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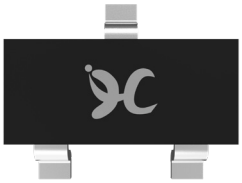
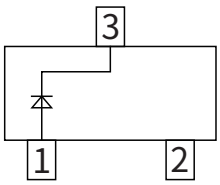
BZX84C2V4 THRU BZX84C75

SURFACE MOUNT ZENER DIODES

SOT-23





Features

- Low Zener Impedance
- Power Dissipation of 300mW
- High Stability and High Reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

Mechanical Data

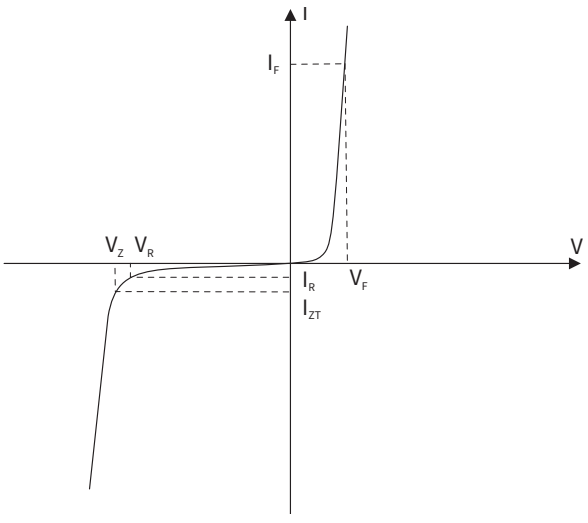
- Case: SOT-23
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Cathode line denotes the cathode end

Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	P_D	mW	300
Forward Voltage @ I_F=10mA	V_F	V	0.9
Storage Temperature	T_{stg}	°C	-65 ~+150
Junction Temperature	T_j	°C	-55 ~+150
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	417

Electrical Parameter

SYMBOL	PARAMETER
V_Z	Reverse zener voltage @ I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse leakage current @ V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage @ I_F



Zhuhai Hongjiacheng Technology co., Ltd

Electrical Characteristics (Ta=25°C Unless otherwise specified)

Type Number	Marking	Zener Voltage Range			Maximum Zener Impedance				Maximum Reverse Current		Typical Temperature coefficent @ I_{ZTC}(mV/°C)		Test Current I_{ZTC}
		V_Z@I_{ZT} (V)			Z_{ZT}@I_{ZT}		Z_{ZK}@I_{ZK}		I_R@V_R				
		Min.	Nom.	Max.	Z_{ZT} (Ω)	I_{ZT} (mA)	Z_{ZK} (Ω)	I_{ZK} (mA)	I_R (μA)	V_R(V)	Min.	Max.	mA
BZX84C 2V4	Z11	2.2	2.4	2.6	100	5	600	1.0	50.0	1.0	-3.5	0.0	5
BZX84C 2V7	Z12	2.5	2.7	2.9	100	5	600	1.0	20.0	1.0	-3.5	0.0	5
BZX84C 3V0	Z13	2.8	3.0	3.2	95	5	600	1.0	10.0	1.0	-3.5	0.0	5
BZX84C 3V3	Z14	3.1	3.3	3.5	95	5	600	1.0	5.0	1.0	-3.5	0.0	5
BZX84C 3V6	Z15	3.4	3.6	3.8	90	5	600	1.0	5.0	1.0	-3.5	0.0	5
BZX84C 3V9	Z16	3.7	3.9	4.1	90	5	600	1.0	3.0	1.0	-3.5	0.0	5
BZX84C 4V3	Z17	4.0	4.3	4.6	90	5	600	1.0	3.0	1.0	-3.5	0.0	5
BZX84C 4V7	Z1	4.4	4.7	5.0	80	5	500	1.0	3.0	2.0	-3.5	0.2	5
BZX84C 5V1	Z2	4.8	5.1	5.4	60	5	480	1.0	2.0	2.0	-2.7	1.2	5
BZX84C 5V6	Z3	5.2	5.6	6.0	40	5	400	1.0	1.0	2.0	-2.0	2.5	5
BZX84C 6V2	Z4	5.8	6.2	6.6	10	5	150	1.0	3.0	4.0	0.4	3.7	5
BZX84C 6V8	Z5	6.4	6.8	7.2	15	5	80	1.0	2.0	4.0	1.2	4.5	5
BZX84C 7V5	Z6	7.0	7.5	7.9	15	5	80	1.0	1.0	5.0	2.5	5.3	5
BZX84C 8V2	Z7	7.7	8.2	8.7	15	5	80	1.0	0.7	5.0	3.2	6.2	5
BZX84C 9V1	Z8	8.5	9.1	9.6	15	5	100	1.0	0.5	6.0	3.8	7.0	5
BZX84C 10	Z9	9.4	10	10.6	20	5	150	1.0	0.2	7.0	4.5	8.0	5
BZX84C 11	Y1 ·	10.4	11	11.6	20	5	150	1.0	0.1	8.0	5.4	9.0	5
BZX84C 12	Y2 ·	11.4	12	12.7	25	5	150	1.0	0.1	8.0	6.0	10	5
BZX84C 13	Y3	12.4	13	14.1	30	5	170	1.0	0.1	8.0	7.0	11	5
BZX84C 15	Y4	13.8	15	15.6	30	5	200	1.0	0.1	10.5	9.2	13	5
BZX84C 16	Y5	15.3	16	17.1	40	5	200	1.0	0.1	11.2	10.4	14	5
BZX84C 18	Y6 ·	16.8	18	19.1	45	5	225	1.0	0.1	12.6	12.4	16	5
BZX84C 20	Y7	18.8	20	21.2	55	5	225	1.0	0.1	14	14.4	18	5
BZX84C 22	Y8	20.8	22	23.3	55	5	250	1.0	0.1	15.4	16.4	20	5
BZX84C 24	Y9	22.8	24	25.6	70	5	250	1.0	0.1	16.8	18.4	22	5
BZX84C 27	Y10	25.1	27	28.9	80	2	300	0.5	0.1	18.9	21.4	25.3	2
BZX84C 30	Y11 ·	28	30	32	80	2	300	0.5	0.1	21	24.4	29.4	2
BZX84C 33	Y12	31	33	35	80	2	325	0.5	0.1	23.1	27.1	33.4	2
BZX84C 36	Y13	34	36	38	90	2	350	0.5	0.1	25.2	30.4	37.4	2
BZX84C 39	Y14	37	39	41	130	2	350	0.5	0.1	27.3	33.4	41.2	2
BZX84C 43	Y15	40	43	46	100	2	700	1.0	0.1	32	10	12	2
BZX84C 47	Y16	44	47	50	100	2	750	1.0	0.1	35	10	12	2
BZX84C 51	Y17	48	51	54	125	2	750	1.0	0.1	38	10	12	2
BZX84C 56	Y18	52	56	60	135	2	700	1.0	0.1	39	10	12	2
BZX84C 62	Y19	58	62	66	200	2	1000	1.0	0.2	47	10	12	2
BZX84C 68	Y20	64	68	72	250	2	1000	1.0	0.2	52	10	12	2
BZX84C 75	Y21 ·	70	74.5	79	300	2	1000	1.0	0.2	57	10	12	2

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

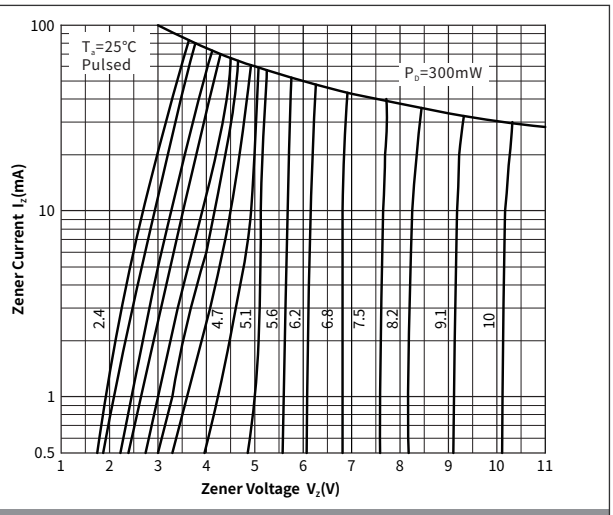


Fig. 1 Zener Characteristics (Vz Up to 10V)

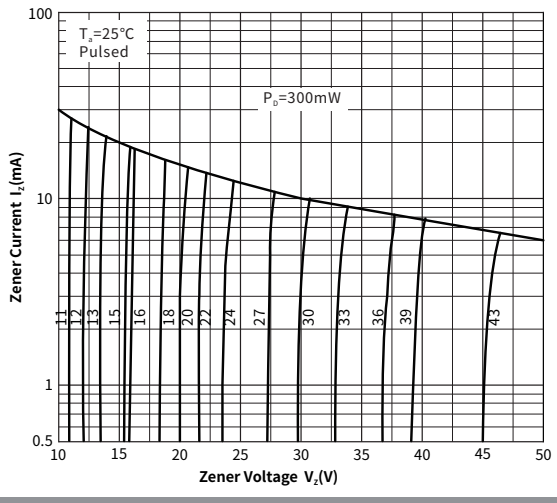


Fig.2 Zener Characteristics (11V to 43V)

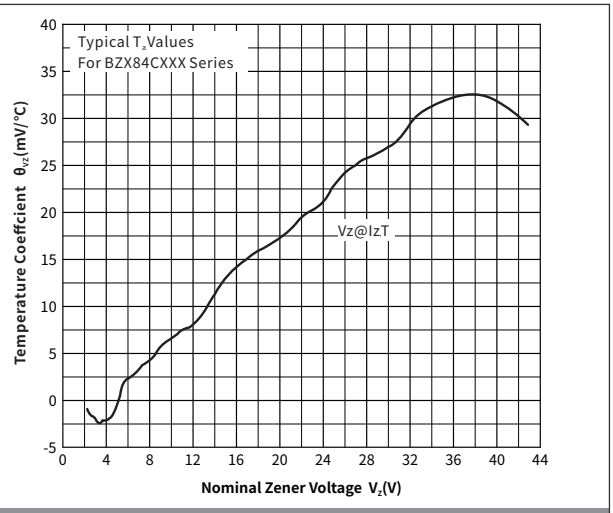


Fig.3 Temperature Coefficients

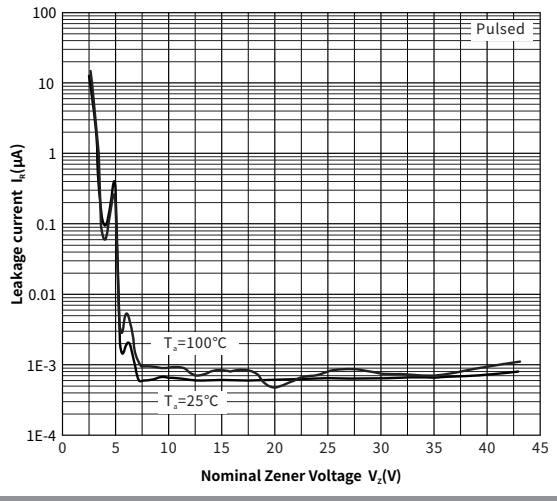


Fig.4 Typical Leakage Current

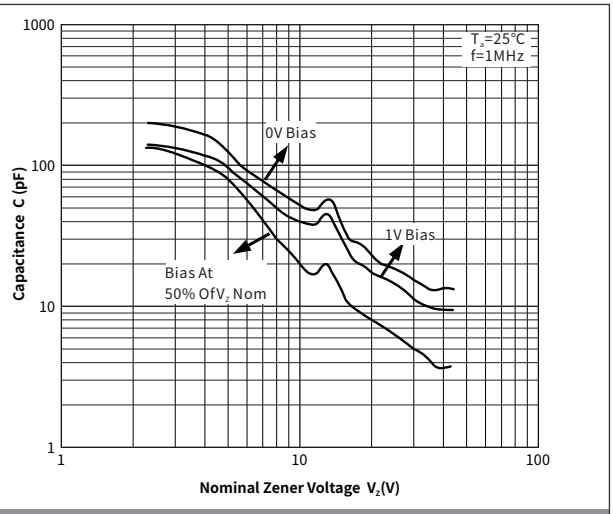


Fig.5 Typical Capacitance

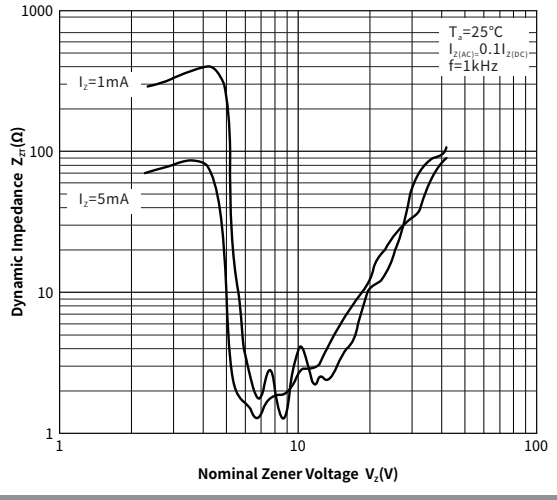


Fig.6 Effect of Zener Voltage on Zener Impedance

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

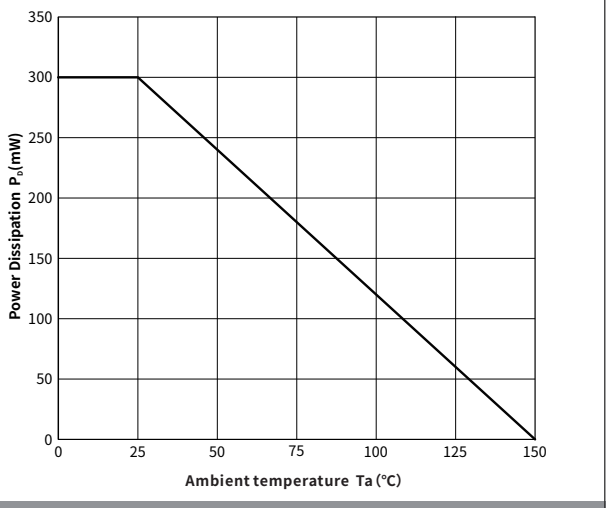
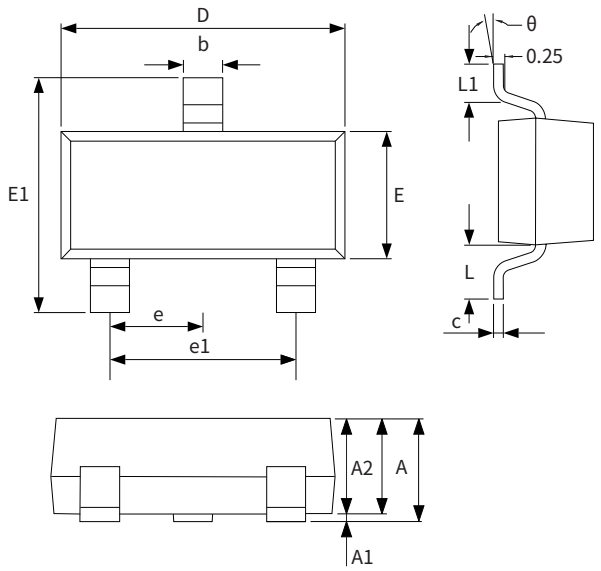


Fig. 7 Power Derating Curve

Ordering Information

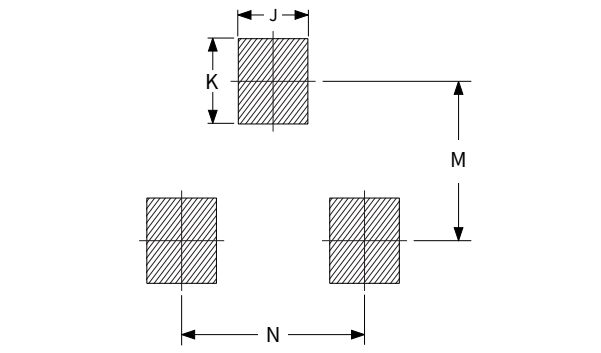
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7''

Package Outline Dimensions (SOT-23)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.80	-	0.031	-
K	0.90	-	-	0.035
M	-	2.00	0.078	-
N	-	1.90	-	0.074

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