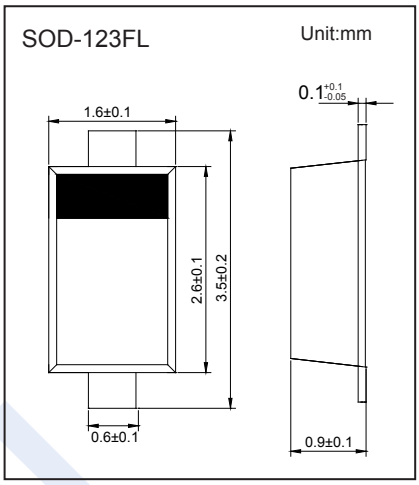
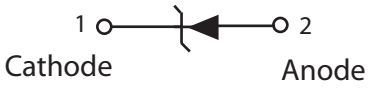
Zener Diodes

BZT52B Series (KZT52B Series)



■ Features

- Wide Zener Voltage Range Selection, 2.0V to 75V
- VZ Tolerance Selection of ±2% (B Series)
- Flat Lead SOD-123FL Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	500	mW
Junction Temperature	T_J	150	℃
Operating Temperature Range	T_{OPR}	-65 to 150	
Storage Temperature range	T_{stg}	-65 to 150	

■ Electrical Characteristics Ta = 25℃

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	Nom	Max						
BZT52B2V0	2V0B	1.95	2.0	2.05	5	100	1	564	120	0.5
BZT52B2V2	2V2B	2.14	2.2	2.26	5	100	1	564	120	0.7
BZT52B2V4	2V4B	2.35	2.4	2.45	5	100	1	564	45	1
BZT52B2V7	2V7B	2.65	2.7	2.75	5	100	1	564	18	1
BZT52B3V0	3V0B	2.94	3.0	3.06	5	100	1	564	9	1
BZT52B3V3	3V3B	3.23	3.3	3.37	5	95	1	564	4.5	1
BZT52B3V6	3V6B	3.53	3.6	3.67	5	90	1	564	4.5	1
BZT52B3V9	3V9B	3.82	3.9	3.98	5	90	1	564	2.7	1
BZT52B4V3	4V3B	4.21	4.3	4.39	5	90	1	564	2.7	1
BZT52B4V7	4V7B	4.61	4.7	4.79	5	80	1	470	2.7	2
BZT52B5V1	5V1B	5.00	5.1	5.20	5	60	1	451	1.8	2
BZT52B5V6	5V6B	5.49	5.6	5.71	5	40	1	376	0.9	2
BZT52B6V2	6V2B	6.08	6.2	6.32	5	10	1	141	2.7	4
BZT52B6V8	6V8B	6.66	6.8	6.94	5	15	1	75	1.8	4
BZT52B7V5	7V5B	7.35	7.5	7.65	5	15	1	75	0.9	5
BZT52B8V2	8V2B	8.04	8.2	8.36	5	15	1	75	0.63	5
BZT52B9V1	9V1B	8.92	9.1	9.28	5	15	1	94	0.45	6
BZT52B10	10VB	9.80	10	10.20	5	20	1	141	0.18	7
BZT52B11	11VB	10.78	11	11.22	5	20	1	141	0.09	8
BZT52B12	12VB	11.76	12	12.24	5	25	1	141	0.09	8
BZT52B13	13VB	12.74	13	13.26	5	30	1	160	0.09	8
BZT52B15	15VB	14.70	15	15.30	5	30	1	188	0.045	10.5

Zener Diodes

BZT52B Series (KZT52B Series)

■ Electrical Characteristics Ta = 25℃

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	Nom	Max						
BZT52B16	16VB	15.68	16	16.32	5	40	1	188	0.045	11.2
BZT52B18	18VB	17.64	18	18.36	5	45	1	212	0.045	12.6
BZT52B20	20VB	19.60	20	20.40	5	55	1	212	0.045	14.0
BZT52B22	22VB	21.56	22	22.44	5	55	1	235	0.045	15.4
BZT52B24	24VB	23.52	24	24.48	5	70	1	235	0.045	16.8
BZT52B27	27VB	26.46	27	27.54	2	80	0.5	282	0.045	18.9
BZT52B30	30VB	29.40	30	30.60	2	80	0.5	282	0.045	21.0
BZT52B33	33VB	32.34	33	33.66	2	80	0.5	306	0.045	23.0
BZT52B36	36VB	35.28	36	36.72	2	90	0.5	329	0.045	25.2
BZT52B39	39VB	38.22	39	39.78	2	130	0.5	329	0.045	27.3
BZT52B43	43VB	42.14	43	43.86	2	150	0.5	353	0.045	30.1
BZT52B47	47VB	46.06	47	47.94	2	170	0.5	353	0.045	33.0
BZT52B51	51VB	49.98	51	52.02	2	180	0.5	376	0.045	35.7
BZT52B56	56VB	54.88	56	57.12	2	200	0.5	400	0.045	39.2
BZT52B62	62VB	60.76	62	63.24	2	215	0.5	423	0.045	43.4
BZT52B68	68VB	66.64	68	69.36	2	240	0.5	447	0.045	47.6
BZT52B75	75VB	73.50	75	76.50	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 ±2%.
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}.

■ Typical Characterisitics

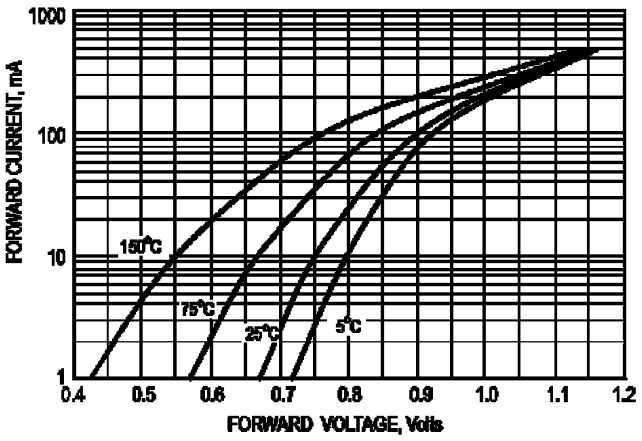


Fig.1 TYPICAL FORWARD VOLTAGE

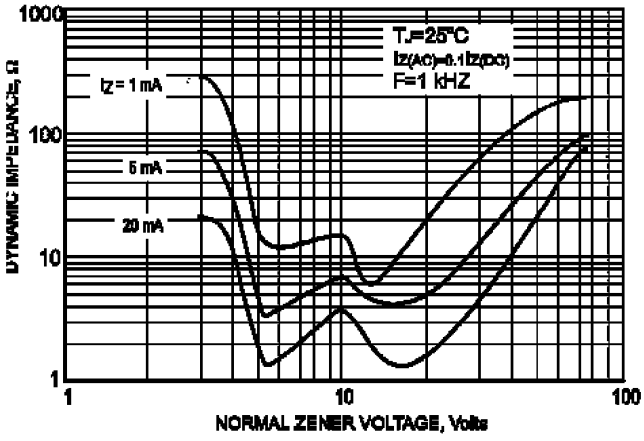


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

Zener Diodes

BZT52B Series (BZT52B Series)

■ Typical Characterisitics

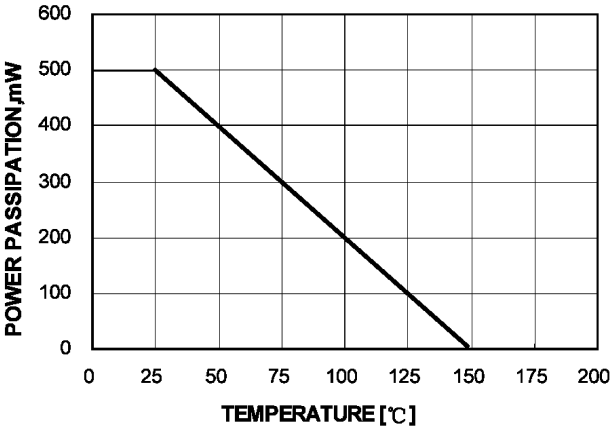


Fig.3 POWER DISSIPATION VS. AMBIENT TEMP.

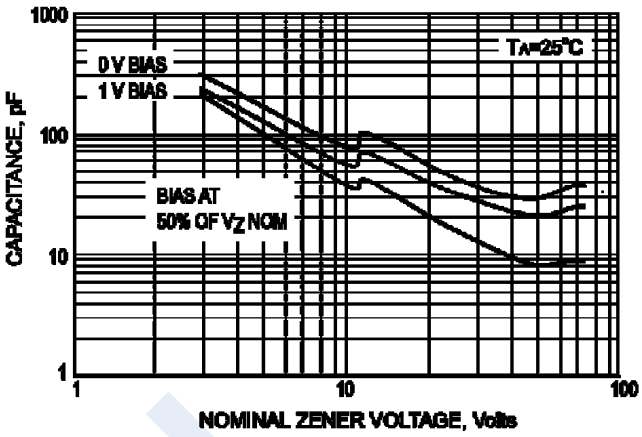


Fig.4 TYPICAL CAPACITANCE

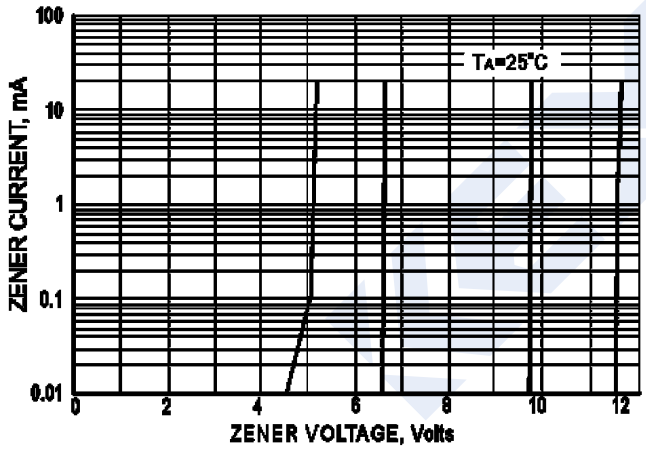


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

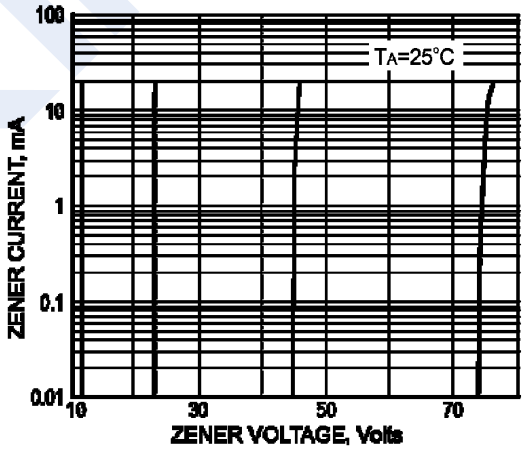


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

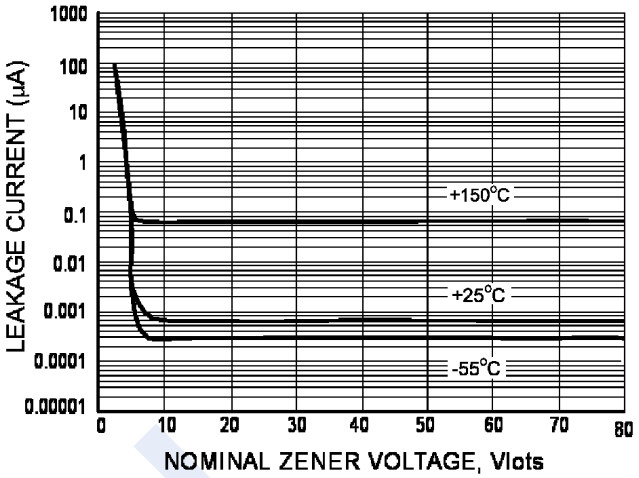


Fig.7 TYPICAL LEAKGE CURRENT