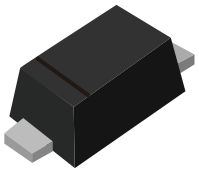
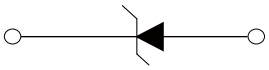
FEATURES

- Low Zener Impedance
- Power Dissipation of 150mW
- High Stability and High Reliability



SOD-523



Schematic Symbol

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

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

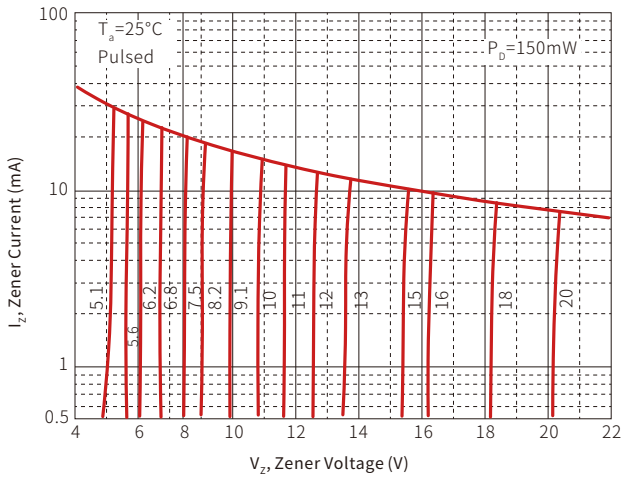
ELECTRICAL CHARACTERISTICS

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
BZX584B2V4	2V1	2.4	2.35	2.45	5	100	600	1.0	50	1.0	-3.5	0
BZX584B2V7	2V2	2.7	2.65	2.75	5	100	600	1.0	20	1.0	-3.5	0
BZX584B3V0	2V3	3.0	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0
BZX584B3V3	2V4	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0
BZX584B3V6	2V5	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0
BZX584B3V9	2V6	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0
BZX584B4V3	2V7	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0
BZX584B4V7	2Z1	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2
BZX584B5V1	2Z2	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2
BZX584B5V6	2Z3	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5
BZX584B6V2	2Z4	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7
BZX584B6V8	2Z5	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5
BZX584B7V5	2Z6	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3
BZX584B8V2	2Z7	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX584B9V1	2Z8	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX584B10	2Z9	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX584B11	2Y1	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX584B12	2Y2	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX584B13	2Y3	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX584B15	2Y4	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX584B16	2Y5	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX584B18	2Y6	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX584B20	2Y7	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX584B22	2Y8	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX584B24	2Y9	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX584B27	2X1	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX584B30	2X2	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX584B33	2X3	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX584B36	2X4	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX584B39	2X5	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2
BZX584B43	2X6	43	42.14	43.86	2	100	700	1.0	0.1	32.0	10.0	12.0
BZX584B47	2X7	47	46.06	47.94	2	100	750	1.0	0.1	35.0	10.0	12.0

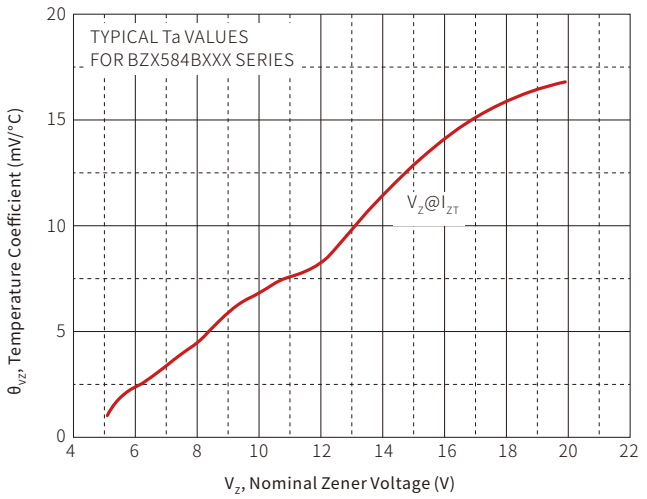
Notes:
1.Tested with pulses, period=5ms,pulse width =300μs.
2.f = 1 kHz

CHARACTERISTIC CURVES

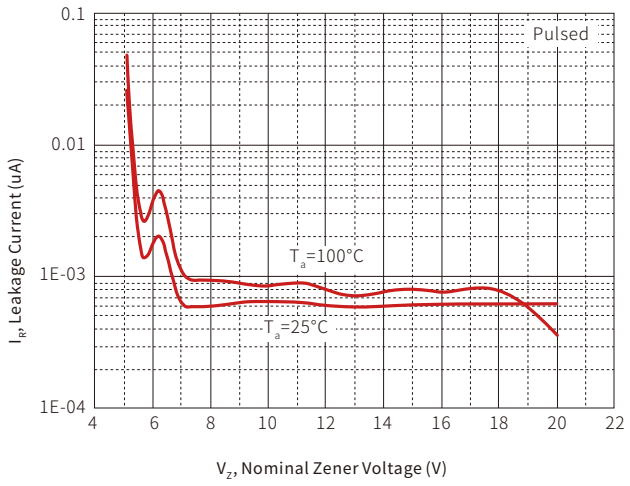
Zener Characteristics(V_z 5.1V to 20 V)



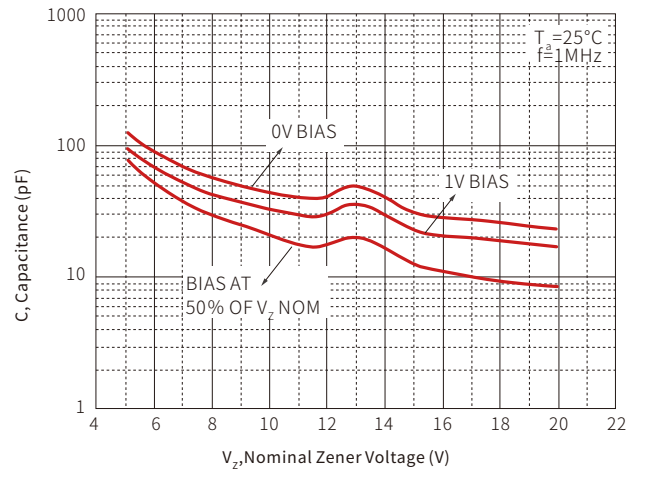
Temperature Coefficients



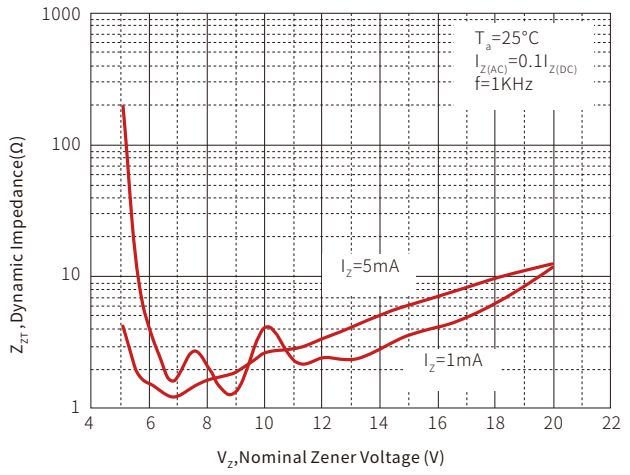
Typical Leakage Current



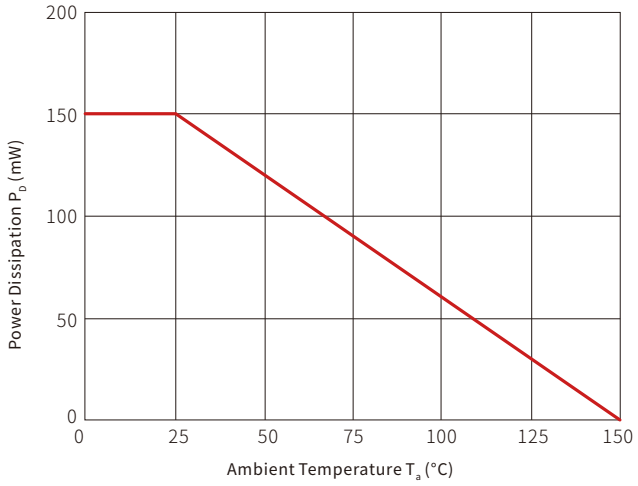
Typical Capacitance



Effect of Zener Voltage on Zener Impedance

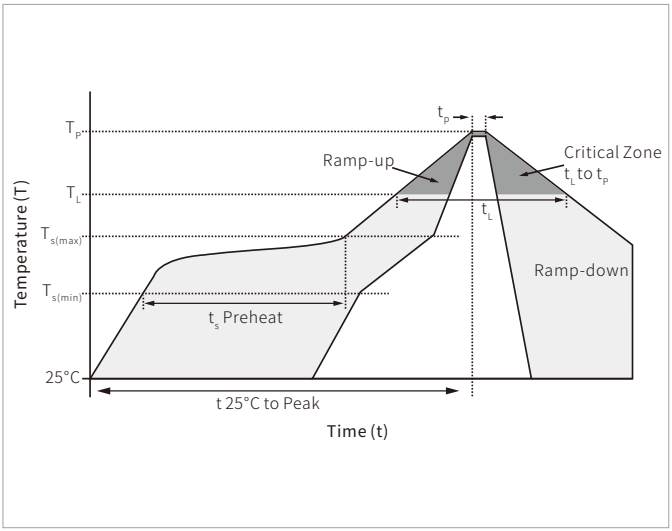


Power Derating Curve

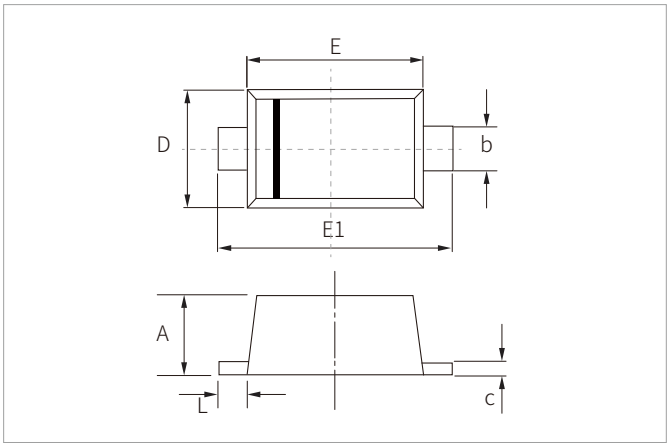


SOLDERING PARAMETERS

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

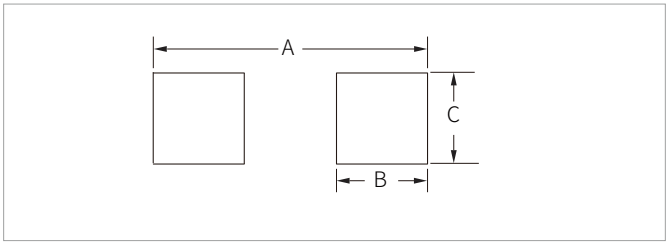


SOD-523 PACKAGE INFORMATION



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
BZX584B2V4-BZX584B47	SOD-523	3000PCS	7”

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