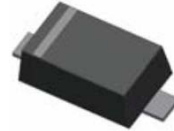


Small Signal Product

200mW, 2% Tolerance SMD Zener Diode

FEATURES

- Wide zener voltage range selection : 2.4V to 75V
- Surface Mount Device Type
- Moisture sensitivity level 1
- Pb free and RoHS compliant
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code
- VZ Tolerance Selection of $\pm 2\%$
- Matte Tin(Sn) lead finish with Nickel(Ni) underplate



SOD-323F



MECHANICAL DATA

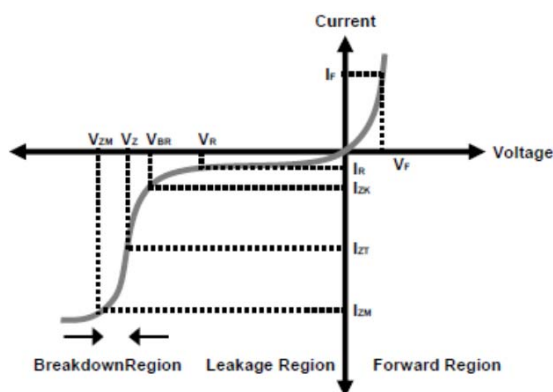
- Case: Flat lead SOD-323F small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed: 260°C/10s
- Polarity: Indicated by cathode band
- Weight : 4.02 $\pm$ 0.5mg

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Forward Voltage @ $I_F = 10\text{mA}$	V_F	1	V
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Notes: Valid provided that electrodes are kept at ambient temperature.

Zener I vs. V Characteristics



- V_{BR} : Voltage at I_{ZK}
- I_{ZK} : Test current for voltage V_{BR}
- Z_{ZK} : Dynamic impedance at I_{ZK}
- I_{ZT} : Test current for voltage V_Z
- V_Z : Voltage at current I_{ZT}
- Z_{ZT} : Dynamic impedance at I_{ZT}
- I_{ZM} : Maximum steady state current
- V_{ZM} : Voltage at I_{ZM}

Small Signal Product
Electrical Characteristics

(Ratings at TA=25°C ambient temperature unless otherwise specified)

V_F Forward Voltage = 1V Maximum @ I_F = 10 mA for all part numbers

Part Number	Device Marking	V _Z @ I _{ZT} (Volt)			I _{ZT} (mA)	Z _{ZT} @ I _{ZT} (Ω) Max	I _{ZK} (mA)	Z _{ZK} @ I _{ZK} (Ω) Max	I _R @ V _R (uA) Max	V _R (V)
		Min	Nom	Max						
BZT52B2V4S	0Z	2.35	2.40	2.45	5	100	1	564	45	1
BZT52B2V7S	1Z	2.65	2.70	2.75	5	100	1	564	18	1
BZT52B3V0S	2Z	2.94	3.00	3.06	5	100	1	564	9	1
BZT52B3V3S	3Z	3.23	3.30	3.37	5	95	1	564	4.5	1
BZT52B3V6S	4Z	3.53	3.60	3.67	5	90	1	564	4.5	1
BZT52B3V9S	5Z	3.82	3.90	3.98	5	90	1	564	2.7	1
BZT52B4V3S	6Z	4.21	4.30	4.39	5	90	1	564	2.7	1
BZT52B4V7S	7Z	4.61	4.70	4.79	5	80	1	470	2.7	2.0
BZT52B5V1S	8Z	5.00	5.10	5.20	5	60	1	451	1.8	2.0
BZT52B5V6S	9Z	5.49	5.60	5.71	5	40	1	376	0.9	2.0
BZT52B6V2S	AZ	6.08	6.20	6.32	5	10	1	141	2.7	4.0
BZT52B6V8S	BZ	6.66	6.80	6.94	5	15	1	75	1.8	4.0
BZT52B7V5S	CZ	7.35	7.50	7.65	5	15	1	75	0.9	5.0
BZT52B8V2S	DZ	8.04	8.20	8.36	5	15	1	75	0.63	5.0
BZT52B9V1S	EZ	8.92	9.10	9.28	5	15	1	94	0.45	6.0
BZT52B10S	FZ	9.80	10.00	10.20	5	20	1	141	0.18	7.0
BZT52B11S	GZ	10.78	11.00	11.22	5	20	1	141	0.09	8.0
BZT52B12S	HZ	11.76	12.00	12.24	5	25	1	141	0.09	8.0
BZT52B13S	JZ	12.74	13.00	13.26	5	30	1	160	0.09	8.0
BZT52B15S	KZ	14.70	15.00	15.30	5	30	1	188	0.045	10.5
BZT52B16S	LZ	15.68	16.00	16.32	5	40	1	188	0.045	11.2
BZT52B18S	MZ	17.64	18.00	18.36	5	45	1	212	0.045	12.6
BZT52B20S	NZ	19.60	20.00	20.40	5	55	1	212	0.045	14.0
BZT52B22S	PZ	21.56	22.00	22.44	5	55	1	235	0.045	15.4
BZT52B24S	RZ	23.52	24.00	24.48	5	70	1	235	0.045	16.8
BZT52B27S	SZ	26.46	27.00	27.54	2	80	0.5	282	0.045	18.9
BZT52B30S	TZ	29.40	30.00	30.60	2	80	0.5	282	0.045	21.0
BZT52B33S	UZ	32.34	33.00	33.66	2	80	0.5	306	0.045	23.0
BZT52B36S	VZ	35.28	36.00	36.72	2	90	0.5	329	0.045	25.2
BZT52B39S	WZ	38.22	39.00	39.78	2	130	0.5	329	0.045	27.3
BZT52B43S	XZ	42.14	43.00	43.86	2	150	0.5	353	0.045	30.1
BZT52B47S	YZ	46.06	47.00	47.94	2	170	0.5	353	0.045	33.0
BZT52B51S	—Z	49.98	51.00	52.02	2	180	0.5	376	0.045	35.7
BZT52B56S	=Z	54.88	56.00	57.12	2	200	0.5	400	0.045	39.2
BZT52B62S	≡Z	60.76	62.00	63.24	2	215	0.5	423	0.045	43.4
BZT52B68S	>Z	66.64	68.00	69.36	2	240	0.5	447	0.045	47.6
BZT52B75S	<Z	73.50	75.00	76.50	2	255	0.5	470	0.045	52.5

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 **Taiwan Semiconductor** 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}.

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

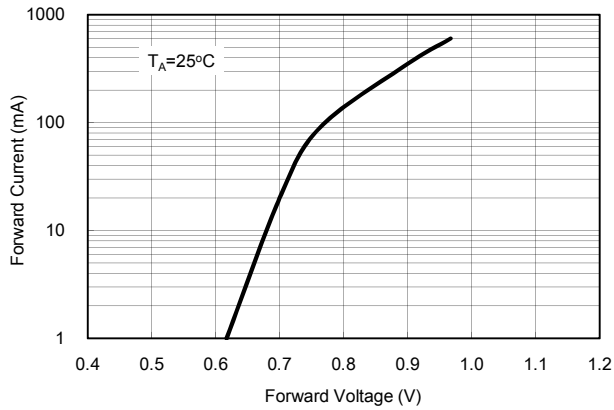


Fig. 2 Zener Breakdown Characteristics

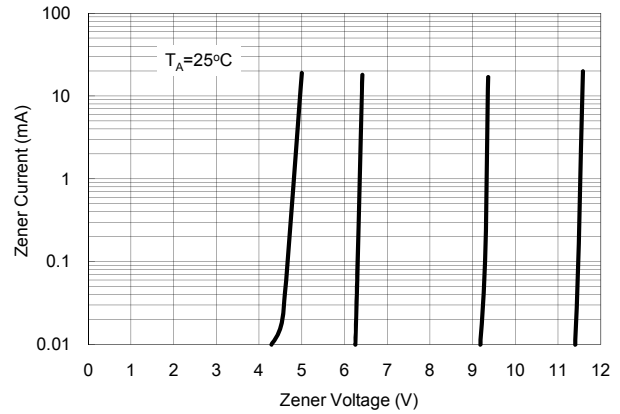


Fig. 3 Zener Breakdown Characteristics

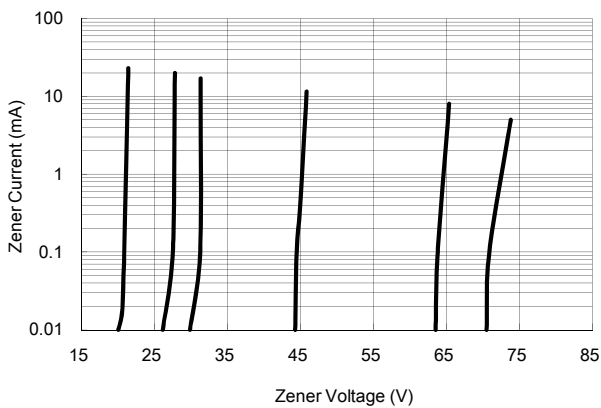


Fig. 4 Admissible Power Dissipation Curve

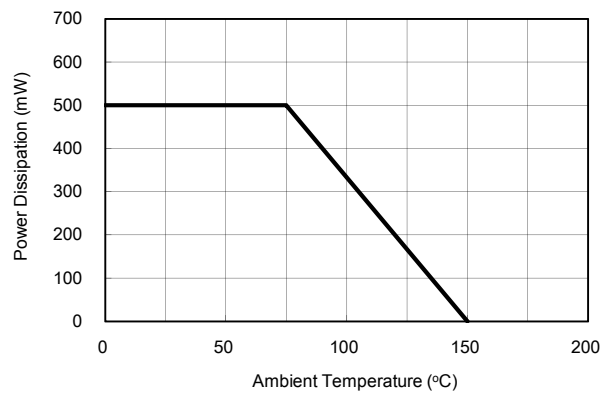


Fig. 5 Typical Capacitance

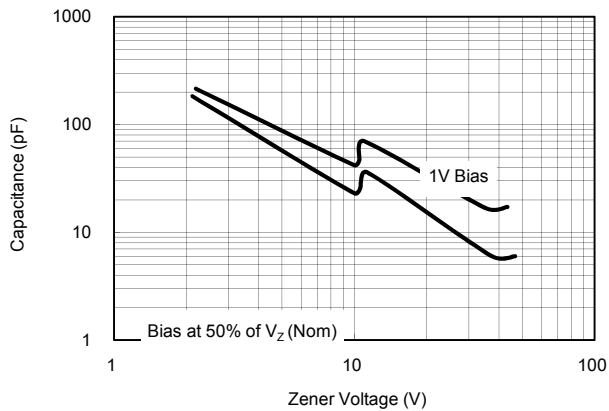
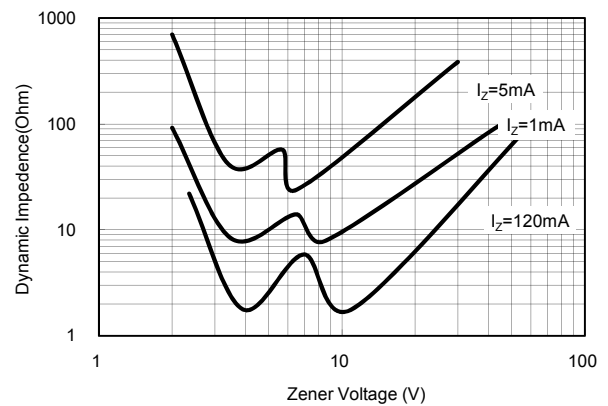


Fig. 6 Effect of Zener Voltage on Impedance



Small Signal Product

ORDERING INFORMATION					
PART NO.	MANUFACTURE CODE (Note1)	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
BZT52BxxxS (Note2)		RR	G	SOD-323F	3K / 7" Reel

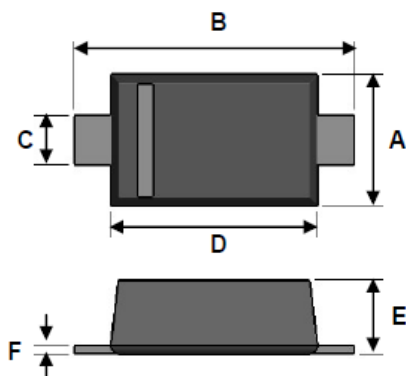
Note1: Manufacture special control, if empty means no special control requirement.

Note2: "xxx" is Device Code from "2V4" thru "75", detail could follow the previous page

EXAMPLE					
PREFERRED P/N	PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
BZT52B2V4S RRG	BZT52B2V4S		RR	G	Green compound
BZT52B2V4S-L0 RRG	BZT52B2V4S	L0	RR	G	Green compound

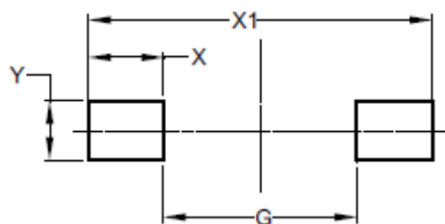
Small Signal Product

DIMENSIONS
SOD-323F



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.15	1.35	0.045	0.053
B	2.30	2.80	0.091	0.110
C	0.25	0.40	0.010	0.016
D	1.60	1.80	0.063	0.071
E	0.80	1.10	0.031	0.043
F	0.05	0.25	0.002	0.010

SUGGESTED PAD LAYOUT



DIM.	Unit(mm)	Unit(inch)
	Typ.	Typ.
G	1.280	0.050
X	0.710	0.028
X1	2.700	0.106
Y	0.403	0.016

Small Signal Product

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[BZT52B10S](#) [BZT52B11S](#) [BZT52B12S](#) [BZT52B13S](#) [BZT52B15S](#) [BZT52B16S](#) [BZT52B18S](#) [BZT52B20S](#)
[BZT52B22S](#) [BZT52B24S](#) [BZT52B27S](#) [BZT52B2V4S](#) [BZT52B2V7S](#) [BZT52B30S](#) [BZT52B33S](#) [BZT52B36S](#)
[BZT52B39S](#) [BZT52B3V0S](#) [BZT52B3V3S](#) [BZT52B3V6S](#) [BZT52B3V9S](#) [BZT52B43S](#) [BZT52B47S](#) [BZT52B4V3S](#)
[BZT52B4V7S](#) [BZT52B51S](#) [BZT52B56S](#) [BZT52B5V1S](#) [BZT52B5V6S](#) [BZT52B62S](#) [BZT52B68S](#) [BZT52B6V2S](#)
[BZT52B6V8S](#) [BZT52B75S](#) [BZT52B7V5S](#) [BZT52B8V2S](#) [BZT52B9V1S](#) [BZT52B3V9S RR](#) [BZT52B13S RR](#)
[BZT52B2V7S RR](#) [BZT52B22S RR](#) [BZT52B5V6S RR](#) [BZT52B39S RR](#) [BZT52B51S RR](#) [BZT52B5V1S RR](#)
[BZT52B36S RR](#) [BZT52B8V2S RR](#) [BZT52B2V4S RR](#) [BZT52B4V3S RR](#) [BZT52B4V7S RR](#) [BZT52B3V0S RR](#)
[BZT52B9V1S RR](#) [BZT52B18S RR](#) [BZT52B24S RR](#) [BZT52B68S RR](#) [BZT52B75S RR](#) [BZT52B62S RR](#) [BZT52B12S](#)
[RR](#) [BZT52B3V6S RR](#) [BZT52B16S RR](#) [BZT52B10S RR](#) [BZT52B7V5S RR](#) [BZT52B47S RR](#) [BZT52B11S RR](#)
[BZT52B33S RR](#) [BZT52B30S RR](#) [BZT52B3V3S RR](#) [BZT52B6V2S RR](#) [BZT52B20S RR](#) [BZT52B6V8S RR](#)
[BZT52B56S RR](#) [BZT52B43S RR](#) [BZT52B15S RR](#) [BZT52B27S RR](#)