Small Signal Product

Surface Mount Zener Diode

FEATURES

- Zener voltages from : 2.4V - 39V
- Planar die construction
- Ideally suited for automated assembly processes
- Moisture sensitivity : Level 1 per J-STD-020

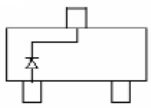
SOT-23

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

- Case : SOT-23, molding plastic
- Case material - UL flammibility rating 94V-0
- Polarity : See diagram
- Lead free plating
- Marking : Marking code
- Weight : 0.008 g (approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P_D	300	mW
Forward Voltage I_F = 10 mA	V_F	0.9	V
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	- 65 to +150	°C

Note 1: Valid provided that device terminals are kept at ambient temerature .

ELECTRICAL CHARACTERISTICS (T_A= 25°C unless otherwise noted)

Type Number (Note 1)	Marking code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Typical Temperature Coefficient @ I_{ZT} (mV/°C)	
		V_Z @ I_{ZT}			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R	V_R		
		Nom	Min	Max	mA	Ohms	Ohms	mA	μA	V	Min	Max
BZX84C2V4	Z11	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0
BZX84C2V7	Z12	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX84C3V0	Z13	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX84C3V3	Z14	3.3	3.1	3.5	5	95	600	1.0	5.0	1.0	-3.5	0
BZX84C3V6	Z15	3.6	3.4	3.8	5	90	600	1.0	5.0	1.0	-3.5	0
BZX84C3V9	Z16	3.9	3.7	4.1	5	90	600	1.0	3.0	1.0	-3.5	0
BZX84C4V3	Z17	4.3	4.0	4.6	5	90	600	1.0	3.0	1.0	-3.5	0.0
BZX84C4V7	Z1	4.7	4.4	5.0	5	80	500	1.0	3.0	2.0	-3.5	0.2
BZX84C5V1	Z2	5.1	4.8	5.4	5	60	480	1.0	2.0	2.0	-2.7	1.2
BZX84C5V6	Z3	5.6	5.2	6.0	5	40	400	1.0	1.0	2.0	-2.0	2.5
BZX84C6V2	Z4	6.2	5.8	6.6	5	10	150	1.0	3.0	4.0	0.4	3.7
BZX84C6V8	Z5	6.8	6.4	7.2	5	15	80	1.0	2.0	4.0	1.2	4.5
BZX84C7V5	Z6	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3
BZX84C8V2	Z7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.1
BZX84C9V1	Z8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX84C10	Z9	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX84C11	Y1.	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX84C12	Y2.	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6	10.0
BZX84C13	Y3	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7	11.0
BZX84C15	Y4	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX84C16	Y5	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX84C18	Y6	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX84C20	Y7	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX84C22	Y8	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX84C24	Y9	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX84C27	Y10	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX84C30	Y11	30	28	32	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX84C33	Y12	33	31	35	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX84C36	Y13	36	34	38	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX84C39	Y14	39	37	41	2	130	350	0.5	0.1	27.3	33.4	41.2

Notes: 1. Valid provided that device terminals are kept at ambient temerature.

2. Tested with pulses period = 5 ms, pulse width = 300 μs

3. f = 1KHz

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

Fig. 1 Power Derating Curve

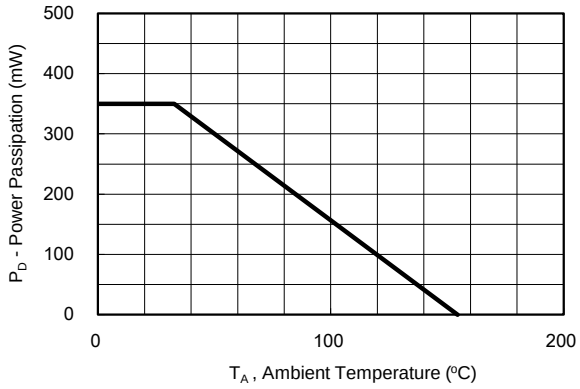


Fig. 2 Zener Breakdown Characteristics

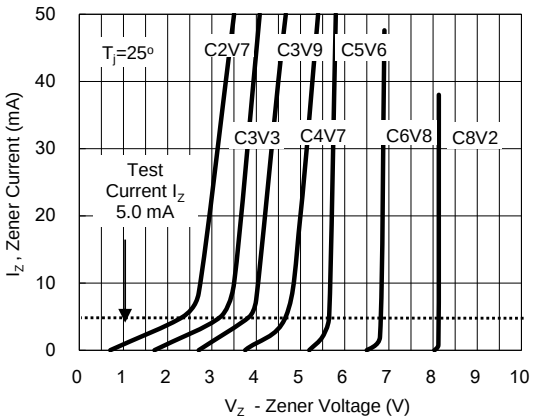


Fig. 3 Zener Breakdown Characteristics

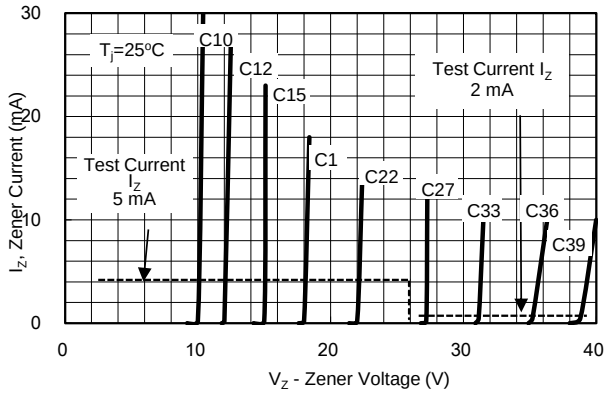
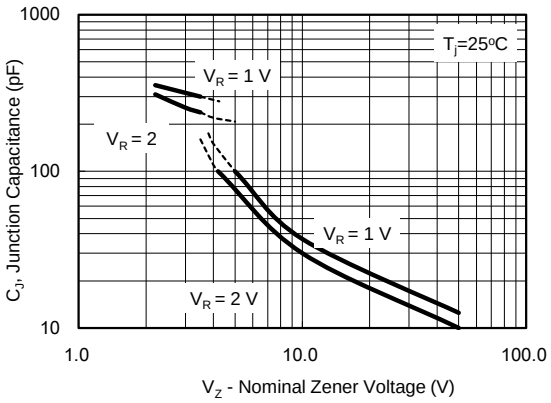


Fig. 4 Junction Capacitance VS. Nomial Zener

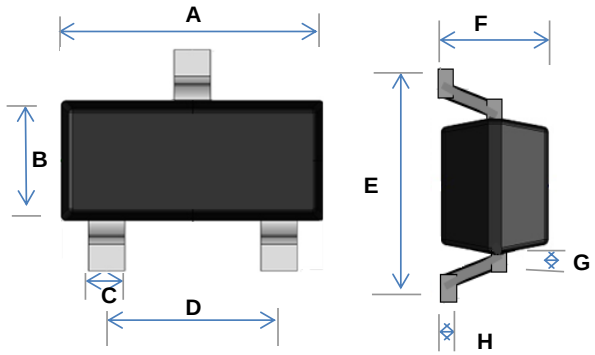


ORDERING INFORMATION			
PART NO.	**PACKING CODE**	**PACKAGE**	**PACKING**
BZX84Cxxx (Note1)	RF	SOT-23	3K / 7" Reel

Note 1: "xxx" defines voltage from 2.4V (BZX84C2V4) to 39V (BZX84C39)

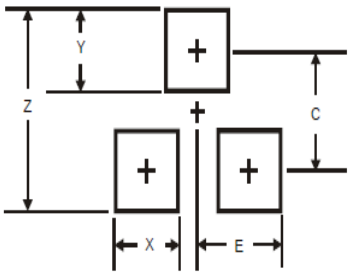
EXAMPLE			
EXAMPLE P/N	**PART NO.**	**PACKING CODE**	**DESCRIPTION**
BZX84C39 RFG	BZX84C39	RF	Green compound

PACKAGE OUTLINE DIMENSION



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.55 REF		0.022 REF	
H	0.10 REF		0.004 REF	

SUGGEST PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
Z	2.90	0.114
X	0.80	0.031
Y	0.90	0.035
C	2.00	0.079
E	1.35	0.053

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