

DATA SHEET

BZT52-C2V0 SERIES

SURFACE MOUNT ZENER DIODE

VOLTAGE 2.0~51 Volts **POWER** 500 mW

FEATURES

- PLANAR DIE CONSTRUCTION
- 500mW POWER DISSIPATION
- ZENER VOLTAGES FROM 2.4~51V
- IDEALLY SUITED FOR AUTOMATED ASSEMBLY PROCESSES
- LEAD FREE AND HALOGEN-FREE

MECHANICAL DATA

- CASE: SOD-123, MOLDED PLASTIC
- TERMINALS: SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: SEE DIAGRAM BELOW
- APPROX. WEIGHT: 0.008 GRAMS
- MOUNTING POSITION: ANY



BZT52-C5V1

CASE: SOD-123

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED.

PARAMETER	SYMBOL	VALUE	UNITS
MAXIMUM FORWARD VOLTAGE DROP AT $I_F=10\text{mA}$	V_F	0.9	V
MAXIMUM POWER DISSIPATION AT 25°C (NOTE.1)	P_D	500	mW
JUNCTION TEMPERATURE	T_J	-55 TO +150	°C
STORAGE TEMPERATURE RANGE	T_{STG}	-55 TO +150	°C
THERMAL RESISTANCE, JUNCTION TO AMBIENT AIR (NOTE.1)	$R_{\theta JA}$	305	°C/W

NOTE:

1. MOUNTED ON 25.0mm²(0.013mm thick) LAND AREAS.
2. DEVICE MOUNTED ON CERAMIC P.C.B:7.6mm x9.4mm x0.87mm WITH PAD AREAS 2.5mm²
3. SHORT DURATION TEST PULSE USED TO MINIMIZE SELF-HEATING EFFECT.
4. WHEN PROVIDED, OTHERWISE, PARTS ARE PROVIDED WITH DATE CODE ONLY, AND TYPE NUMBER IDENTIFICATIONS APPEAR ON REEL ONLY.
5. $f = 1\text{KHz}$

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	$V_Z @ I_{ZT}$			$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
500 mWatts Zener Diodes									
BZT52-C2V0	1.91	2.00	2.09	100	5.0	600	1.00	150	1.0
BZT52-C2V4	2.4	2.20	2.60	100	5.0	600	1.00	50	1.0
BZT52-C2V7	2.7	2.50	2.90	100	5.0	600	1.00	20	1.0
BZT52-C3V0	3.0	2.80	3.20	95	5.0	600	1.00	10	1.0
BZT52-C3V3	3.3	3.10	3.50	95	5.0	600	1.00	5	1.0
BZT52-C3V6	3.6	3.40	3.80	90	5.0	600	1.00	5	1.0
BZT52-C3V9	3.9	3.70	4.10	90	5.0	600	1.00	3	1.0
BZT52-C4V3	4.3	4.00	4.60	90	5.0	600	1.00	3.0	1.0
BZT52-C4V7	4.7	4.40	5.00	80	5.0	500	1.00	3.0	2.0
BZT52-C5V1	5.1	4.80	5.40	60	5.0	480	1.00	2.0	2.0
BZT52-C5V6	5.6	5.20	6.00	40	5.0	400	1.00	1.0	2.0
BZT52-C6V2	6.2	5.80	6.60	10	5.0	150	1.00	3.0	4.0
BZT52-C6V8	6.8	6.40	7.20	15	5.0	80	1.00	2.0	4.0
BZT52-C7V5	7.5	7.00	7.90	15	5.0	80	1.00	1.0	5.0
BZT52-C8V2	8.2	7.70	8.70	15	5.0	80	1.00	0.7	5.0
BZT52-C9V1	9.1	8.50	9.60	15	5.0	100	1.00	0.5	6.0
BZT52-C10	10	9.40	10.60	20	5.0	150	1.00	0.2	7.0
BZT52-C11	11	10.40	11.60	20	5.0	150	1.00	0.1	8.0
BZT52-C12	12	11.40	12.70	25	5.0	150	1.00	0.1	8.0
BZT52-C13	13	12.40	14.10	30	5.0	170	1.00	0.1	8.0
BZT52-C15	15	13.80	15.60	30	5.0	200	1.00	0.1	10.5
BZT52-C16	16	15.30	17.10	40	5.0	200	1.00	0.1	11.2
BZT52-C18	18	16.80	19.10	45	5.0	225	1.00	0.1	12.6
BZT52-C20	20	18.80	21.20	55	5.0	225	1.00	0.1	14.0
BZT52-C22	22	20.80	23.30	55	5.0	250	1.00	0.1	15.4
BZT52-C24	24	22.80	25.60	70	5.0	250	1.00	0.1	16.8
BZT52-C27	27	25.10	28.90	80	2.0	300	0.50	0.1	18.9
BZT52-C30	30	28.00	32.00	80	2.0	300	0.50	0.1	21.0
BZT52-C33	33	31.00	35.00	80	2.0	325	0.50	0.1	23.1
BZT52-C36	36	34.00	38.00	90	2.0	350	0.50	0.1	25.2
BZT52-C39	39	37.00	41.00	130	2.0	350	0.50	0.1	27.3
BZT52-C43	43	40.00	46.00	100	5.0	700	1.00	0.1	32.0
BZT52-C47	47	44.00	50.00	100	5.0	750	1.00	0.1	35.0
BZT52-C51	51	48.00	54.00	100	5.0	750	1.00	0.1	38.0

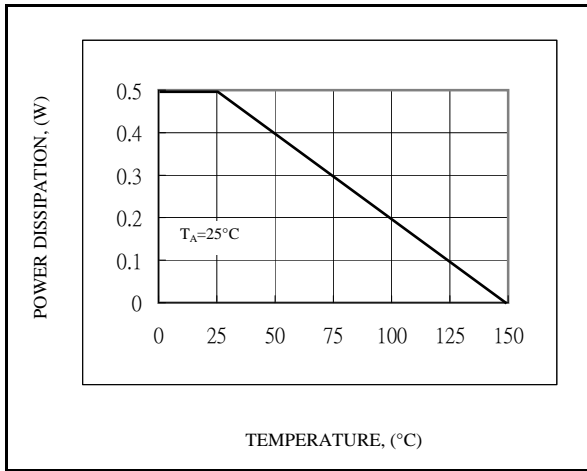


Fig.1-STEADY STATE POWER DERATING

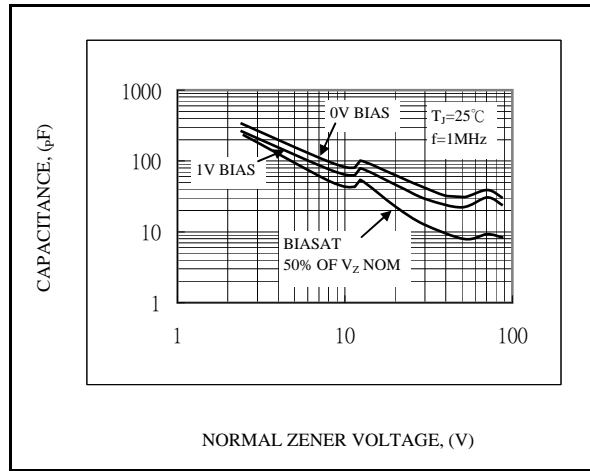


Fig.2-TYPICAL CAPACITANCE

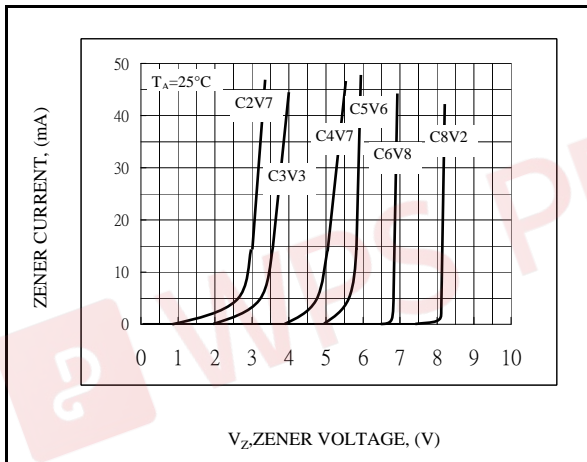


Fig.3- $V_Z=2.7$ THRU 8.2 VOLTS

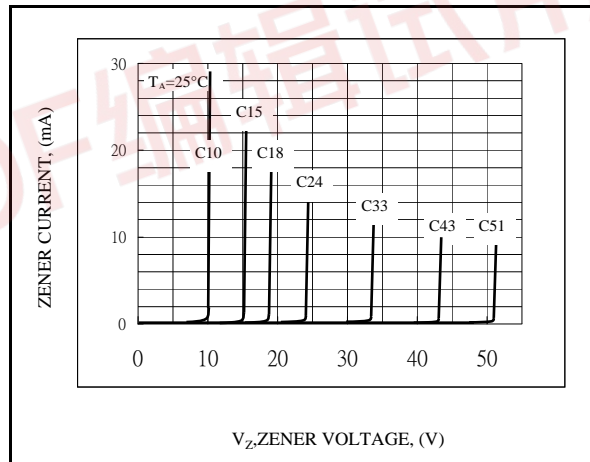


Fig.4- $V_Z=10$ THRU 51VOLTS

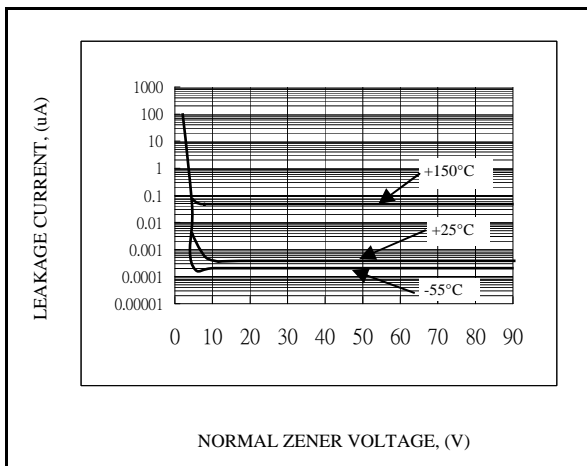
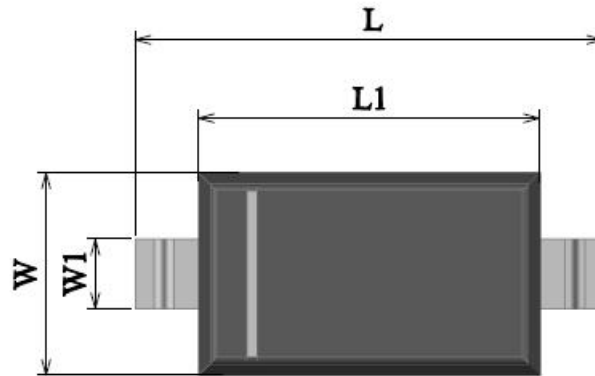


Fig.5-TYPICAL LEAKAGE CURRENT

SOD-123 DIMENSION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
L	3.55	3.85	0.140	0.152
L1	2.60	2.80	0.102	0.110
W	1.50	1.70	0.059	0.067
W1	0.45	0.65	0.018	0.026
H	1.05	1.25	0.041	0.049
H1	0.55	0.75	0.022	0.030