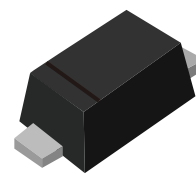


FEATURES

- | Low Zener Impedance
- | Power Dissipation of 150mW
- | High Stability and High Reliability
- | Meet AEC-Q101 Requirements



SOD-523



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
Power Dissipation	P_D	150	mW
Maximum forward voltage at $I_F=10\text{mA}$	V_F	0.9	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

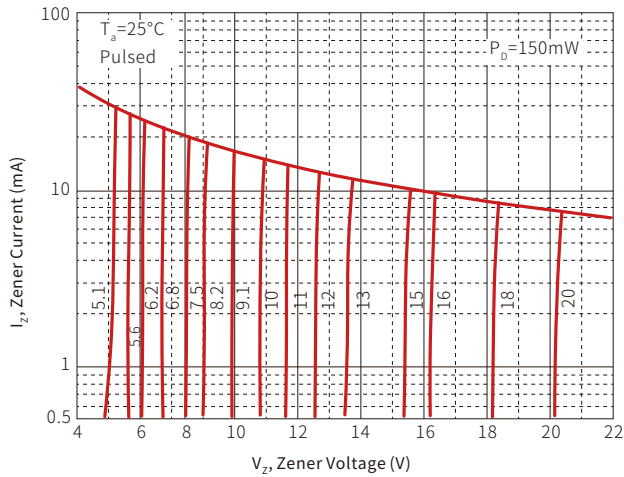
Part Number	Device Marking Code	Zener Voltage Range (Note 1)				Maximum Zener Impedance (Note 2)			Maximum Reverse Current		Typical temperature coefficient @I _{ZT} mV/°C	
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}		I _R	V _R		
		Nom(V)	Min(V)	Max(V)	(mA)	(Ω)	(mA)		(uA)	(V)	Min	Max
BZX584B2V4Q	2V1	2.4	2.35	2.45	5	100	600	1.0	50	1.0	-3.5	0
BZX584B2V7Q	2V2	2.7	2.65	2.75	5	100	600	1.0	20	1.0	-3.5	0
BZX584B3V0Q	2V3	3.0	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0
BZX584B3V3Q	2V4	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0
BZX584B3V6Q	2V5	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0
BZX584B3V9Q	2V6	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0
BZX584B4V3Q	2V7	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0
BZX584B4V7Q	2Z1	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2
BZX584B5V1Q	2Z2	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2
BZX584B5V6Q	2Z3	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5
BZX584B6V2Q	2Z4	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7
BZX584B6V8Q	2Z5	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5
BZX584B7V5Q	2Z6	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3
BZX584B8V2Q	2Z7	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX584B9V1Q	2Z8	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX584B10Q	2Z9	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX584B11Q	2Y1	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX584B12Q	2Y2	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX584B13Q	2Y3	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX584B15Q	2Y4	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX584B16Q	2Y5	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX584B18Q	2Y6	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX584B20Q	2Y7	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX584B22Q	2Y8	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX584B24Q	2Y9	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX584B27Q	2X1	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX584B30Q	2X2	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX584B33Q	2X3	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX584B36Q	2X4	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX584B39Q	2X5	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2

Notes:

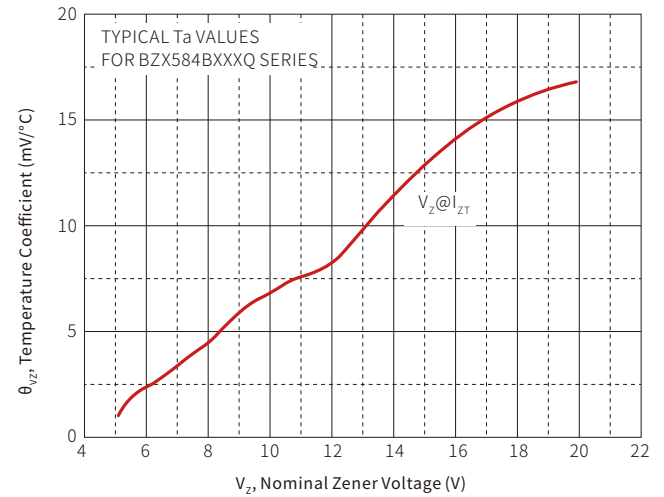
1. Tested with pulses, period=5ms, pulse width =300μs.
2. f = 1 kHz

CHARACTERISTIC CURVES

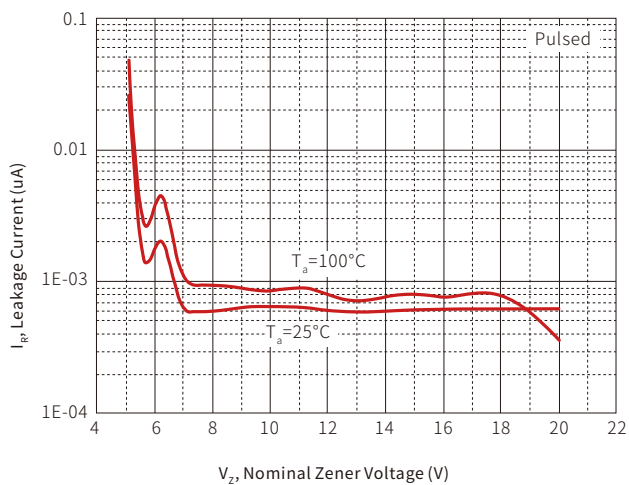
Zener Characteristics (V_Z 5.1V to 20 V)



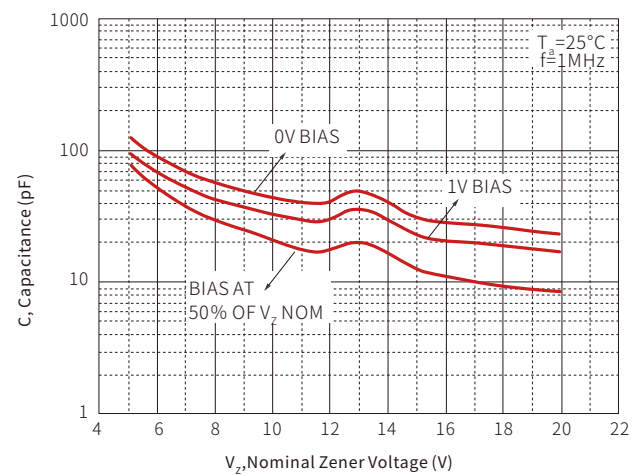
Temperature Coefficients

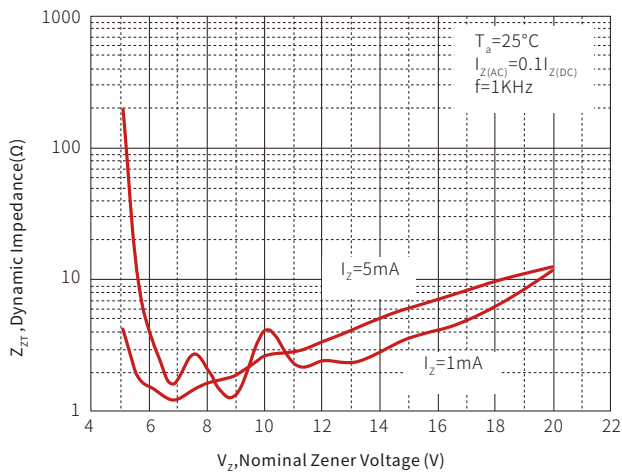
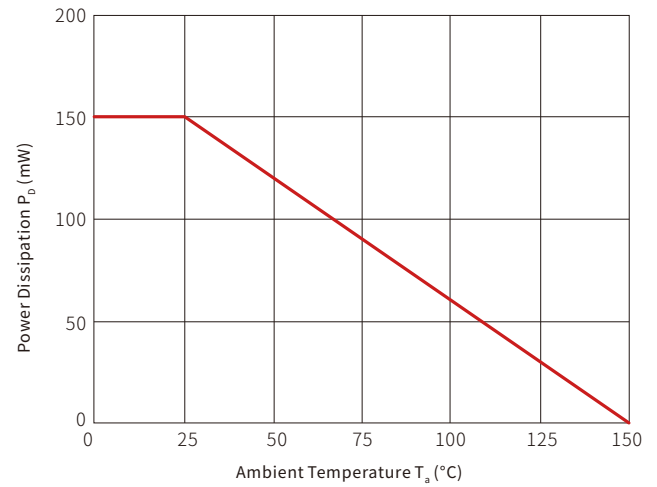


Typical Leakage Current



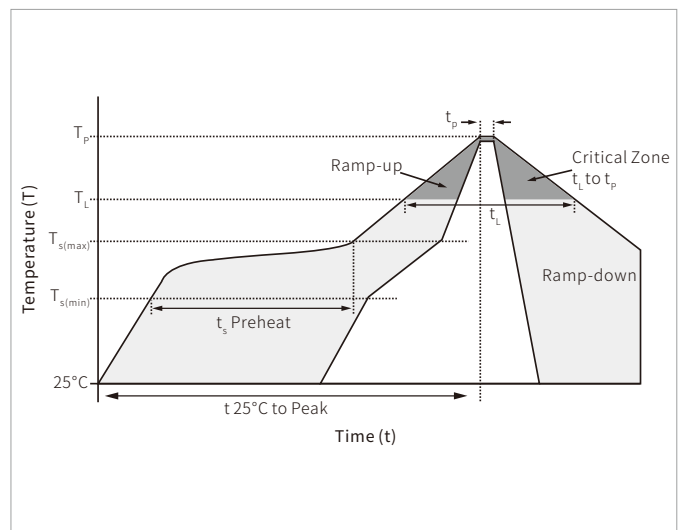
Typical Capacitance



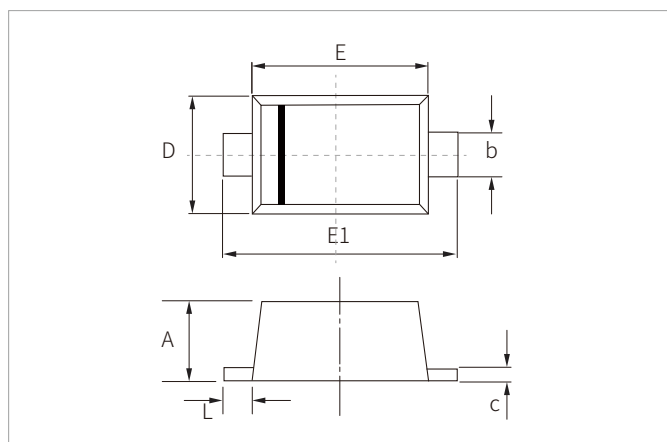
Effect of Zener Voltage on Zener Impedance

Power Derating Curve


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

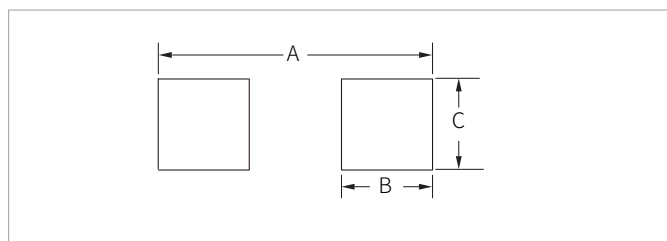


SOD-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.80	0.020	0.031
b	0.25	0.35	0.010	0.014
c	0.07	0.20	0.003	0.008
D	0.70	0.90	0.028	0.035
E	1.10	1.30	0.043	0.051
E1	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Min.	Min.
A	2.00	0.0787
B	0.60	0.0236
C	0.70	0.0276

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BZX584BxxxQ	SOD-523	3000PCS	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

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