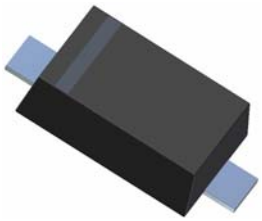
500mW SOD-123 SURFACE MOUNT
Flat Lead Surface Mount Plastic Package
Zener Voltage Regulators

Green Product



SOD-123 Flat Lead

Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	500	mW
T_{STG}	Storage Temperature Range	-65 to +150	°C
T_{OPR}	Operating Temperature Range	-65 to +150	°C

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

- Wide Zener Voltage Range Selection, 2.4V to 75V
- VZ Tolerance Selection of ±5% (C Series)
- Flat Lead SOD-123 Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode

ELECTRICAL SYMBOL

Electrical Characteristics T_A = 25°C unless otherwise noted

Device Type	Device Marking	V_Z @ I_{ZT} (Volts)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min No	m	Max						
BZT52C2V4	2V4Z	2.28	2.4	2.52	5	100	1	564	45	1
BZT52C2V7	2V7Z	2.57	2.7	2.84	5	100	1	564	18	1
BZT52C3V0	3V0Z	2.85	3.0	3.15	5	100	1	564	9	1
BZT52C3V3	3V3Z	3.14	3.3	3.47	5	95	1	564	4.5	1
BZT52C3V6	3V6Z	3.42	3.6	3.78	5	90	1	564	4.5	1
BZT52C3V9	3V9Z	3.71	3.9	4.10	5	90	1	564	2.7	1
BZT52C4V3	4V3Z	4.09	4.3	4.52	5	90	1	564	2.7	1
BZT52C4V7	4V7Z	4.47	4.7	4.94	5	80	1	470	2.7	2
BZT52C5V1	5V1Z	4.85	5.1	5.36	5	60	1	451	1.8	2
BZT52C5V6	5V6Z	5.32	5.6	5.88	5	40	1	376	0.9	2
BZT52C6V2	6V2Z	5.89	6.2	6.51	5	10	1	141	2.7	4
BZT52C6V8	6V8Z	6.46	6.8	7.14	5	15	1	75	1.8	4
BZT52C7V5	7V5Z	7.11	7.5	7.86	5	15	1	75	0.9	5
BZT52C8V2	8V2Z	7.79	8.2	8.61	5	15	1	75	0.63	5
BZT52C9V1	9V1Z	8.65	9.1	9.56	5	15	1	94	0.45	6
BZT52C10V	10VZ	9.50	10	10.50	5	20	1	141	0.18	7
BZT52C11V	11VZ	10.45	11	11.55	5	20	1	141	0.09	8
BZT52C12V	12VZ	11.40	12	12.60	5	25	1	141	0.09	8
BZT52C13V	13VZ	12.35	13	13.65	5	30	1	160	0.09	8
BZT52C15V	15VZ	14.25	15	15.75	5	30	1	188	0.045	10.5
BZT52C16V	16VZ	15.20	16	16.80	5	40	1	188	0.045	11.2

Electrical Characteristics

T_A = 25°C unless otherwise noted

Device Type	Device Marking	V_Z @ I_{ZT} (Volts)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min No	m	Max						
BZT52C18V	18VZ	17.10	18	18.90	5	45	1	212	0.045	12.6
BZT52C20V	20VZ	19.00	20	21.00	5	55	1	212	0.045	14.0
BZT52C22V	22VZ	20.90	22	23.10	5	55	1	235	0.045	15.4
BZT52C24V	24VZ	22.80	24	25.20	5	70	1	235	0.045	16.8
BZT52C27V	27VZ	25.65	27	28.35	2	80	0.5	282	0.045	18.9
BZT52C30V	30VZ	28.50	30	31.50	2	80	0.5	282	0.045	21.0
BZT52C33V	33VZ	31.35	33	34.65	2	80	0.5	306	0.045	23.0
BZT52C36V	36VZ	34.20	36	37.80	2	90	0.5	329	0.045	25.2
BZT52C39V	39VZ	37.05	39	40.95	2	130	0.5	329	0.045	27.3
BZT52C43V	43VZ	40.85	43	45.15	2	150	0.5	353	0.045	30.1
BZT52C47V	47VZ	44.65	47	49.35	2	170	0.5	353	0.045	33.0
BZT52C51V	51VZ	48.45	51	53.55	2	180	0.5	376	0.045	35.7
BZT52C56V	56VZ	53.20	56	58.80	2	200	0.5	400	0.045	39.2
BZT52C62V	62VZ	58.90	62	65.10	2	215	0.5	423	0.045	43.4
BZT52C68V	68VZ	64.60	68	71.40	2	240	0.5	447	0.045	47.6
BZT52C75V	75VZ	71.25	75	78.75	2	255	0.5	470	0.045	52.5

V_F Forward Voltage = 900mV Maximum @ I_F = 10 mA for all types

Notes:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong Electronics representative.
4. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.

RATING AND CHARACTERISTIC CURVES

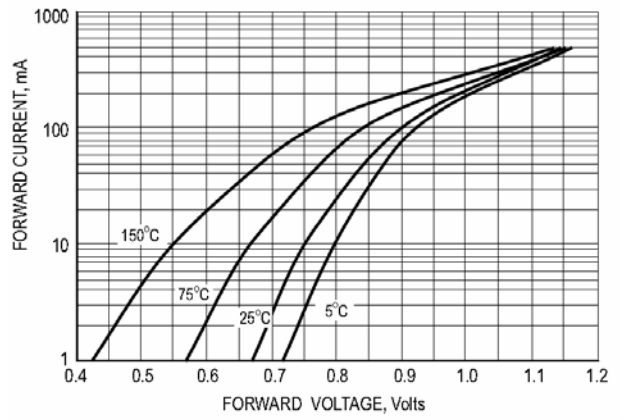


Fig.1 TYPICAL FORWARD VOLTAGE

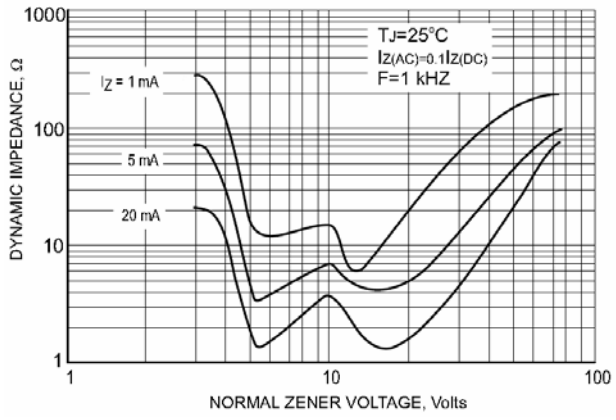


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

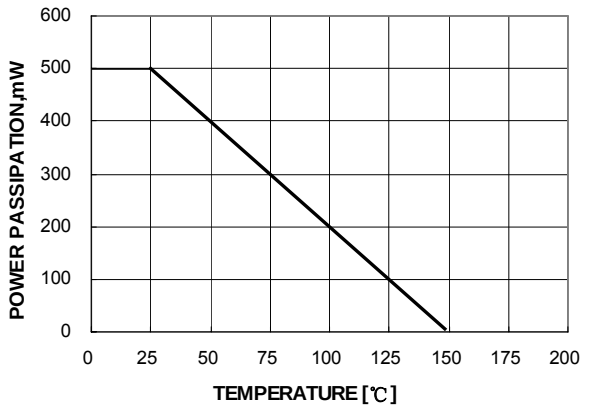


Fig.3 POWER DISSIPATION VS. AMBIENT TEMP.

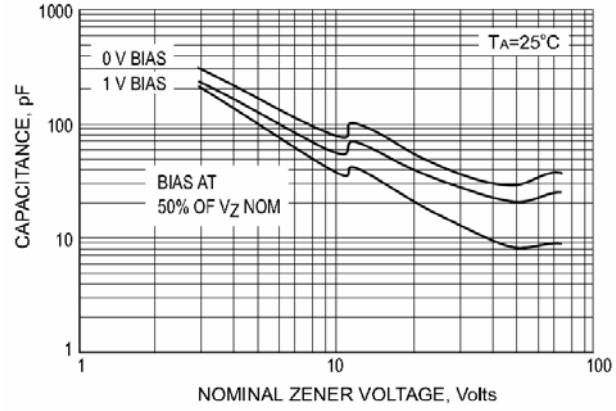


Fig.4 TYPICAL CAPACITANCE

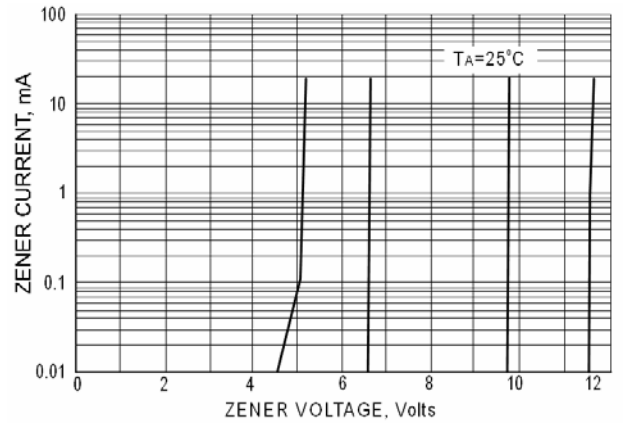


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

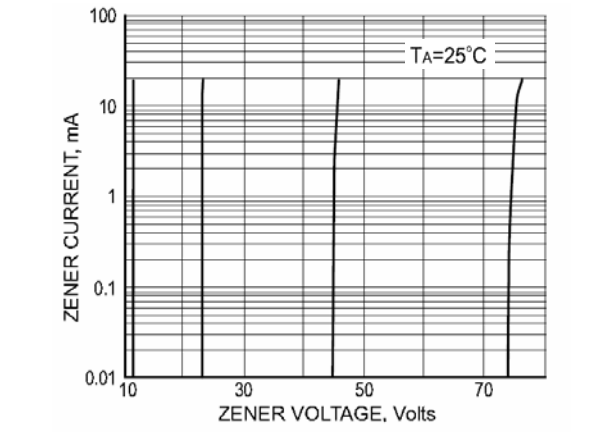


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

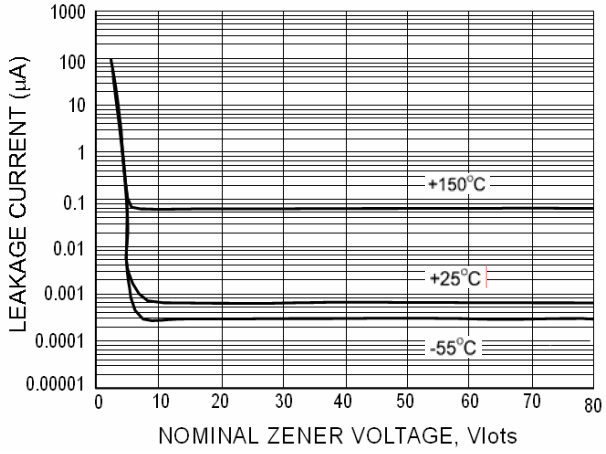
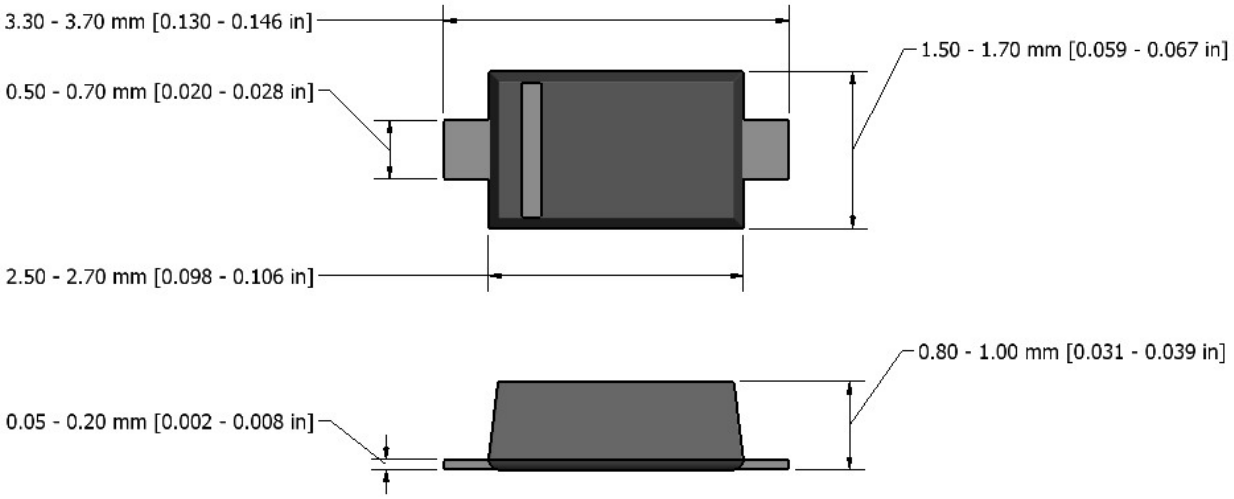


Fig.7 TYPICAL LEAKGE CURRENT

Flat Lead SOD-123 Package Outline



Note: Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.