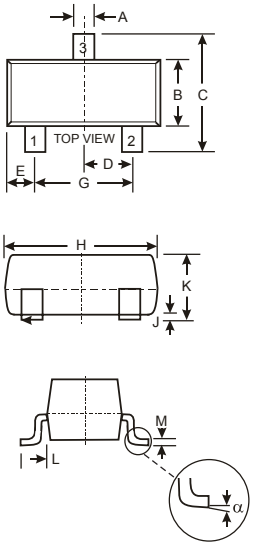
HAICHUANG SEMI

BZD84Cxx-Series

300mW DUAL ZENER VOLTAGE REGULATOR DIODES

Features

- Planar Die Construction
- 300 mW Power Dissipation Rating
- Dual Zeners in Common Anode Configuration
- Ideally Suited for Automated Assembly Process
- Δvz for both diodes in one case is ≤ 5%.



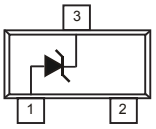
SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	300	mW
Thermal Resistance, Junction to Ambient [1)]	$R_{\theta JA}$	417	°C/W
Junction and Storage	T_j	150	°C
Temperature Range	T_S	- 65 to + 150	°C

[1)] Alumina = 0.4 X 0.3 X 0.024 in, 99.5% alumina

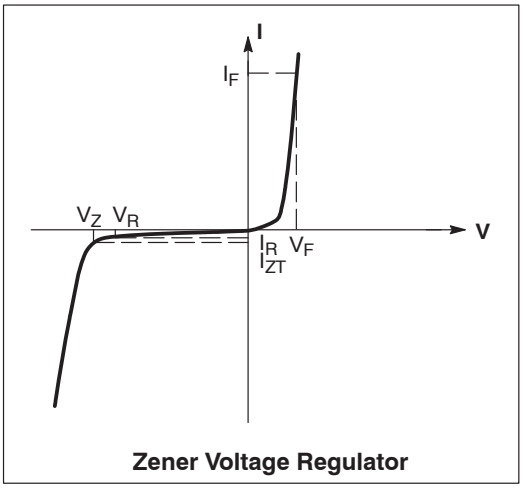
Device Schematic



ELECTRICAL CHARACTERISTICS

(Pinout: 1-Anode, 2-No Connection, 3-Cathode) (T_A = 25°C unless otherwise noted, V_F = 0.90 V Max. @ I_F = 10 mA)

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F
ΘV_Z	Maximum Temperature Coefficient of V_Z
C	Max. Capacitance @ V_R = 0 and f = 1 MHz



Zener Voltage Regulator

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300mW DUAL ZENER VOLTAGE REGULATOR DIODES

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Part No.	Marking code	Zener voltage			Zener impedance				Leakage current	
		VZ @ IZT(Volts)			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	IR	VR
		Min.	Nom.	Max.	mA	(Ω)Max	(Ω)Max	mA	(uA)Max	Volts
BZD84C2V7	DA, KD1	2.50	2.7	2.90	5.0	83	500	1.0	75	1.0
BZD84C3V0	DB, KD2	2.80	3.0	3.20	5.0	95	500	1.0	50	1.0
BZD84C3V3	DC, KD3	3.10	3.3	3.50	5.0	95	500	1.0	25	1.0
BZD84C3V6	DD, KD4	3.40	3.6	3.80	5.0	95	500	1.0	15	1.0
BZD84C3V9	DE, KD5	3.70	3.9	4.10	5.0	95	500	1.0	10	1.0
BZD84C4V3	DF, KD6	4.00	4.3	4.60	5.0	95	500	1.0	5	1.0
BZD84C4V7	DG, KD7	4.40	4.7	5.00	5.0	78	500	1.0	5	2.0
BZD84C5V1	DH, KD8	4.80	5.1	5.40	5.0	60	480	1.0	0.1	0.8
BZD84C5V6	DI, KD9	5.20	5.6	6.00	5.0	40	400	1.0	0.1	1.0
BZD84C6V2	DJ,KDA	5.80	6.2	6.60	5.0	10	200	1.0	0.1	2.0
BZD84C6V8	D11, KDB	6.40	6.8	7.20	5.0	8	150	1.0	0.1	3.0
BZD84C7V5	D12, KDC	7.00	7.5	7.90	5.0	7	50	1.0	0.1	5.0
BZD84C8V2	D13, KDD	7.70	8.2	8.70	5.0	7	50	1.0	0.1	6.0
BZD84C9V1	D14, KDE	8.50	9.1	9.60	5.0	10	50	1.0	0.1	7.0
BZD84C10	D15, KDF	9.40	10	10.60	5.0	15	70	1.0	0.1	7.5
BZD84C11	D16, KDG	10.40	11	11.60	5.0	20	70	1.0	0.1	8.5
BZD84C12	D17, KDH	11.40	12	12.70	5.0	20	90	1.0	0.1	9.0
BZD84C13	D18, KDI	12.40	13	14.10	5.0	25	110	1.0	0.1	10
BZD84C15	D19, KDJ	13.80	15	15.60	5.0	30	110	1.0	0.1	11
BZD84C16	D20, KDK	15.30	16	17.10	5.0	40	170	1.0	0.1	12
BZD84C18	D21, KDL	16.80	18	19.10	5.0	50	170	1.0	0.1	14
BZD84C20	D22, KDM	18.80	20	21.20	5.0	50	220	1.0	0.1	15
BZD84C22	D23, KDN	20.80	22	23.30	5.0	55	220	1.0	0.1	17
BZD84C24	D24, KDO	22.80	24	25.60	5.0	80	220	1.0	0.1	18
BZD84C27	D25, KDP	25.10	27	28.90	5.0	80	250	1.0	0.1	20
BZD84C30	D26, KDQ	28.00	30	32.00	5.0	80	250	1.0	0.1	22.5
BZD84C33	D27, KDR	31.00	33	35.00	5.0	80	250	1.0	0.1	25
BZD84C36	D28, KDS	34.00	36	38.00	5.0	90	250	1.0	0.1	27
BZD84C39	D29,KDT	37.00	39	41.00	5.0	90	300	1.0	0.1	29
BZD84C43	D30	40.00	43	46.00	5.0	100	375	1.0	0.1	32
BZD84C47	D31	44.00	47	50.00	5.0	100	375	1.0	0.1	35
BZD84C51	D32	48.00	51	54.00	5.0	100	400	1.0	0.1	38

Notes: 1. Short duration test pulse used to minimize self-heating effect.
2. f = 1 KHz

Electrical Characteristics @ T_A = 25°C unless otherwise specified

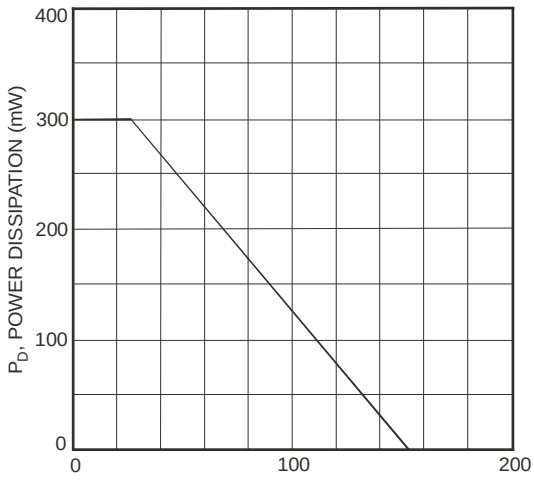

Fig. 1 Power Derating Curve

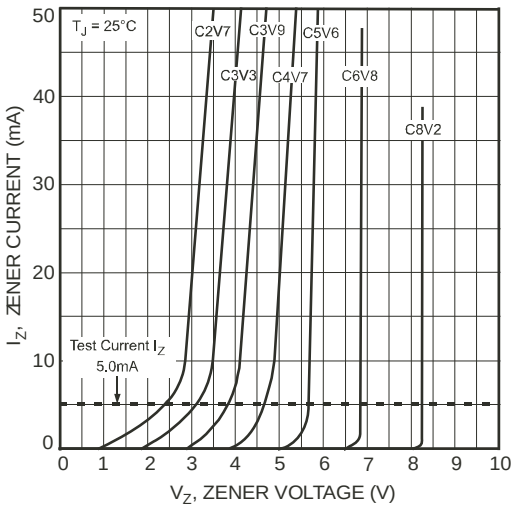

Fig. 2 Typical Zener Breakdown Characteristics

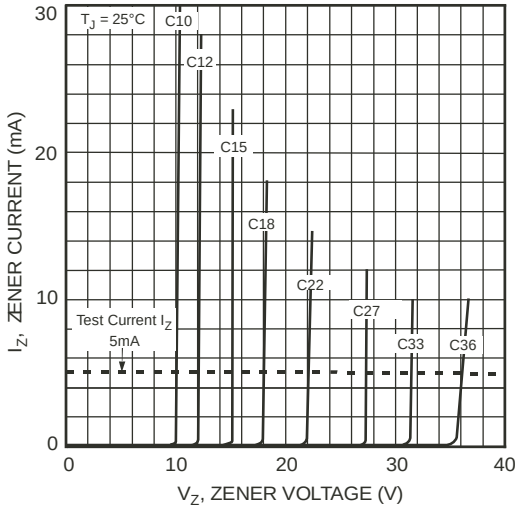

Fig. 3 Typical Zener Breakdown Characteristics

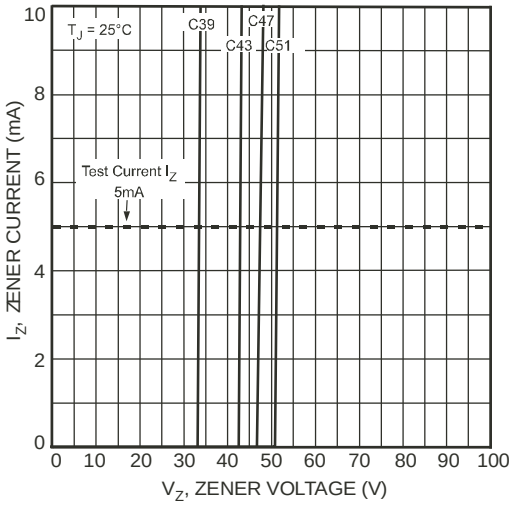

Fig. 4 Typical Zener Breakdown Characteristics

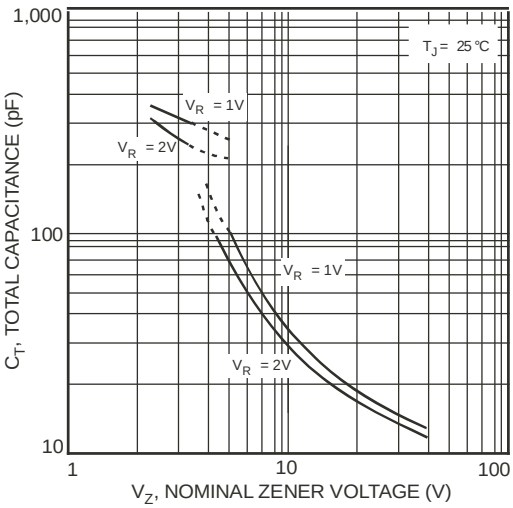

Fig. 5 Typical Total Capacitance vs. Nominal Zener Voltage

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