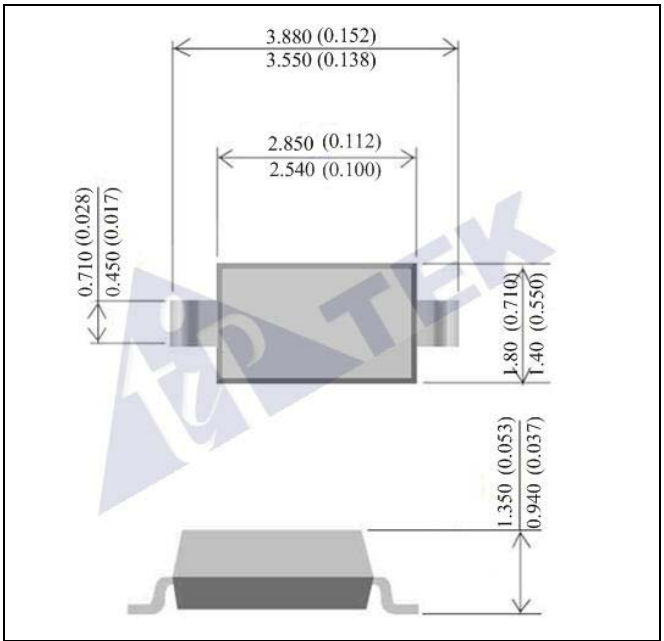
SURFACE MOUNT ZENER DIODES



CASE：SOD-123

DIMENSIONS IN MILLIMETERS AND (INCHES)

FEATURES

- PLANAR DIE CONSTRUCTION
- POWER DISSIPATION
- ZENER VOLTAGES FROM 2.0~36V
- IDEALLY SUITED FOR AUTOMATED ASSEMBLY PROCESSES
- BOTH NORMAL AND Pb FREE PRODUCT ARE AVAILABLE:
  NORMAL: 80~95% Sn , 5~20%Pb
  Pb FREE: 98.5% Sn ABOVE

MECHANICAL DATA

- CASE:SOD-123,MOLDED PLASTIC
- TERMINALS:SOLDERABLE PER MIL-STD-202, METHOD 208
- Pb-Free：BZT52-B2V0~BZT52-B36
  Halogen Free：BZT52-B2V0-H ~ BZT52-B36-H

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

PARAMETER	SYMBOL	VALUE	UNITS
MAXIMUM FORWARD VOLTAGE DROP AT IF=10mA	V_F	0.9	V
MAXIMUM POWER DISSIPATION AT 25°C (NOTE 1)	P_D	500	mW
JUNCTION TEMPERATURE	T_J	-55to+125	°C
STORAGE TEMPERATURE RANGE	T_{STG}	-55to+125	°C
THERMAL RESISTANCE, JUNCTION TO AMBIENT AIR(NOTE 1)	$R_{\theta JA}$	305	°C/W

NOTE: 1.Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87 mm with pad areas 25mm^2

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted, V_F=0.9V Max@ I_F=10mA)

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	Vz @ Izt			Zzt @ Izt		Zzk @ Izk		Ir @ Vr	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
BZT52-B2V0	2.0	2.020	2.200	100	5.0	1000	0.50	120.0	0.50
BZT52-B2V2	2.2	2.220	2.410	100	5.0	1000	0.50	120.0	0.70
BZT52-B2V4	2.4	2.430	2.630	100	5.0	1000	0.50	100.0	1.0
BZT52-B2V7	2.7	2.690	2.910	110	5.0	1000	0.50	100.0	1.0
BZT52-B3V0	3.0	3.010	3.220	120	5.0	1000	0.50	50.0	1.0
BZT52-B3V3	3.3	3.320	3.530	120	5.0	1000	0.50	20.0	1.0
BZT52-B3V6	3.6	3.600	3.845	100	5.0	1000	1.00	10.0	1.0
BZT52-B3V9	3.9	3.890	4.160	100	5.0	1000	1.00	5.0	1.0
BZT52-B4V3	4.3	4.170	4.430	100	5.0	1000	1.00	5.0	1.0
BZT52-B4V7	4.7	4.550	4.750	100	5.0	800	0.50	2.0	1.0
BZT52-B5V1	5.1	4.980	5.200	80	5.0	500	0.50	2.0	1.5
BZT52-B5V6	5.6	5.490	5.730	60	5.0	200	0.50	1.0	2.5
BZT52-B6V2	6.2	6.060	6.330	60	5.0	100	0.50	1.0	3.0
BZT52-B6V8	6.8	6.650	6.930	40	5.0	60	0.50	0.50	3.5
BZT52-B7V5	7.5	7.280	7.600	30	5.0	60	0.50	0.50	4.0
BZT52-B8V2	8.2	8.020	8.360	30	5.0	60	0.50	0.50	5.0
BZT52-B9V1	9.1	8.850	9.230	30	5.0	60	0.50	0.50	6.0
BZT52-B10	10	9.770	10.210	30	5.0	60	0.50	0.10	7.0
BZT52-B11	11	10.760	11.220	30	5.0	60	0.50	0.10	8.0
BZT52-B12	12	11.740	12.240	30	5.0	80	0.50	0.10	9.0
BZT52-B13	13	12.910	13.490	37	5.0	80	0.50	0.10	10.0
BZT52-B15	15	14.340	14.980	42	5.0	80	0.50	0.10	11.0
BZT52-B16	16	15.850	16.510	50	5.0	80	0.50	0.10	12.0
BZT52-B18	18	17.560	18.350	65	5.0	80	0.50	0.10	13.0
BZT52-B20	20	19.520	20.390	85	5.0	100	0.50	0.10	15.0
BZT52-B22	22	21.540	22.470	100	5.0	100	0.50	0.10	17.0
BZT52-B24	24	23.720	24.780	120	5.0	120	0.50	0.10	19.0
BZT52-B27	27	26.190	27.530	150	5.0	150	0.50	0.10	21.0
BZT52-B30	30	29.190	30.690	200	5.0	200	0.50	0.10	23.0
BZT52-B33	33	32.150	33.790	250	5.0	250	0.50	0.10	25.0
BZT52-B36	36	35.070	36.870	300	5.0	300	0.50	0.10	27.0

Note:

1.The Zener voltage (Vz) is measured 40ms after power is supplied.

2. The operating resistances (Z_z , Z_{zk}) are measured by superimposing a minute alternating current on the regulated current(Iz).

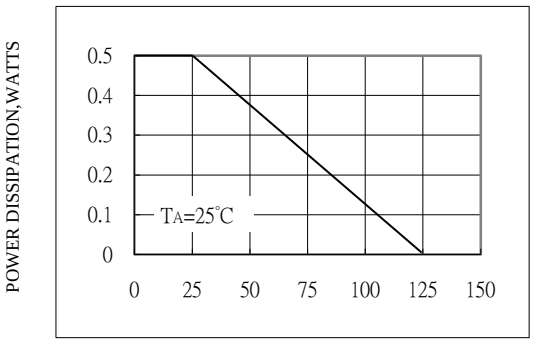


Fig.1-STEADY STATE POWER DERATING

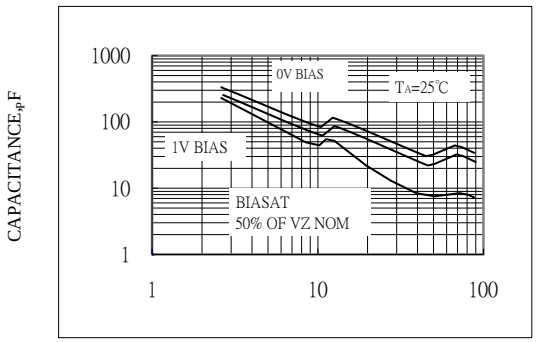


Fig.2-TYPICAL CAPACITANCE

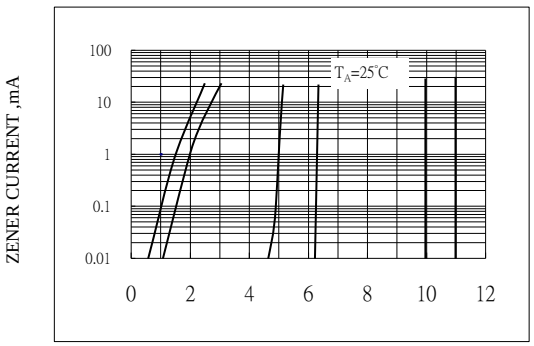


Fig.3A-V_Z=2.0 THRU 11.0 VOLTS

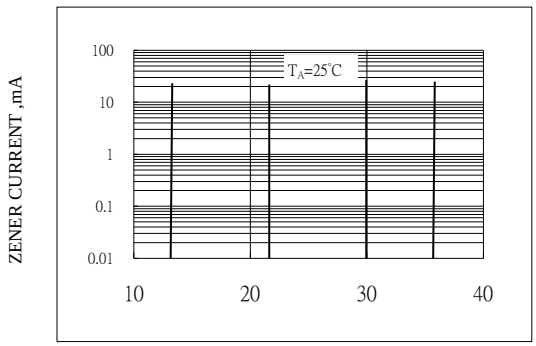


Fig.3B-V_Z=12 THRU 36 VOLTS

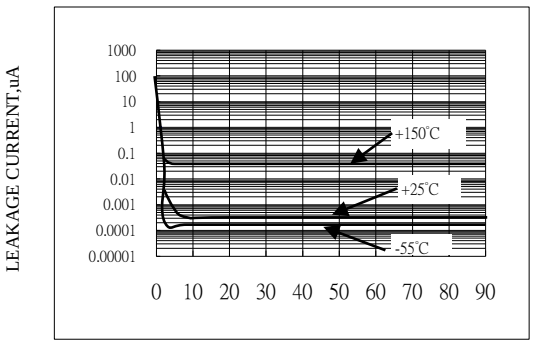


Fig.4-TYPICAL LEAKAGE CURRENT