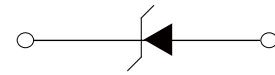


FEATURES

- | Extremely Small DFN1006 Package
- | Planar Die Construction
- | 250mW Power Dissipation
- | Zener Voltages from 2.4V-75V
- | Green EMC



DFN1006



Schematic Symbol

APPROVALS

- RoHS** | Compliance with 2011/65/EU
- HF** | Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Maximum Forward Voltage @ $I_F=10\text{mA}$	V_F	0.9	V
Power Dissipation	$P_{(AV)}$	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Peak Forward Surge Current	I_{FSM}	2.0	A
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

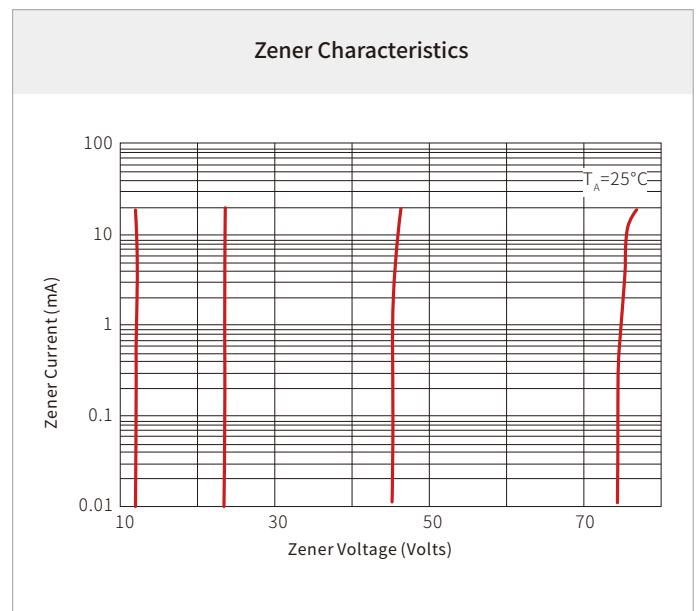
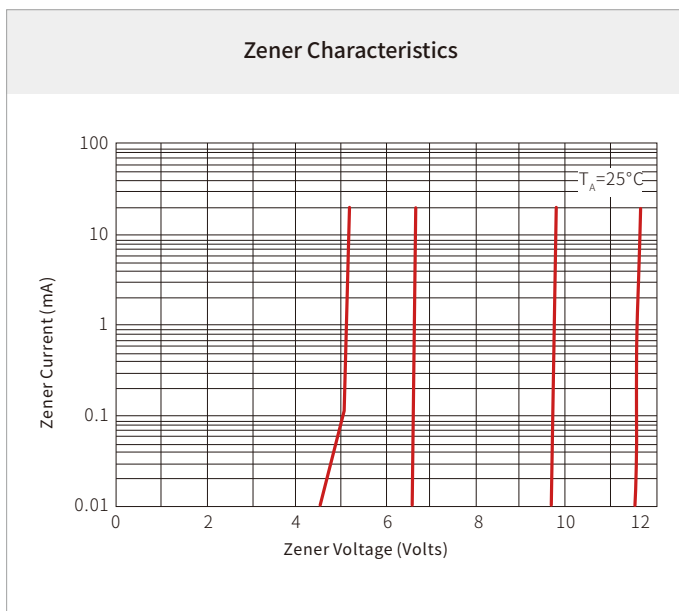
ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Zener Voltage Range* ¹				Maximum Zener Impedance			Maximum Reverse Current	
		$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	I_R	V_R
		Nom.(V)	Min.(V)	Max.(V)	mA	Ω	Ω	mA	μA	V
BZT52C2V4L3P	B1	2.4	2.28	2.52	5	100	400	1	50	1
BZT52C2V7L3P	B2	2.7	2.57	2.84	5	100	450	1	20	1
BZT52C3V0L3P	B3	3	2.85	3.15	5	95	500	1	10	1
BZT52C3V3L3P	B4	3.3	3.14	3.47	5	95	500	1	5	1
BZT52C3V6L3P	B5	3.6	3.42	3.78	5	90	500	1	5	1
BZT52C3V9L3P	B6	3.9	3.71	4.1	5	90	500	1	3	1
BZT52C4V3L3P	B7	4.3	4.09	4.52	5	90	600	1	3	1
BZT52C4V7L3P	B8	4.7	4.47	4.94	5	80	500	1	3	2
BZT52C5V1L3P	B9	5.1	4.85	5.36	5	60	480	1	2	2
BZT52C5V6L3P	BA	5.6	5.32	5.88	5	40	400	1	1	2
BZT52C6V2L3P	BB	6.2	5.89	6.51	5	10	150	1	3	4
BZT52C6V8L3P	BC	6.8	6.46	7.14	5	15	80	1	2	4
BZT52C7V5L3P	BD	7.5	7.13	7.88	5	15	80	1	1	5
BZT52C8V2L3P	BE	8.2	7.79	8.61	5	15	80	1	0.7	5
BZT52C9V1L3P	BF	9.1	8.65	9.56	5	15	100	1	0.5	6
BZT52C10L3P	BG	10	9.5	10.5	5	20	150	1	0.2	7
BZT52C11L3P	BH	11	10.45	11.55	5	20	150	1	0.1	8
BZT52C12L3P	BJ	12	11.4	12.6	5	25	150	1	0.1	8
BZT52C13L3P	BK	13	12.35	13.65	5	30	170	1	0.1	8
BZT52C15L3P	BL	15	14.25	15.75	5	30	200	1	0.05	10.5
BZT52C16L3P	D1	16	15.2	16.8	5	40	200	1	0.05	11.2
BZT52C18L3P	D2	18	17.1	18.9	5	45	225	1	0.05	12.6
BZT52C20L3P	D3	20	19	21	5	55	225	1	0.05	14
BZT52C22L3P	D4	22	20.9	23.1	5	55	250	1	0.05	15.4
BZT52C24L3P	D5	24	22.8	25.2	5	70	250	1	0.05	16.8
BZT52C27L3P	D6	27	25.65	28.35	2	80	300	0.5	0.05	18.9
BZT52C30L3P	D7	30	28.5	31.5	2	80	300	0.5	0.05	21
BZT52C33L3P	D8	33	31.35	34.65	2	80	325	0.5	0.05	23.1
BZT52C36L3P	D9	36	34.2	37.8	2	90	350	0.5	0.05	25.2
BZT52C39L3P	DA	39	37.05	40.95	2	130	350	0.5	0.05	27.3

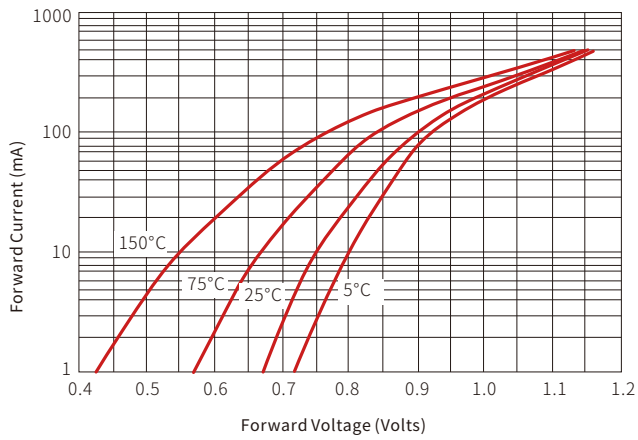
Part Number	Device Marking Code	Zener Voltage Range* ¹				Maximum Zener Impedance			Maximum Reverse Current	
		$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	I_R	V_R
		Nom.(V)	Min.(V)	Max.(V)	mA	Ω	Ω	mA	μA	V
BZT52C43L3P	DB	43	40.85	45.15	2	150	375	0.5	0.05	30.1
BZT52C47L3P	DC	47	44.65	49.35	2	170	375	0.5	0.05	32.9
BZT52C51L3P	DD	51	48.45	53.55	2	180	400	0.5	0.05	35.7
BZT52C56L3P	DE	56	53.2	58.8	2	200	425	0.5	0.05	39.2
BZT52C62L3P	DF	62	58.9	65.1	2	215	450	0.5	0.05	43.4
BZT52C68L3P	DG	68	64.6	71.4	2	240	475	0.5	0.05	47.6
BZT52C75L3P	DH	75	71.25	78.75	2	255	500	0.5	0.05	52.5

*1 Pulse width = 10 ms

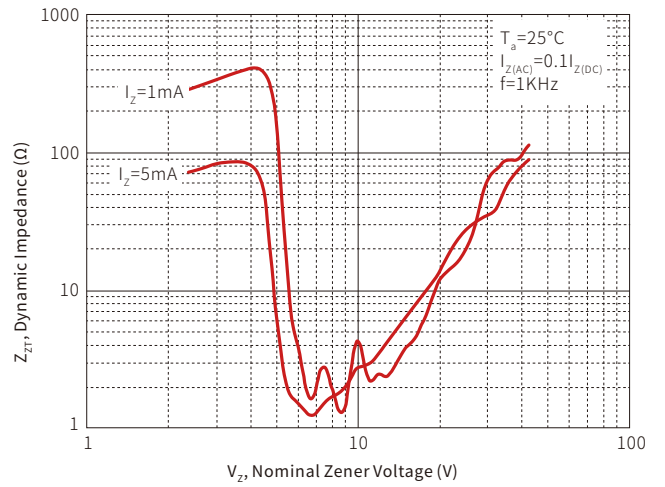
CHARACTERISTIC CURVES



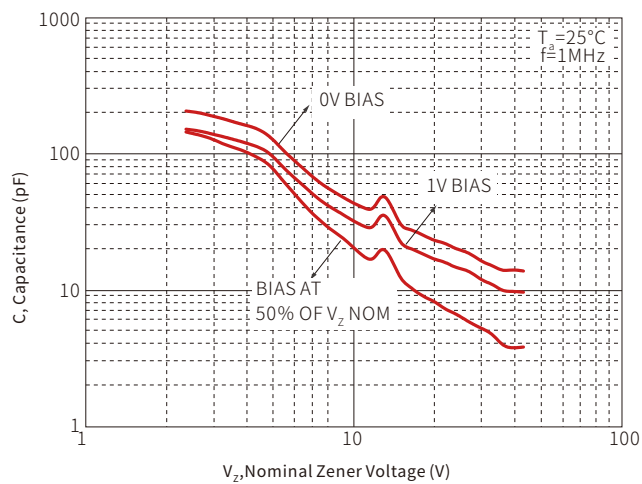
Forward Characteristics



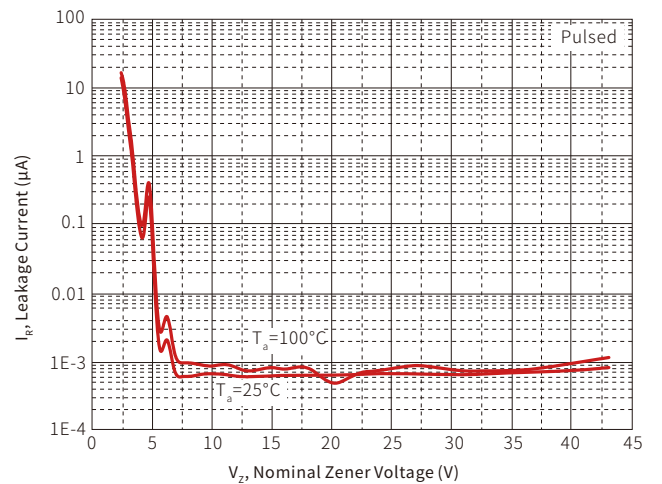
Effect of Zener Voltage on Zener Impedance

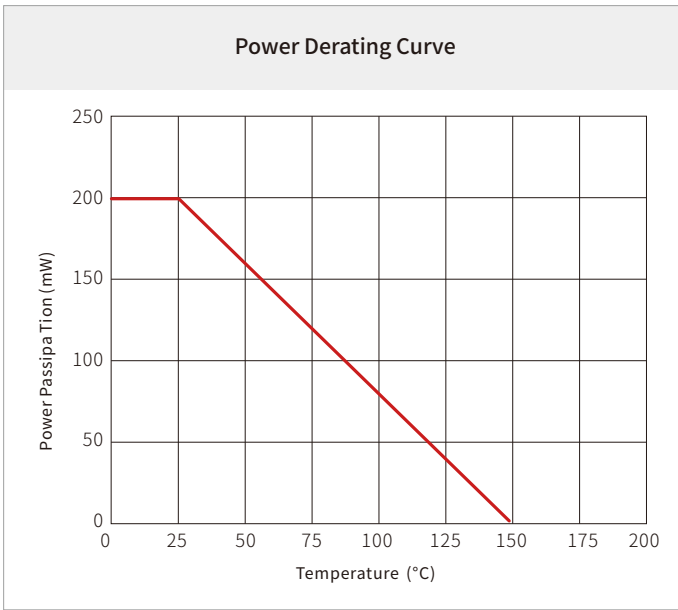


Typical Capacitance



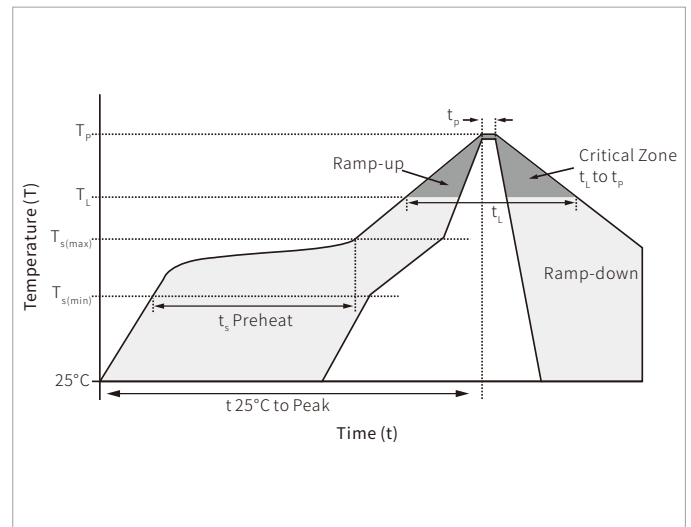
Typical Leakage Current



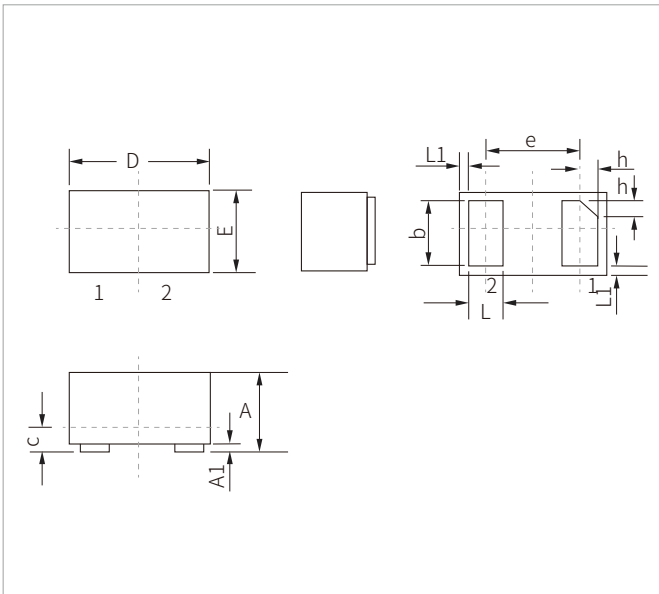


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

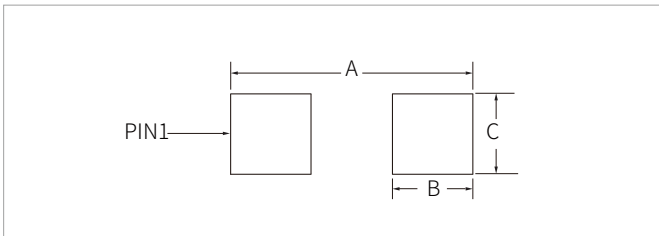


DFN1006 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.40	0.60	0.016	0.024
A1	0	0.05	0	0.002
b	0.40	0.55	0.016	0.022
c	0.12	0.18	0.005	0.007
D	0.90	1.10	0.035	0.043
e	0.65BSC		0.026BSC	
E	0.55	0.75	0.022	0.030
L	0.20	0.35	0.008	0.014
L1	0.05REF		0.002REF	
h	0.07	0.17	0.003	0.007

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	1.20	0.047
B	0.47	0.019
C	0.60	0.024

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BZT52CxxxL3P	DFN1006	10000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware' s global website: www.semiware.com

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.