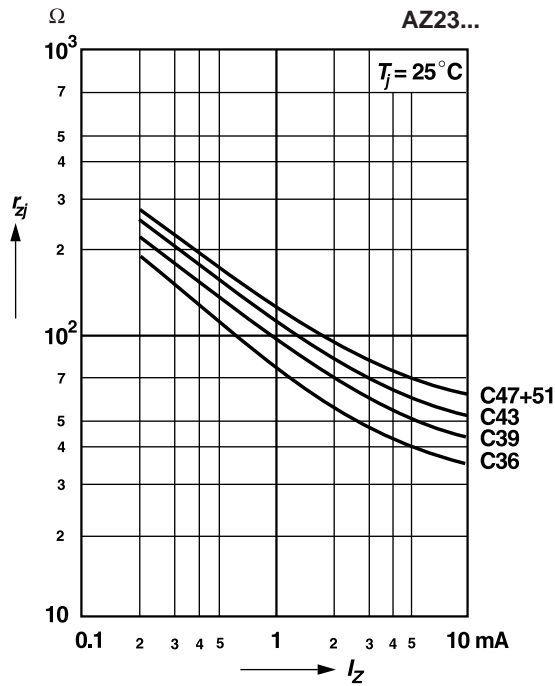


## Dynamic resistance versus Zener current



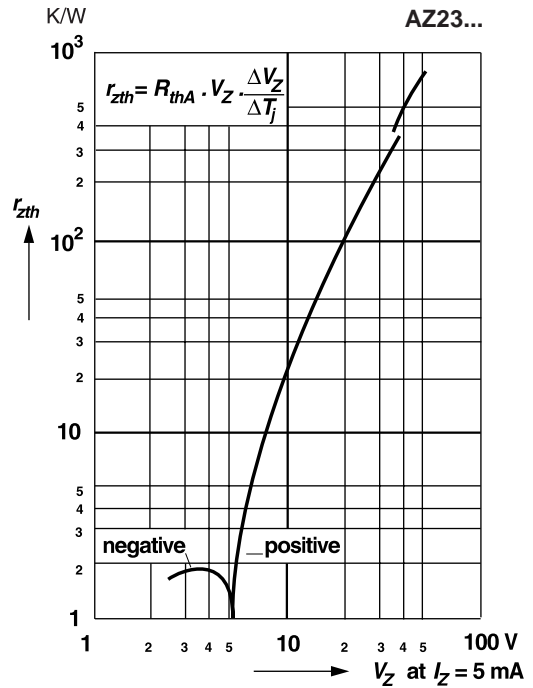
# RATINGS AND CHARACTERISTIC CURVES AZ23-C2V7 THRU AZ23-C51

**Dynamic resistance versus Zener current**

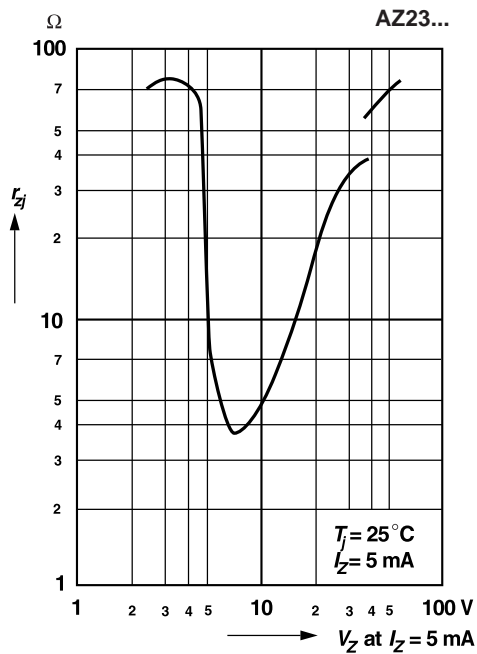


**Thermal differential resistance versus Zener voltage**

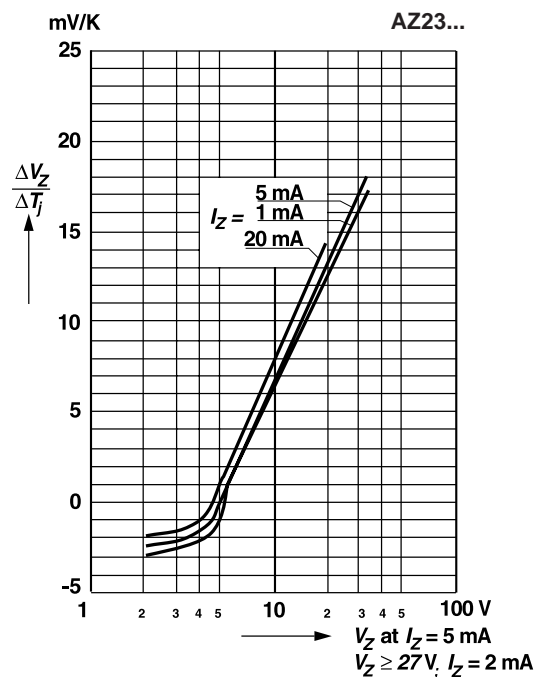
For conditions, see footnote in table "Absolute Maximum Ratings"



**Dynamic resistance versus Zener voltage**

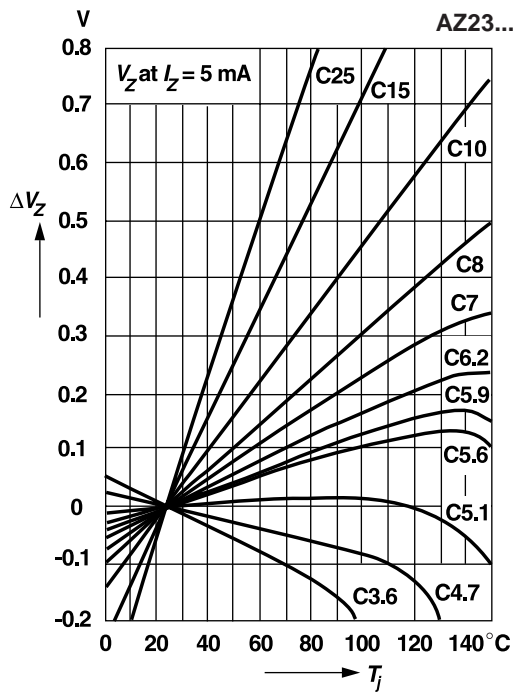


**Temperature dependence of Zener voltage versus Zener voltage**

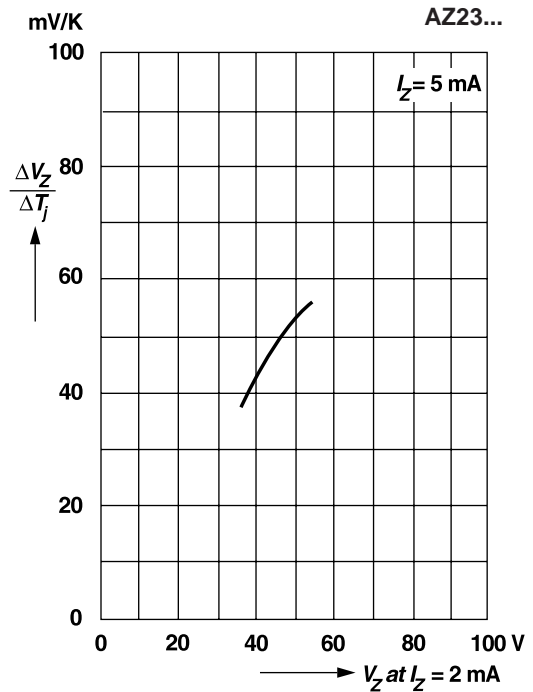


# RATINGS AND CHARACTERISTIC CURVES AZ23-C2V7 THRU AZ23-C51

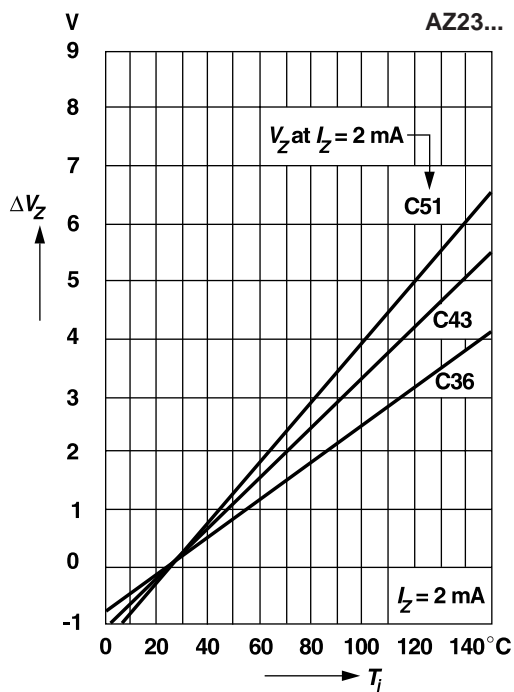
Change of Zener voltage versus junction temperature



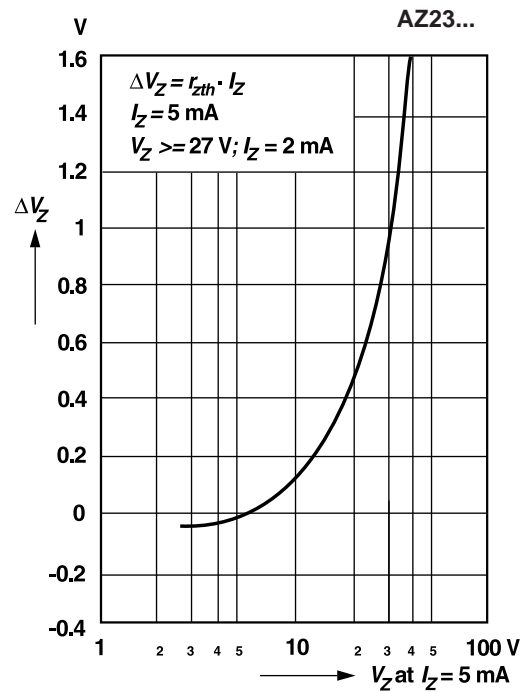
Temperature dependence of Zener voltage versus Zener voltage



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 AZ23-C2V7 THRU AZ23-C51

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

