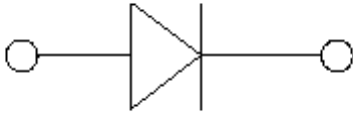


## Zener Diodes



### Features

- Moisture sensitivity level 1
- Zener voltage 2.4V~47V

### Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

### Mechanical data

- **Package:** SOD-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation*(note)	$P_D$	mW	400
Storage Temperature Range	$T_{stg}$	°C	-55~+150
Junction Temperature	$T_J$	°C	-55~+150
Maximum Forward Voltage @ $I_F=10mA$	$V_F$	V	0.9
Maximum Regulator Current	$I_{ZM}$	mA	$P_D / V_z$
Thermal Resistance Junction to Ambient Air*(note)	$R_{\theta JA}$	°C /W	312

\*Note: Device mounted on PCB

### Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BZT52B2V4BS THRU BZT52B47BS	F2	Approximate 0.0048	3000	30000	120000	7" reel

### Electrical Characteristics ( $T_A=25^\circ C$ Unless otherwise specified )

Type Number	Device Marking	$V_z$ at $I_Z T$ (V)			$Z_{zT}(\Omega)$		$Z_{zk}(\Omega)$		$I_R(\mu A)@V_R$		Typical Temperature Coefficient @ IZTC $mV/^\circ C$		Diode capacitance Cd (pF)	Non-repetitive peak reverse current $I_{zsm}$ (A)
		min.	typ.	max.	$I_{ZT}(mA)$	max.	$I_{zk}(mA)$	max.	max	$V_R(V)$	Min	Max	max	max
BZT52B2V4BS	B0Z	2.34	2.4	2.46	5	100	1	564	45	1	-3.5	0	450	6
BZT52B2V7BS	B1Z	2.63	2.7	2.77	5	100	1	564	20	1	-3.5	0	450	6
BZT52B3V0BS	B2Z	2.94	3	3.06	5	89	1	564	9	1	-3.5	0	450	6



# BZT52B2V4BS THRU BZT52B47BS

BZT52B3V3BS	B3Z	3.23	3.3	3.37	5	89	1	564	4.5	1	-3.5	0	450	6
BZT52B3V6BS	B4Z	3.53	3.6	3.67	5	84	1	564	4.5	1	-3.5	0	450	4.5
BZT52B3V9BS	B5Z	3.82	3.9	3.98	5	84	1	564	2.7	1	-3.5	0	450	4.5
BZT52B4V3BS	B6Z	4.21	4.3	4.39	5	84	1	564	2.7	1	-3.5	0	450	3.5
BZT52B4V7BS	B7Z	4.61	4.7	4.79	5	75	1	564	2.7	2	-3.5	0.2	300	3.5
BZT52B5V1BS	B8Z	5	5.1	5.2	5	60	1	480	2	2	-2.7	1.2	300	3
BZT52B5V6BS	B9Z	5.49	5.6	5.71	5	40	1	400	1	2	-2	2.5	200	3
BZT52B6V2BS	BAZ	6.08	6.2	6.32	5	10	1	150	3	4	0.4	3.7	200	3
BZT52B6V8BS	BBZ	6.66	6.8	6.94	5	15	1	141	2	4	1.2	4.5	200	2
BZT52B7V5BS	BCZ	7.35	7.5	7.65	5	15	1	80	1	5	2.5	5.3	150	2
BZT52B8V2BS	BDZ	8.04	8.2	8.36	5	15	1	80	0.7	5	3.2	6.2	150	2
BZT52B9V1BS	BEZ	8.92	9.1	9.28	5	15	1	100	0.5	6	3.8	7	150	1.8
BZT52B10BS	BFZ	9.8	10	10.2	5	20	1	150	0.2	7	4.5	8	90	1.8
BZT52B11BS	BGZ	10.78	11	11.22	5	20	1	150	0.1	8	5.4	9	85	1.8
BZT52B12BS	BHZ	11.76	12	12.24	5	25	1	150	0.1	8	6	10	85	1.8
BZT52B13BS	BJZ	12.74	13	13.26	5	30	1	170	0.1	8	7	11	80	1
BZT52B15BS	BKZ	14.7	15	15.3	5	30	1	200	0.1	10.5	9.2	13	75	1
BZT52B16BS	BLZ	15.68	16	16.32	5	40	1	200	0.1	11.2	10.4	14	75	1
BZT52B18BS	BMZ	17.64	18	18.36	5	45	1	225	0.1	12.6	12.4	16	70	1
BZT52B20BS	BNZ	19.6	20	20.4	5	55	1	225	0.1	14	14.4	18	60	1
BZT52B22BS	BPZ	21.56	22	22.44	5	51	1	235	0.045	15.4	16.4	20	60	0.6
BZT52B24BS	BRZ	23.52	24	24.48	5	65	1	235	0.045	16.8	18.4	22	55	0.6
BZT52B27BS	BSZ	26.46	27	27.54	5	75	0.5	282	0.045	18.9	21.4	25.3	50	0.6
BZT52B30BS	BTZ	29.4	30	30.6	5	75	0.5	282	0.045	21	24.4	29.4	50	0.6
BZT52B33BS	BUZ	32.34	33	33.7	5	80	1	325	0.1	25	27.4	33.4	45	0.6
BZT52B36BS	BVZ	35.28	36	36.72	5	84	0.5	329	0.045	25.2	30.4	37.4	45	0.6
BZT52B39BS	BWZ	38.22	39	39.78	5	122	0.5	329	0.045	27.3	33.4	41.2	45	0.6
BZT52B43BS	BXZ	42.14	43	43.86	5	141	0.5	353	0.045	30.1	37.6	46.6	40	0.6
BZT52B47BS	BYZ	46.06	47	48.94	5	160	0.5	353	0.045	33	42	51.8	40	0.5



# BZT52B2V4BS THRU BZT52B47BS

## ■ Characteristics (Typical)

Fig 1:  $P_D$ - $T_a$  Curve

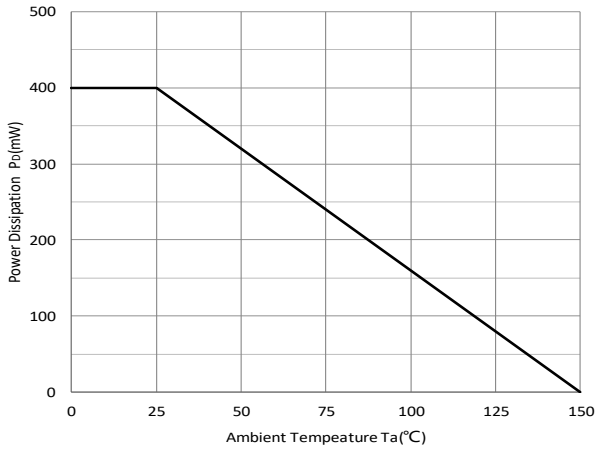


Fig 2: Zener Breakdown Characteristics

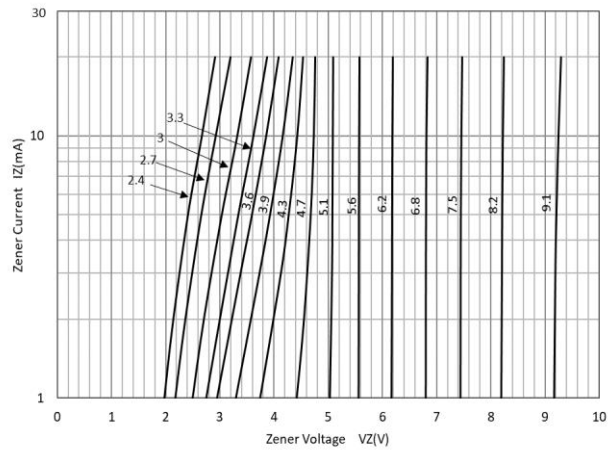


Fig 3: Zener Breakdown Characteristics

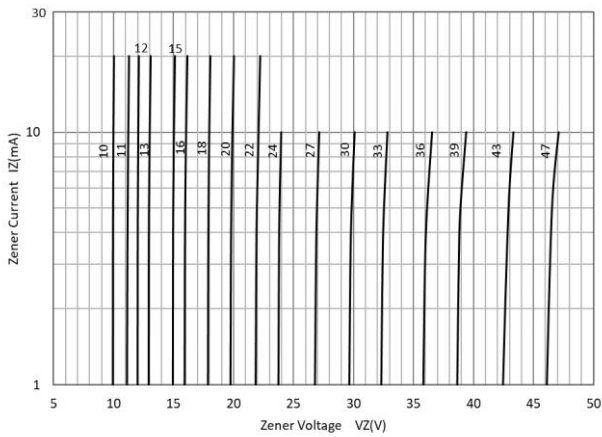


Fig 4: Typical Temperature Coefficient

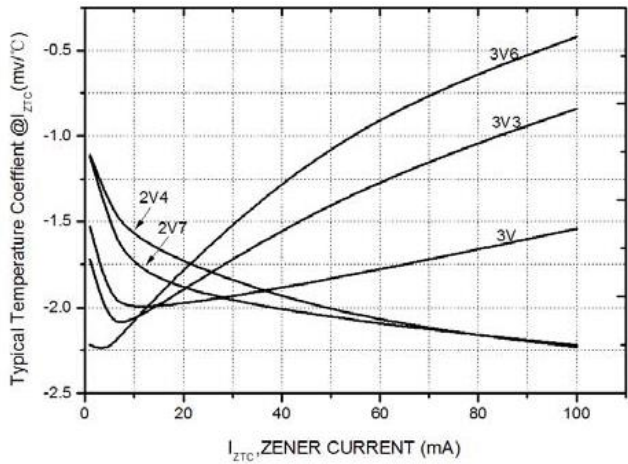


Fig 5: Typical Temperature Coefficient

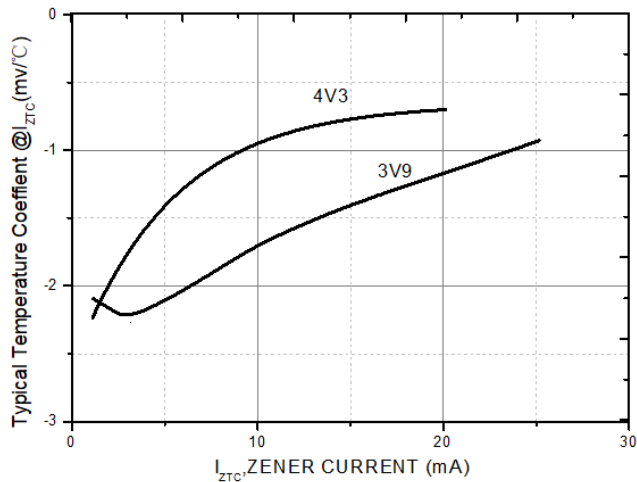
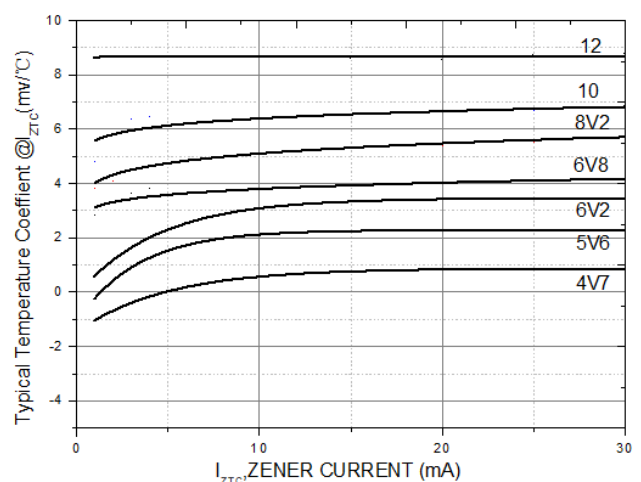


Fig 6: Typical Temperature Coefficient





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Fig 7: Typical Temperature Coefficient

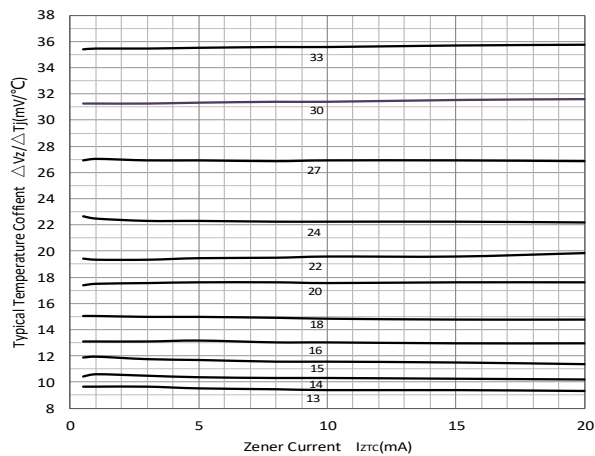


Fig 8: Typical Temperature Coefficient

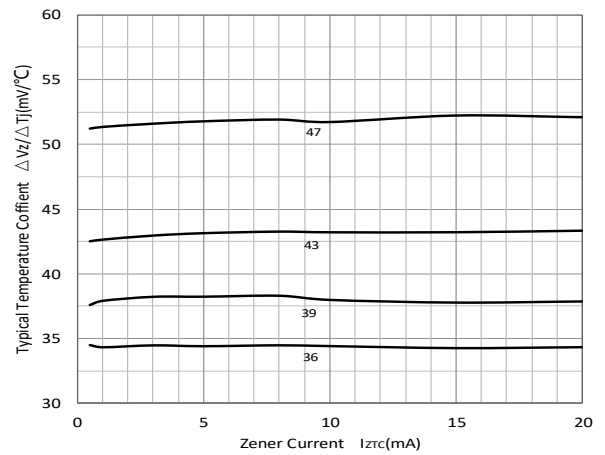


Fig 9: Typical Forward Voltage

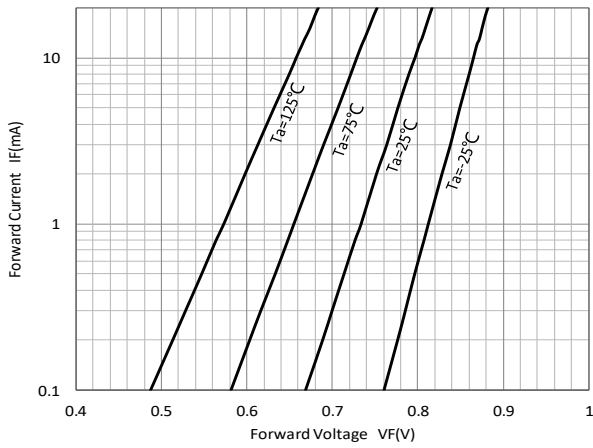


Fig 10: Typical Reverse Current

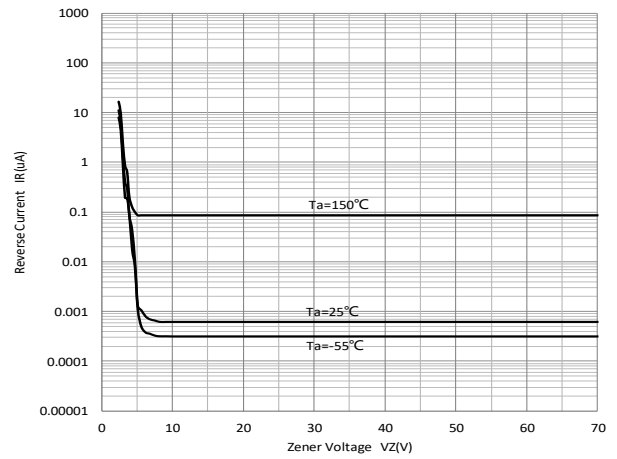
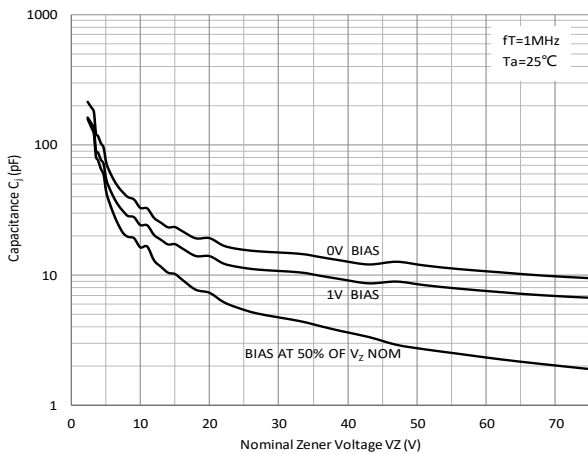


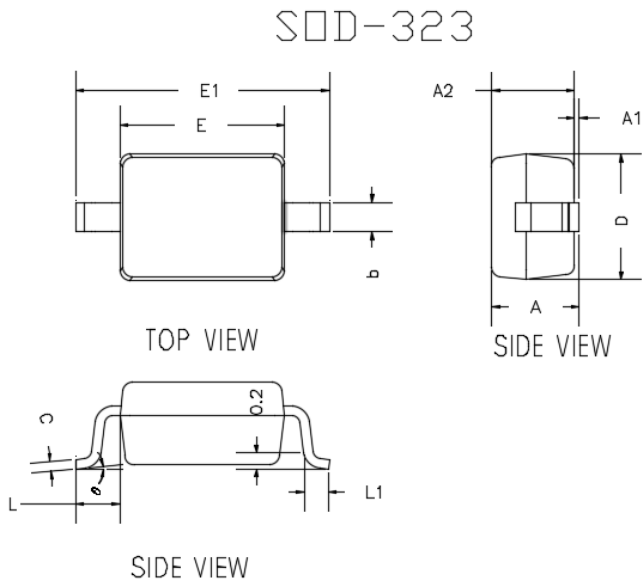
Fig 11: Typical Capacitance





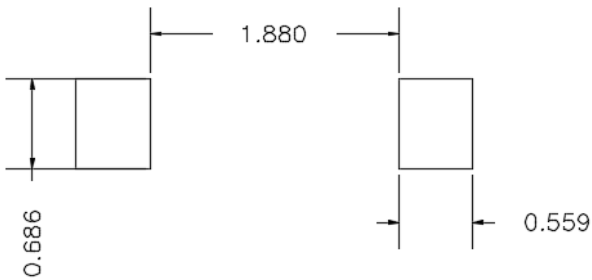
# BZT52B2V4BS THRU BZT52B47BS

## ■Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
e	0°	8°	0°	8°

## ■Soldering Footprint



UNIT : mm

SUGGESTED SOLDER PAD LAYOUT



## BZT52B2V4BS THRU BZT52B47BS

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