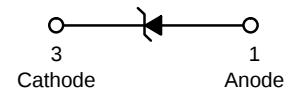
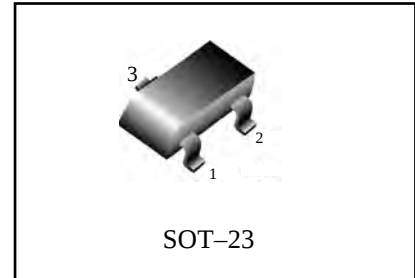


Zener Voltage Regalators

- We declare that the material of product compliance with RoHS requirements.
- ESD Rating of Class 3 (>16 kV) per Human Body Model



MAXIMUM CASE TEMPERATURE FOR SOLDERING

PURPOSES: 260°C for 10 seconds

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board* $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
		1.8	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	R_{QJA}	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate,** $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300	mW
		2.4	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	R_{QJA}	417	$^\circ\text{C/W}$
Junction and Storage Temeprature	T_J, T_{slg}	-55to+125	$^\circ\text{C}$

**FR-5 = 1.0 x 0.75 x 0.62 in.

**Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

Ordering Information

Device	Package	Shipping
FDZSXX SERIES	SOT-23	3000/Tape&Reel



FDZS2.4 ~ FDZS75

ELECTRICAL CHARACTERISTICS – BZX84CxxLT1 SERIES (STANDARD TOLERANCE)

(Pinout: 1-Anode, 2-No Connection, 3-Cathode) ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.90\text{ V Max.}$ @ $I_F = 10\text{ mA}$)

Device*	Device Marking	V _{Z1} (Volts) @ I _{ZT1} = 5 mA (Note 3)			Z _{VT1} (Ω) @ I _{ZT1} = 5 mA	V _{Z2} (V) @ I _{ZT2} = 1 mA (Note 3)		Z _{VT2} (Ω) @ I _{ZT2} = 1 mA	V _{Z3} (V) @ I _{ZT3} = 20 mA (Note 3)		Z _{VT3} (Ω) @ I _{ZT3} = 20 mA	Max Reverse Leakage Current		θ _{VZ} (mV/k) @ I _{ZT1} = 5 mA		C (pF) @ V _R = 0 f = 1 MHz
		Min	Nom	Max		Min	Max		Min	Max		I _R μA	V _R Volts	Min	Max	
FDZS2.4	Z11	2.2	2.4	2.6	100	1.7	2.1	600	2.6	3.2	50	50	1	-3.5	0	450
FDZS2.7	Z12	2.5	2.7	2.9	100	1.9	2.4	600	3	3.6	50	20	1	-3.5	0	450
FDZS3.0	Z13	2.8	3	3.2	95	2.1	2.7	600	3.3	3.9	50	10	1	-3.5	0	450
FDZS3.3	Z14	3.1	3.3	3.5	95	2.3	2.9	600	3.6	4.2	40	5	1	-3.5	0	450
FDZS3.6	Z15	3.4	3.6	3.8	90	2.7	3.3	600	3.9	4.5	40	5	1	-3.5	0	450
FDZS3.9	Z16	3.7	3.9	4.1	90	2.9	3.5	600	4.1	4.7	30	3	1	-3.5	-2.5	450
FDZS4.3	W9	4	4.3	4.6	90	3.3	4	600	4.4	5.1	30	3	1	-3.5	0	450
FDZS4.7	Z1	4.4	4.7	5	80	3.7	4.7	500	4.5	5.4	15	3	2	-3.5	0.2	260
FDZS5.1	Z2	4.8	5.1	5.4	60	4.2	5.3	480	5	5.9	15	2	2	-2.7	1.2	225
FDZS5.6	Z3	5.2	5.6	6	40	4.8	6	400	5.2	6.3	10	1	2	-2.0	2.5	200
FDZS6.2	Z4	5.8	6.2	6.6	10	5.6	6.6	150	5.8	6.8	6	3	4	0.4	3.7	185
FDZS6.8	Z5	6.4	6.8	7.2	15	6.3	7.2	80	6.4	7.4	6	2	4	1.2	4.5	155
FDZS7.5	Z6	7	7.5	7.9	15	6.9	7.9	80	7	8	6	1	5	2.5	5.3	140
FDZS8.2	Z7	7.7	8.2	8.7	15	7.6	8.7	80	7.7	8.8	6	0.7	5	3.2	6.2	135
FDZS9.1	Z8	8.5	9.1	9.6	15	8.4	9.6	100	8.5	9.7	8	0.5	6	3.8	7.0	130
FDZS10	Z9	9.4	10	10.6	20	9.3	10.6	150	9.4	10.7	10	0.2	7	4.5	8.0	130
FDZS11	Y1	10.4	11	11.6	20	10.2	11.6	150	10.4	11.8	10	0.1	8	5.4	9.0	130
FDZS12	Y2	11.4	12	12.7	25	11.2	12.7	150	11.4	12.9	10	0.1	8	6.0	10.0	130
FDZS13	Y3	12.4	13	14.1	30	12.3	14	170	12.5	14.2	15	0.1	8	7.0	11.0	120
FDZS15	Y4	13.8	15	15.6	30	13.7	15.5	200	13.9	15.7	20	0.05	10.5	9.2	13.0	110
FDZS16	Y5	15.3	16	17.1	40	15.2	17	200	15.4	17.2	20	0.05	11.2	10.4	14.0	105
FDZS18	Y6	16.8	18	19.1	45	16.7	19	225	16.9	19.2	20	0.05	12.6	12.4	16.0	100
FDZS20	Y7	18.8	20	21.2	55	18.7	21.1	225	18.9	21.4	20	0.05	14	14.4	18.0	85
FDZS22	Y8	20.8	22	23.3	55	20.7	23.2	250	20.9	23.4	25	0.05	15.4	16.4	20.0	85
FDZS24	Y9	22.8	24	25.6	70	22.7	25.5	250	22.9	25.7	25	0.05	16.8	18.4	22.0	80
Device	Device Marking	V _{Z1} Below @ I _{ZT1} = 2 mA			Z _{VT1} Below @ I _{ZT1} = 2 mA	V _{Z2} Below @ I _{ZT2} = 0.1 mA		Z _{VT2} Below @ I _{ZT2} = 0.5 mA	V _{Z3} Below @ I _{ZT3} = 10 mA		Z _{VT3} Below @ I _{ZT3} = 10 mA	Max Reverse Leakage Current		θ _{VZ} (mV/k) Below @ I _{ZT1} = 2 mA		C (pF) @ V _R = 0 f = 1 MHz
		Min	Nom	Max		Min	Max		Min	Max		I _R μA	V _R (V)	Min	Max	
FDZS27	Y10	25.1	27	28.9	80	25	28.9	300	25.2	29.3	45	0.05	18.9	21.4	25.3	70
FDZS30	Y11	28	30	32	80	27.8	32	300	28.1	32.4	50	0.05	21	24.4	29.4	70
FDZS33	Y12	31	33	35	80	30.8	35	325	31.1	35.4	55	0.05	23.1	27.4	33.4	70
FDZS36	Y13	34	36	38	90	33.8	38	350	34.1	38.4	60	0.05	25.2	30.4	37.4	70
FDZS39	Y14	37	39	41	130	36.7	41	350	37.1	41.5	70	0.05	27.3	33.4	41.2	45
FDZS43	Y15	40	43	46	150	39.7	46	375	40.1	46.5	80	0.05	30.1	37.6	46.6	40
FDZS47	Y16	44	47	50	170	43.7	50	375	44.1	50.5	90	0.05	32.9	42.0	51.8	40
FDZS51	Y17	48	51	54	180	47.6	54	400	48.1	54.6	100	0.05	35.7	46.6	57.2	40
FDZS56	Y18	52	56	60	200	51.5	60	425	52.1	60.8	110	0.05	39.2	52.2	63.8	40
FDZS62	Y19	58	62	66	215	57.4	66	450	58.2	67	120	0.05	43.4	58.8	71.6	35
FDZS68	Y20	64	68	72	240	63.4	72	475	64.2	73.2	130	0.05	47.6	65.6	79.8	35
FDZS75	Y21	70	75	79	255	69.4	79	500	70.3	80.2	140	0.05	52.5	73.4	88.6	35

Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C .

TYPICAL CHARACTERISTICS

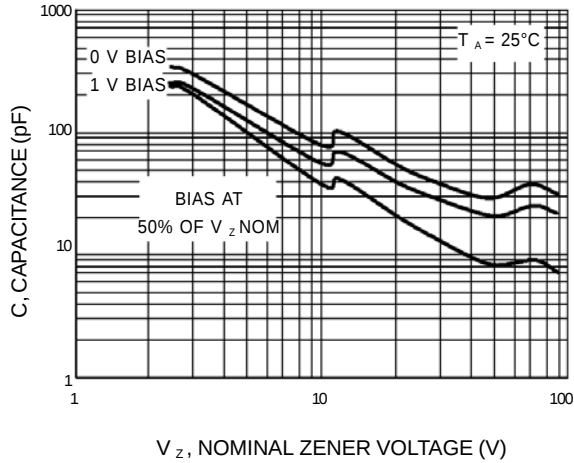


Figure 5. Typical Capacitance

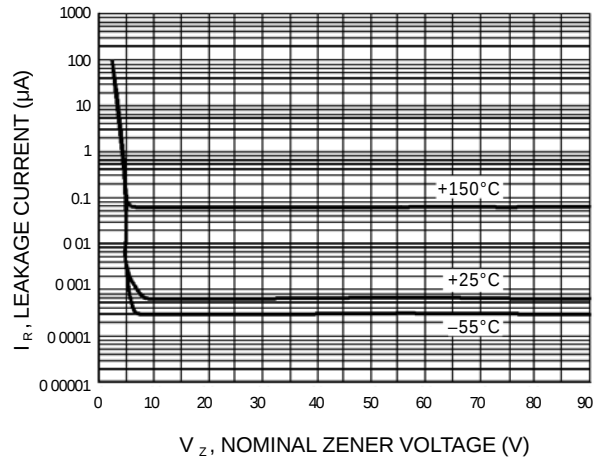


Figure 6. Typical Leakage Current

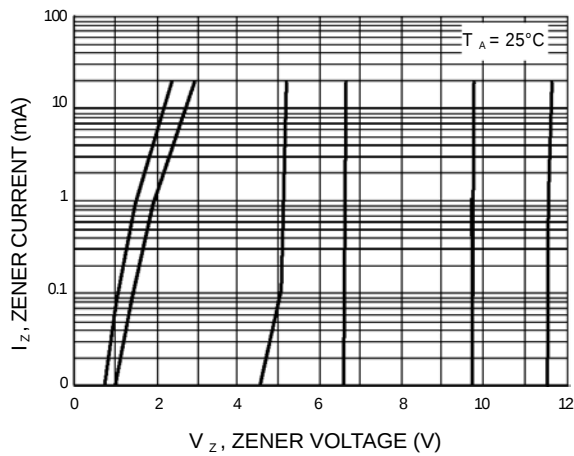


Figure 7. Zener Voltage versus Zener Current
(V_Z Up to 12 V)

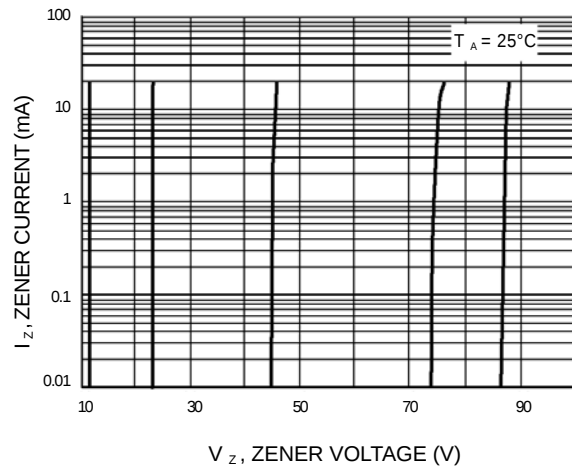
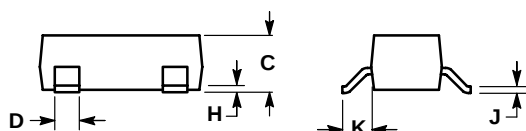
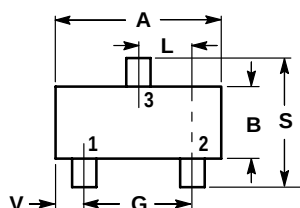


Figure 8. Zener Voltage versus Zener Current
(12 V to 91 V)

SOT-23

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

PIN 1. BASE
2. EMITTER
3. COLLECTOR

