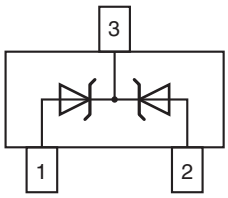
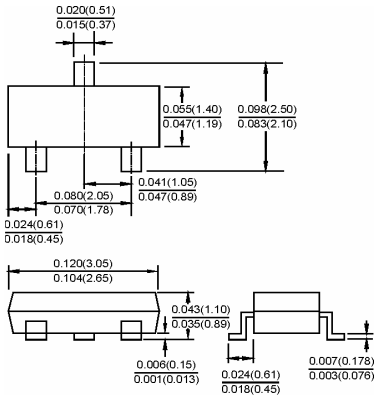
DZ23C2V7~DZ23C51

Surface Mount Zener Diodes



SOT-23



Dimensions in inches and (millimeters)

Features

- ✧ Wide zener voltage range selection:2.4V to 51V .
- ✧ VZ Tolerance selection of ±5%(C series).
- ✧ Ideally suited for automated assembly processes.
- ✧ Moisture sensitivity level 1.

Applications

- ✧ Zener diode.
- ✧ Ultra-small surface mount package.

Ordering Information

Type No.	Marking	Package Code
DZ23C2V7-DZ23C51	See table 2	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation	P_d	300	mW
Thermal resistance, junction to ambient air	$R_{\theta jA}$	420	℃/W
Junction temperature	T_j	150	℃
Storage temperature range	T_{stg}	-65 to+150	℃

Notes: These ratings are limiting values above which the serviceability of the diodes may be impaired.

DZ23C2V7~DZ23C51

Surface Mount Zener Diodes

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PART NUMBER	ZENER VOLTAGE RANGE (1)			TEST CURRENT		REVERSE VOLTAGE		DYNAMIC RESISTANCE f = 1 kHz		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE	
	V_Z at I_{ZT1}			I_{ZT1}	I_{ZT2}	V_R at I_R		Z_Z at I_{ZT1}	Z_{ZK} at I_{ZT2}	α_{VZ} at I_{ZT1}	
	V			mA		V	nA	Ω		10^{-4}/°C	
	MIN.	NOM.	MAX.			MAX.		MAX.	MAX.	MIN.	MAX.
DZ23C2V7	2.5	2.7	2.9	5	1	-	-	75 (< 83)	< 500	-9	-4
DZ23C3V0	2.8	3.0	3.2	5	1	-	-	80 (< 95)	< 500	-9	-3
DZ23C3V3	3.1	3.3	3.5	5	1	-	-	80 (< 95)	< 500	-8	-3
DZ23C3V6	3.4	3.6	3.8	5	1	-	-	80 (< 95)	< 500	-8	-3
DZ23C3V9	3.7	3.9	4.1	5	1	-	-	80 (< 95)	< 500	-7	-3
DZ23C4V3	4	4.3	4.6	5	1	-	-	80 (< 95)	< 500	-6	-1
DZ23C4V7	4.4	4.7	5	5	1	-	-	70 (< 78)	< 500	-5	2
DZ23C5V1	4.8	5.1	5.4	5	1	> 0.8	100	30 (< 60)	< 480	-3	4
DZ23C5V6	5.2	5.6	6	5	1	> 1	100	10 (< 40)	< 400	-2	6
DZ23C6V2	5.8	6.2	6.6	5	1	> 2	100	4.8 (< 10)	< 200	-1	7
DZ23C6V8	6.4	6.8	7.2	5	1	> 3	100	4.5 (< 8)	< 150	2	7
DZ23C7V5	7	7.5	7.9	5	1	> 5	100	4 (< 7)	< 50	3	7
DZ23C8V2	7.7	8.2	8.7	5	1	> 6	100	4.5 (< 7)	< 50	4	7
DZ23C9V1	8.5	9.1	9.6	5	1	> 7	100	4.8 (< 10)	< 50	5	8
DZ23C10	9.4	10	10.6	5	1	> 7.5	100	5.2 (< 15)	< 70	5	8
DZ23C11	10.4	11	11.6	5	1	> 8.5	100	6 (< 20)	< 70	5	9
DZ23C12	11.4	12	12.7	5	1	> 9	100	7 (< 20)	< 90	6	9
DZ23C13	12.4	13	14.1	5	1	> 10	100	9 (< 25)	< 110	7	9
DZ23C15	13.8	15	15.6	5	1	> 11	100	11 (< 30)	< 110	7	9
DZ23C16	15.3	16	17.1	5	1	> 12	100	13 (< 40)	< 170	8	9.5
DZ23C18	16.8	18	19.1	5	1	> 14	100	18 (< 50)	< 170	8	9.5
DZ23C20	18.8	20	21.2	5	1	> 15	100	20 (< 50)	< 220	8	10
DZ23C22	20.8	22	23.3	5	1	> 17	100	25 (< 55)	< 220	8	10
DZ23C24	22.8	24	25.6	5	1	> 18	100	28 (< 80)	< 220	8	10
DZ23C27	25.1	27	28.9	5	1	> 20	100	30 (< 80)	< 250	8	10
DZ23C30	28	30	32	5	1	> 22.5	100	35 (< 80)	< 250	8	10
DZ23C33	31	33	35	5	1	> 25	100	40 (< 80)	< 250	8	10
DZ23C36	34	36	38	5	1	> 27	100	40 (< 90)	< 250	8	10
DZ23C39	37	39	41	5	1	> 29	100	50 (< 90)	< 300	10	12
DZ23C43	40	43	46	5	1	> 32	100	60 (< 100)	< 700	10	12
DZ23C47	44	47	50	5	1	> 35	100	70 (< 100)	< 750	10	12
DZ23C51	48	51	54	5	1	> 38	100	70 (< 100)	< 750	10	12

Note

(1) Tested with pulses t_p = 5 ms

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

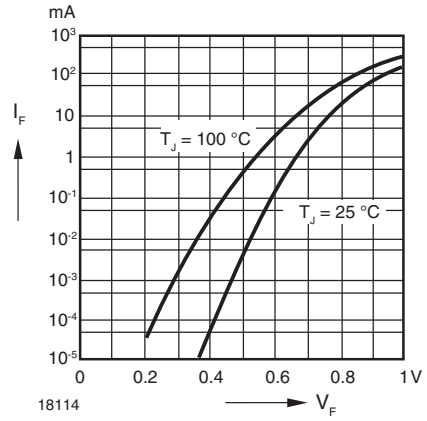


Fig. 1 - Forward Characteristics

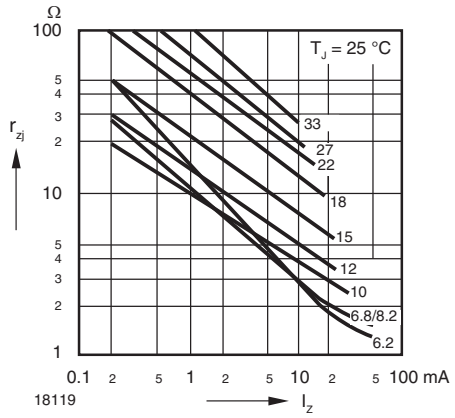


Fig. 2 - Dynamic Resistance vs. Zener Current

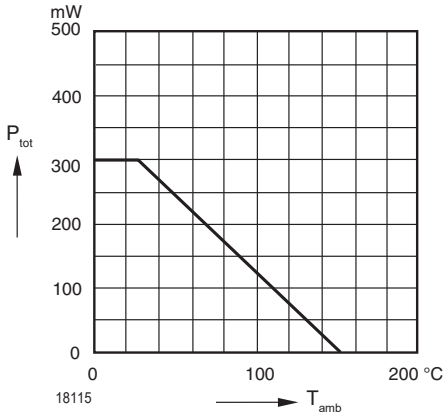


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

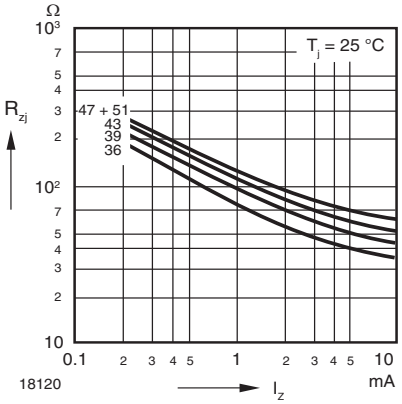


Fig. 4 - Dynamic Resistance vs. Zener Current

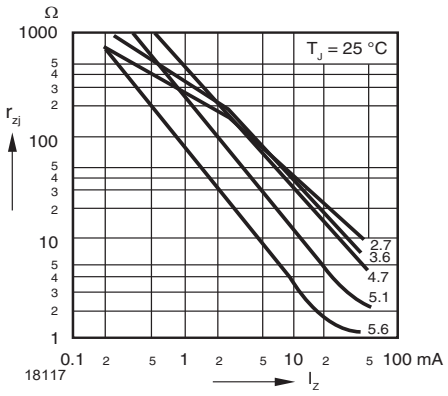


Fig. 5 - Dynamic Resistance vs. Zener Current

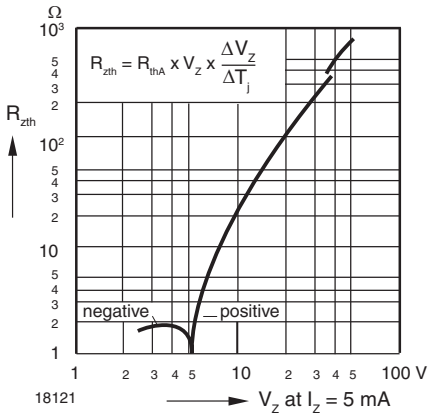


Fig. 6 - Thermal Differential Resistance vs. Zener Voltage