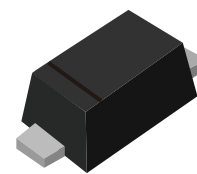


FEATURES

- | Planar Die Construction
- | 150mW Power Dissipation
- | Zener Voltages From 2.4 – 43V
- | 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
BZX584C2V4Q	Z11	2.4	2.20	2.60	5	100	600	1.0	50	1.0	-3.5	0
BZX584C2V7Q	Z12	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX584C3V0Q	Z13	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX584C3V3Q	Z14	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0
BZX584C3V6Q	Z15	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0
BZX584C3V9Q	Z16	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0
BZX584C4V3Q	Z17	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0
BZX584C4V7Q	Z1	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
BZX584C5V1Q	Z2	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
BZX584C5V6Q	Z3	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
BZX584C6V2Q	Z4	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7
BZX584C6V8Q	Z5	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5
BZX584C7V5Q	Z6	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3
BZX584C8V2Q	Z7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX584C9V1Q	Z8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX584C10Q	Z9	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX584C11Q	Y1	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX584C12Q	Y2	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX584C13Q	Y3	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX584C15Q	Y4	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX584C16Q	Y5	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX584C18Q	Y6	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX584C20Q	Y7	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX584C22Q	Y8	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX584C24Q	Y9	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX584C27Q	Y10	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX584C30Q	Y11	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX584C33Q	Y12	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX584C36Q	Y13	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX584C39Q	Y14	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2
BZX584C43Q	Y15	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0

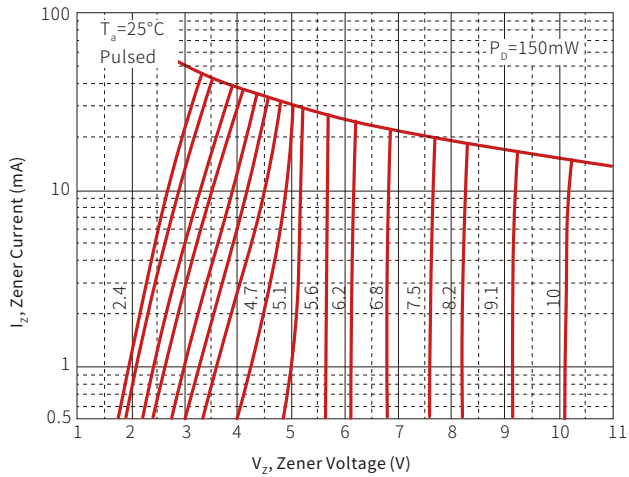
Notes:

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

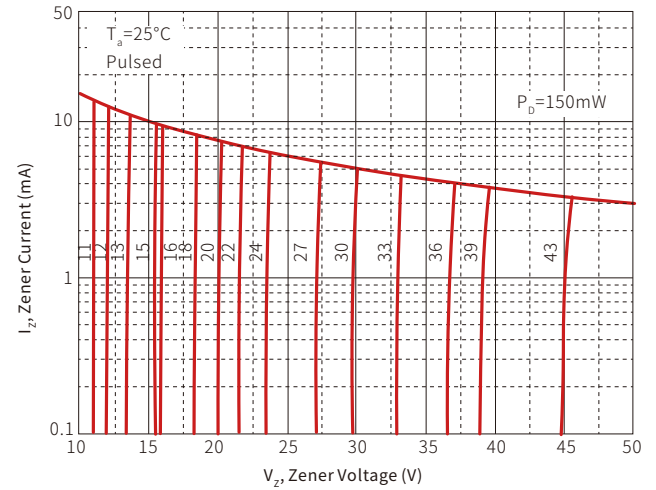
2. f = 1 kHz

CHARACTERISTIC CURVES

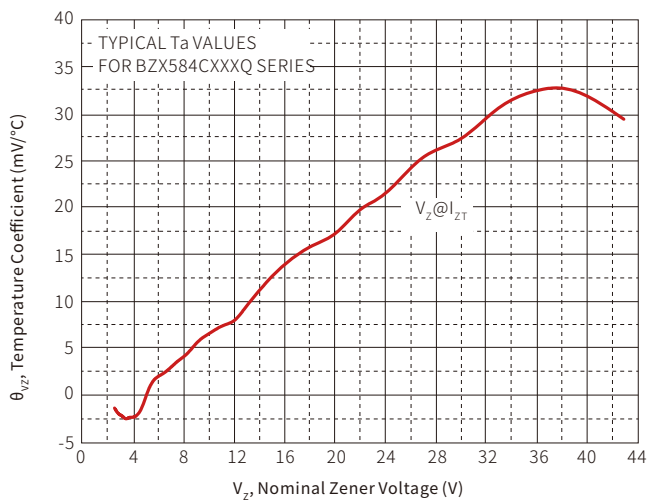
Zener Characteristics (V_Z Up to 10 V)



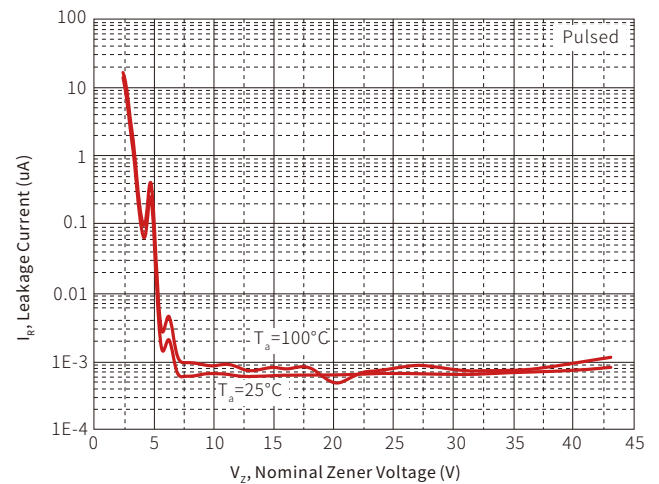
Zener Characteristics (11 V to 43 V)

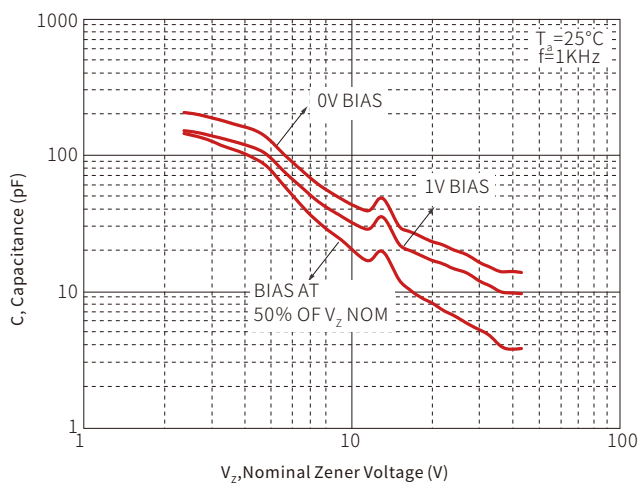
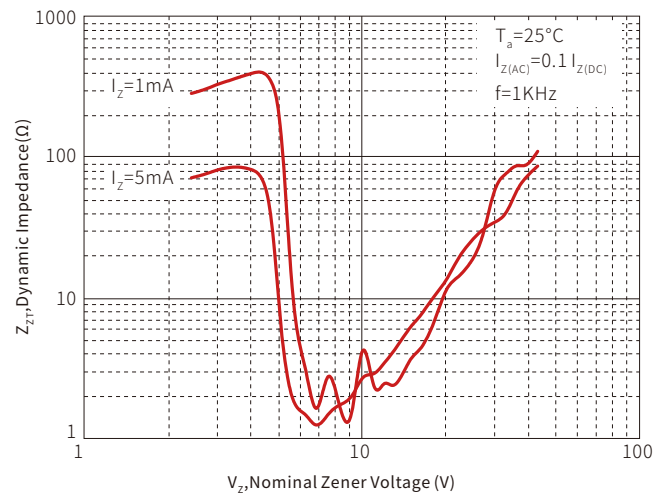
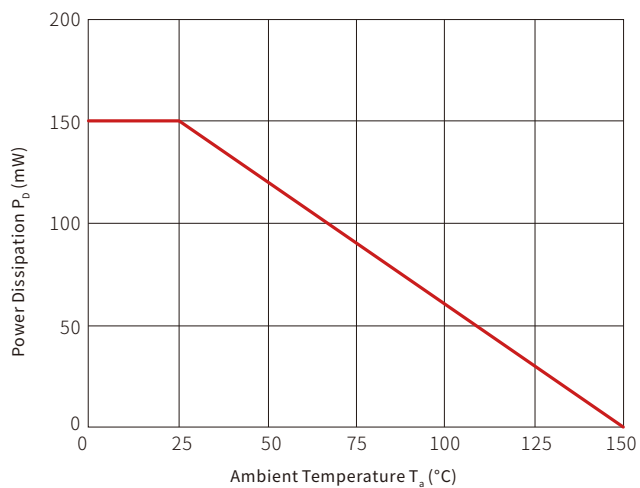


Temperature Coefficients



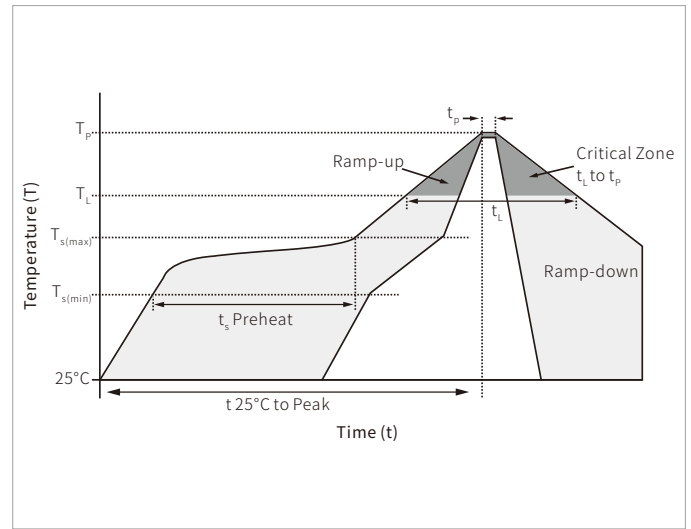
Typical Leakage Current



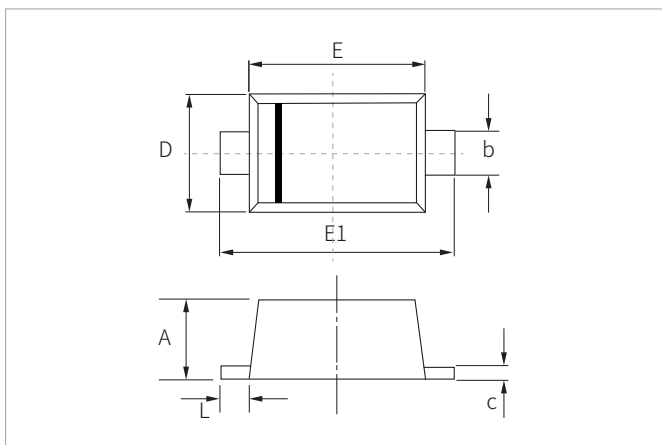
Typical Capacitance

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

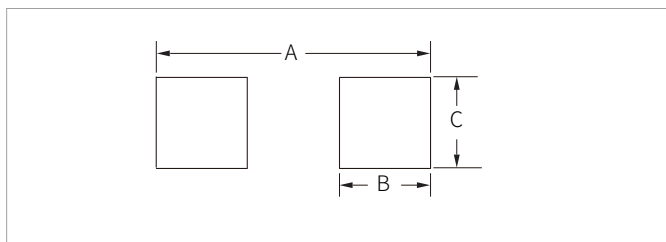


SOD-523 PACKAGE INFORMATION



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
BZX584CxxxQ	SOD-523	3000PCS	7"

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