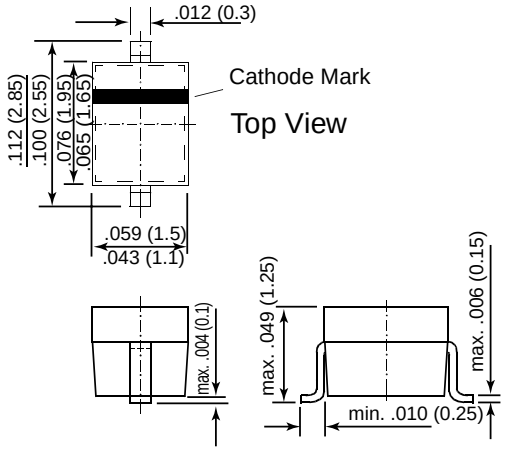
BZX384-C2V4 THRU BZX384-C75

ZENER DIODES

SOD-323



Dimensions are in inches and (millimeters)

FEATURES

- Silicon Planar Power Zener Diodes
- The Zener voltages are graded according to the international E 24 standard. Standard Zener voltage tolerance is ±5%. Replace “C” with “B” for ±2% tolerance. Other voltage tolerances and other Zener voltages are available upon request.

MECHANICAL DATA

Case: SOD-323 Plastic Package
Weight: approx. 0.004 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Zener Current	I_{ZM}	250	mA
Power Dissipation at T_{amb} = 25°C	P_{tot}	200[1)]	mW
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_S	– 65 to +175	°C

NOTES:
(1) Device on fiberglass substrate, see layout.

	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	650[1)]	K/W
Forward Voltage at I_F = 10 mA	–	–	–	0.9	Volts

NOTES:
(1) Valid provided that electrodes are kept at ambient temperature

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ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

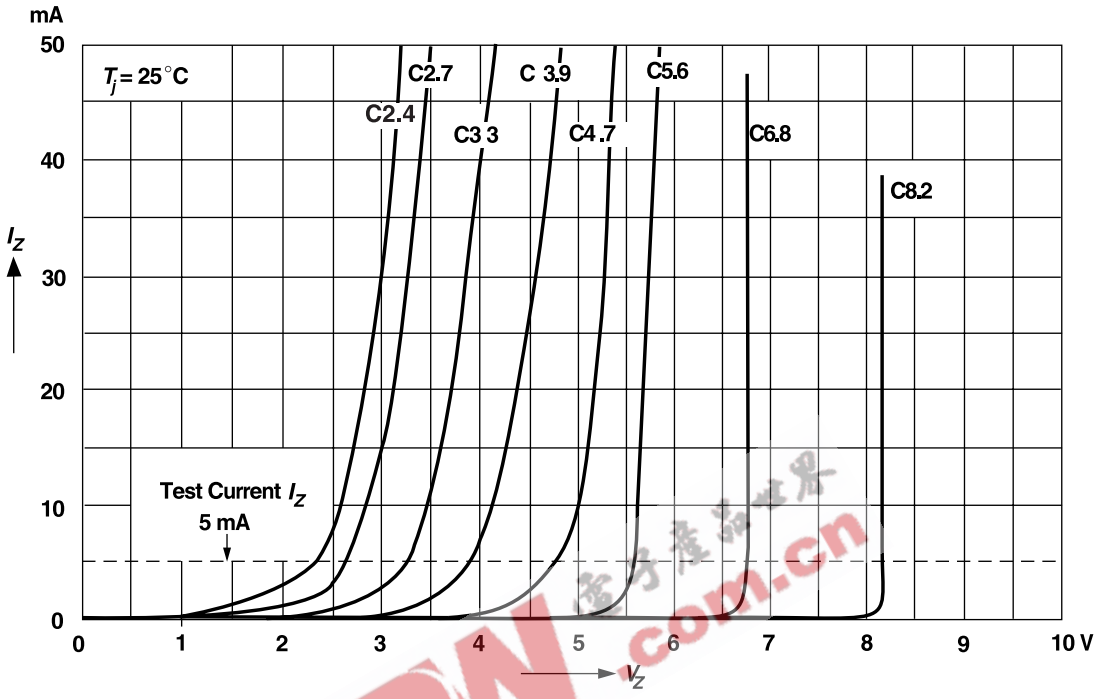
Type	Marking	Zener Voltage[1] at I_{ZT1} V_Z (V)	Dynamic Resistance at I_{ZT1} r_{zj} (Ω)	Temp. Coefficient of Zener Voltage at I_{ZT1} α_{VZ} (10^{-4}/K)	Test Current I_{ZT1} (mA)	Dynamic Resistance at I_{ZT2} r_{zj} (Ω)	Test Current I_{ZT2} (mA)	Reverse Leakage Current I_R (μA)	Reverse Leakage Current at V_R (V)
BZX384-C2V4	W1	2.20 ... 2.60	70 (≤100)	–3.5 ... 0.0	5	275	1.0	50.0	1.0
BZX384-C2V7	W2	2.50 ... 2.90	75 (≤100)	–9.0 ... –4.0	5	300 (≤600)	1.0	20.0	1.0
BZX384-C3	W3	2.80 ... 3.20	80 (≤95)	–9.0 ... –3.0	5	325 (≤600)	1.0	10.0	1.0
BZX384-C3V3	W4	3.10 ... 3.50	85 (≤95)	–8.0 ... –3.0	5	350 (≤600)	1.0	5.00	1.0
BZX384-C3V6	W5	3.40 ... 3.80	85 (≤90)	–8.0 ... –3.0	5	375 (≤600)	1.0	5.00	1.0
BZX384-C3V9	W6	3.70 ... 4.10	85 (≤90)	–7.0 ... –3.0	5	400 (≤600)	1.0	3.00	1.0
BZX384-C4V3	W7	4.00 ... 4.60	80 (≤90)	–6.0 ... –1.0	5	410 (≤600)	1.0	3.00	1.0
BZX384-C4V7	W8	4.40 ... 5.00	50 (≤80)	–5.0 ... +2.0	5	425 (≤500)	1.0	3.00	2.0
BZX384-C5V1	W9	4.80 ... 5.40	40 (≤60)	–3.0 ... +4.0	5	400 (≤480)	1.0	2.00	2.0
BZX384-C5V6	WA	5.20 ... 6.00	15 (≤40)	–2.0 ... +6.0	5	80 (≤400)	1.0	1.00	2.0
BZX384-C6V2	WB	5.80 ... 6.60	6.0 (≤10)	–1.0 ... +7.0	5	40 (≤150)	1.0	3.00	4.0
BZX384-C6V8	WC	6.40 ... 7.20	6.0 (≤15)	+2.0 ... +7.0	5	30 (≤80)	1.0	2.00	4.0
BZX384-C7V5	WD	7.00 ... 7.90	6.0 (≤15)	+3.0 ... +7.0	5	30 (≤80)	1.0	1.00	5.0
BZX384-C8V2	WE	7.70 ... 8.70	6.0 (≤15)	+4.0 ... +7.0	5	40 (≤80)	1.0	0.70	5.0
BZX384-C9V1	WF	8.50 ... 9.60	6.0 (≤15)	+5.0 ... +8.0	5	40 (≤100)	1.0	0.50	6.0
BZX384-C10	WG	9.40 ... 10.6	8.0 (≤20)	+5.0 ... +8.0	5	50 (≤150)	1.0	0.20	7.0
BZX384-C11	WH	10.4 ... 11.6	10 (≤20)	+5.0 ... +9.0	5	50 (≤150)	1.0	0.10	8.0
BZX384-C12	WI	11.4 ... 12.7	10 (≤25)	+6.0 ... +9.0	5	50 (≤150)	1.0	0.10	8.0
BZX384-C13	WK	12.4 ... 14.1	10 (≤30)	+7.0 ... +9.0	5	50 (≤170)	1.0	0.10	8.0
BZX384-C15	WL	13.8 ... 15.6	10 (≤30)	+7.0 ... +9.0	5	50 (≤200)	1.0	0.05	0.7 $V_{Znom.}$
BZX384-C16	WM	15.3 ... 17.1	10 (≤40)	+8.0 ... +9.5	5	50 (≤200)	1.0	0.05	0.7 $V_{Znom.}$
BZX384-C18	WN	16.8 ... 19.1	10 (≤45)	+8.0 ... +9.5	5	50 (≤225)	1.0	0.05	0.7 $V_{Znom.}$
BZX384-C20	WO	18.8 ... 21.2	15 (≤55)	+8.0 ... +10	5	60 (≤225)	1.0	0.05	0.7 $V_{Znom.}$
BZX384-C22	WP	20.8 ... 23.3	20 (≤55)	+8.0 ... +10	5	60 (≤250)	1.0	0.05	0.7 $V_{Znom.}$
BZX384-C24	WR	22.8 ... 25.6	25 (≤70)	+8.0 ... +10	5	60 (≤250)	1.0	0.05	0.7 $V_{Znom.}$
BZX384-C27	WS	25.1 ... 28.9	25 (≤80)	+8.0 ... +10	2	65 (≤300)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C30	WT	28.0 ... 32.0	30 (≤80)	+8.0 ... +10	2	70 (≤300)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C33	WU	31.0 ... 35.0	35 (≤80)	+8.0 ... +10	2	75 (≤325)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C36	WW	34.0 ... 38.0	35 (≤90)	+8.0 ... +10	2	80 (≤350)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C39	WX	37.0 ... 41.0	40 (≤130)	+10.0 ... +12	2	80 (≤350)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C43	WY	40.0 ... 46.0	45 (≤150)	+10.0 ... +12	2	85 (≤375)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C47	WZ	44.0 ... 50.0	50 (≤170)	+10.0 ... +12	2	85 (≤375)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C51	X1	48.0 ... 54.0	60 (≤180)	+10.0 ... +12	2	85 (≤400)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C56	X2	52.0 ... 60.0	70 (≤200)	+9.0 ... +11	2	100 (≤425)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C62	X3	58.0 ... 66.0	80 (≤215)	+9.0 ... +12	2	100 (≤450)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C68	X4	64.0 ... 72.0	90 (≤240)	+10.0 ... +12	2	150 (≤475)	0.5	0.05	0.7 $V_{Znom.}$
BZX384-C75	X5	70.0 ... 79.0	95 (≤255)	+10.0 ... +12	2	170 (≤500)	0.5	0.05	0.7 $V_{Znom.}$

NOTES:
(1) Measured with pulses t_p = 5 ms

RATINGS AND CHARACTERISTICS CURVES BZX384-C2V4 THRU BZX384-C75

Breakdown characteristics

T_j = constant (pulsed)



Breakdown characteristics

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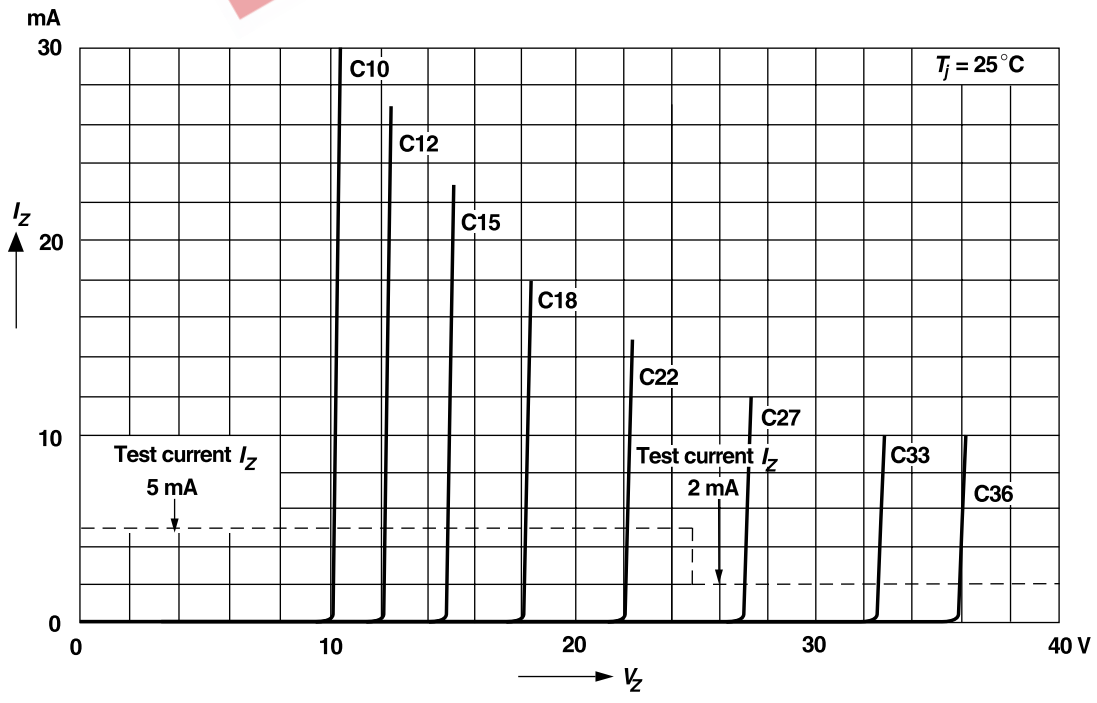

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Breakdown characteristics

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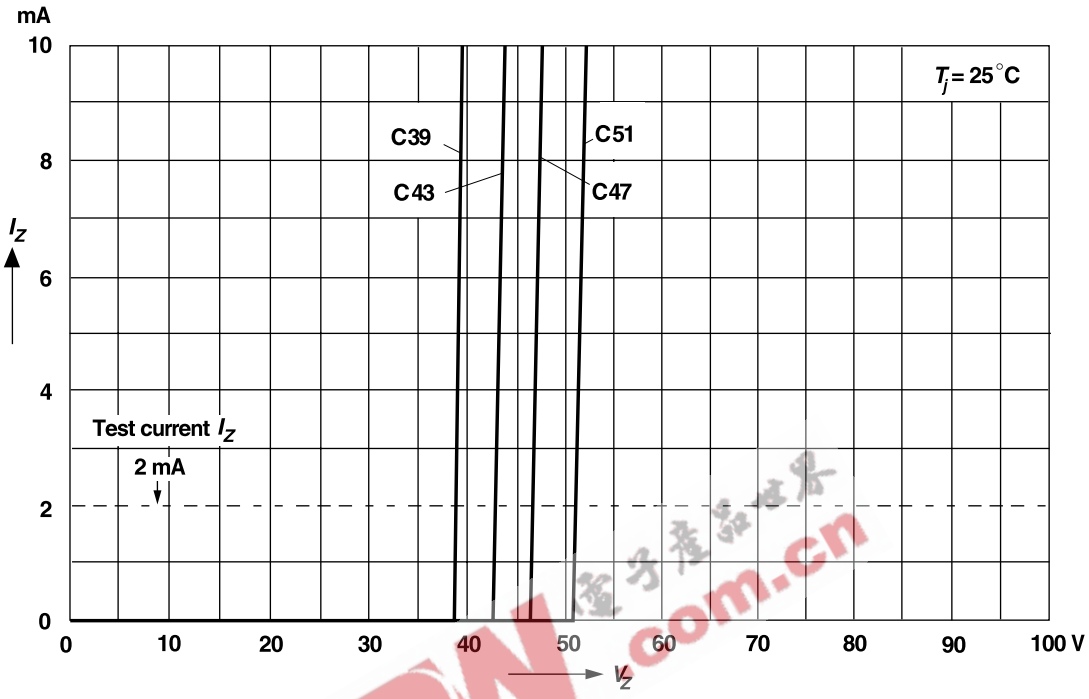
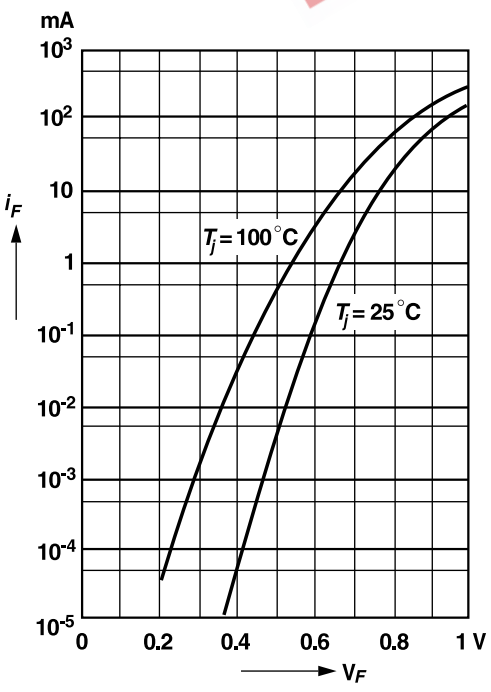
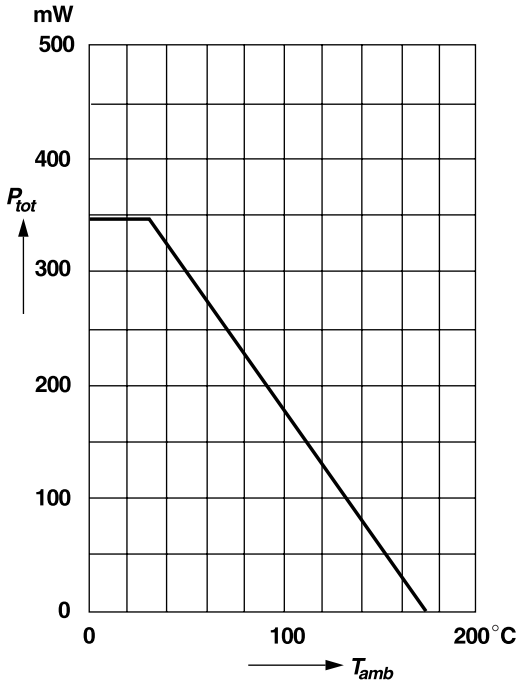


Forward characteristics



Admissible power dissipation versus ambient temperature

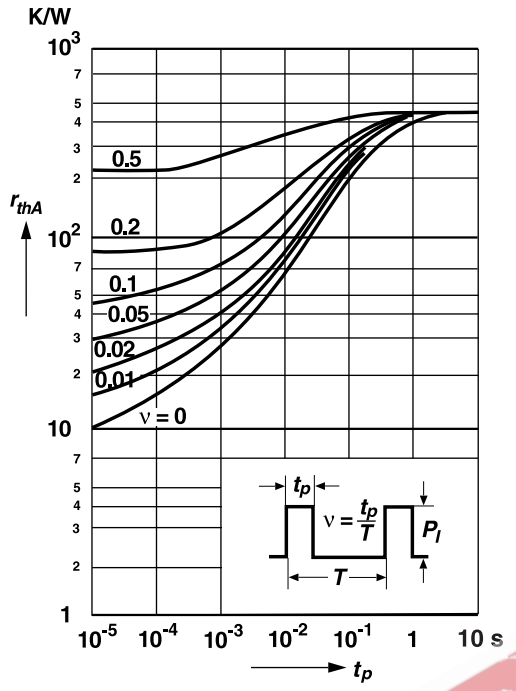
For conditions, see footnote in table "Absolute Maximum Ratings"



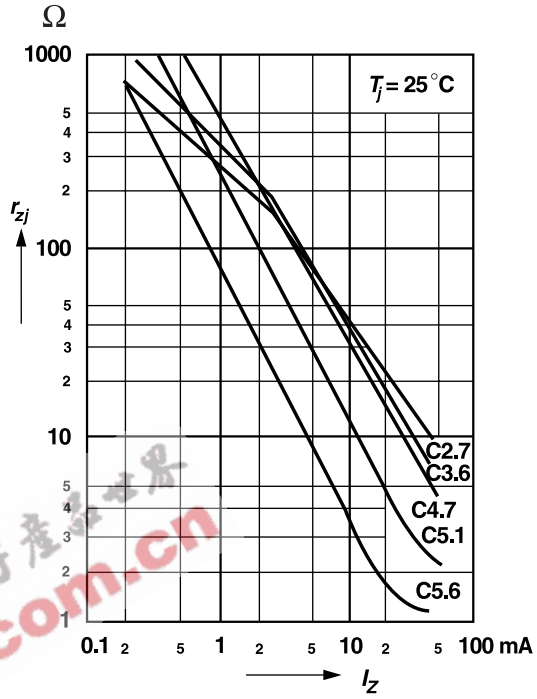
RATINGS AND CHARACTERISTICS CURVES BZX384-C2V4 THRU BZX384-C75

Pulse thermal resistance versus pulse duration

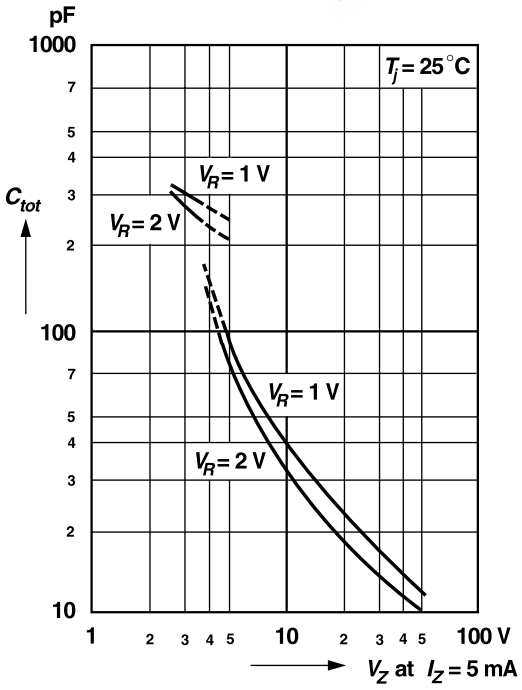
For conditions, see footnote in table "Absolute Maximum Ratings"



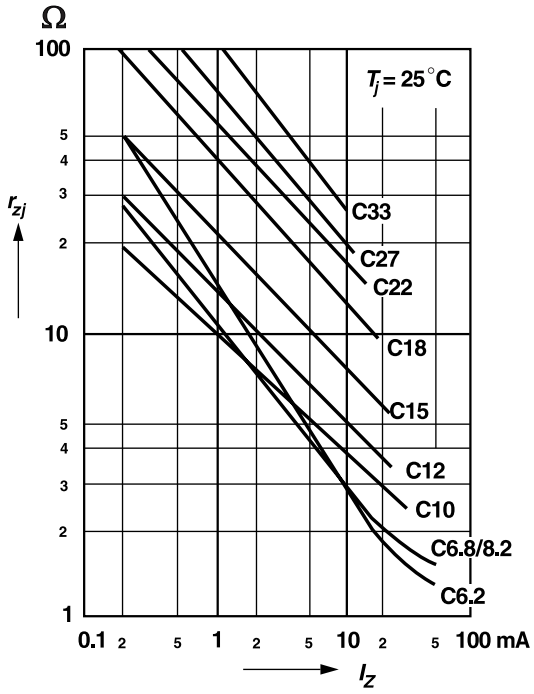
Dynamic resistance versus Zener current



Capacitance versus Zener voltage



Dynamic resistance versus Zener current



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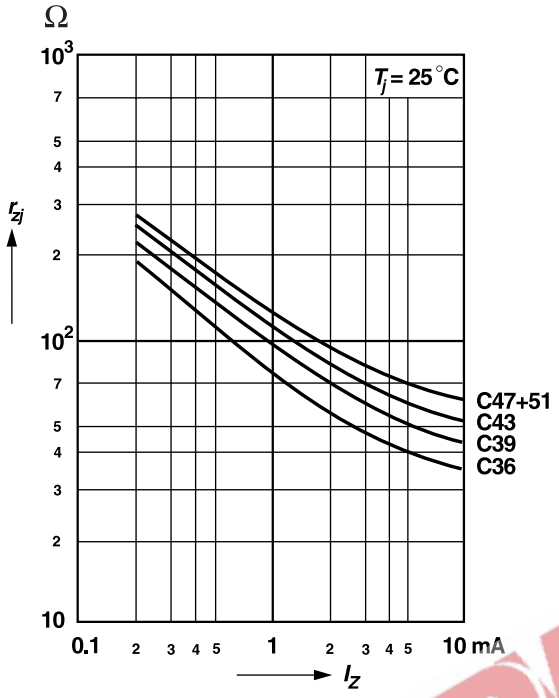
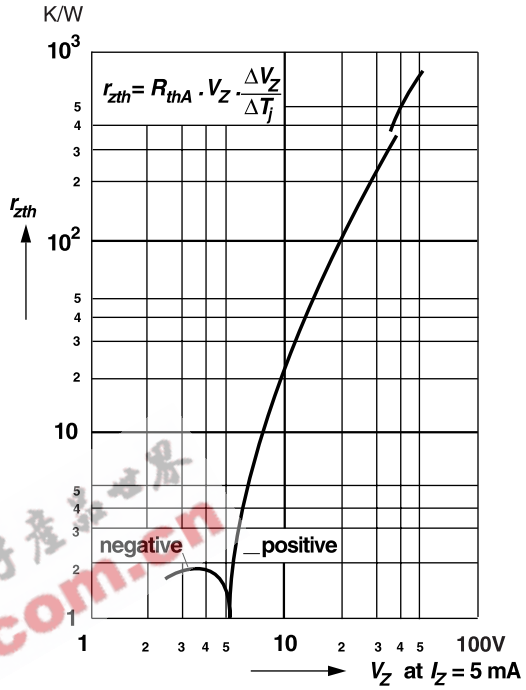
Dynamic resistance versus Zener current

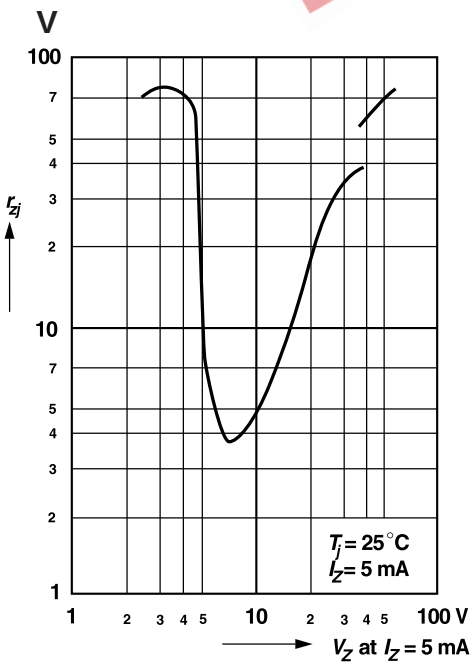


Thermal differential resistance versus Zener voltage

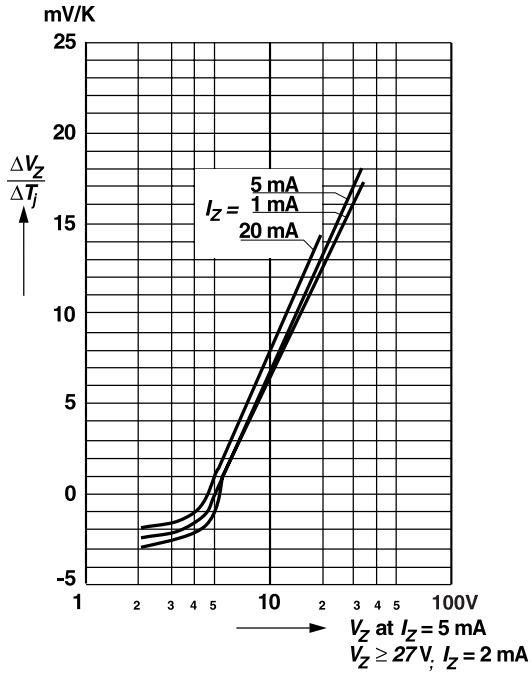
For conditions, see footnote in table "Absolute Maximum Ratings"



Dynamic resistance versus Zener voltage

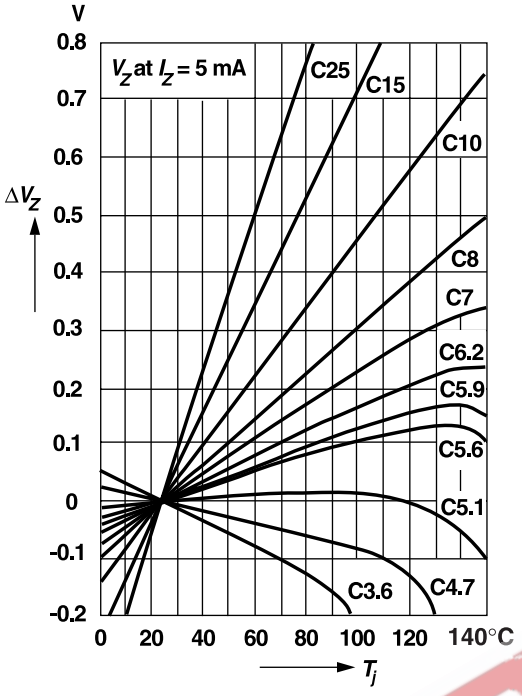


Temperature dependence of Zener voltage versus Zener voltage

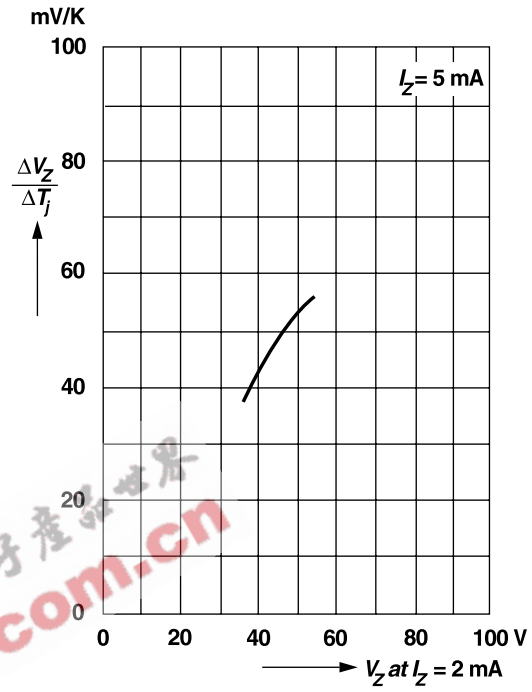


RATINGS AND CHARACTERISTICS CURVES BZX384-C2V4 THRU BZX384-C75

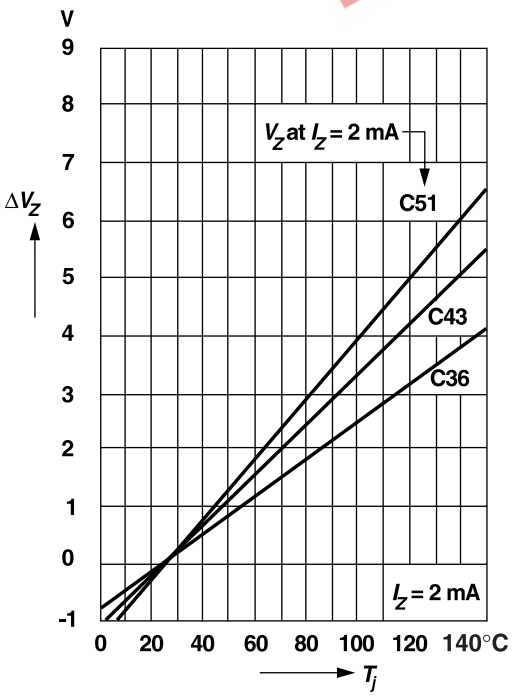
Change of Zener voltage versus junction temperature



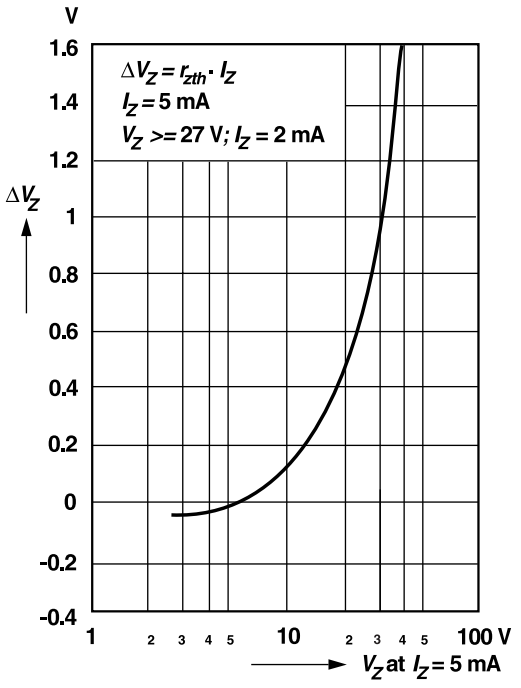
Temperature dependence of Zener voltage versus Zener voltage



Change of Zener voltage versus junction temperature



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



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