

BZX584C series

ZENER DIODE



Voltage: 2.4~75 Volts

P_D: 200 mW

Package: SOD-523

Features

- Low Zener Impedance
- Power Dissipation of 200mW
- High Stability and High Reliability
- Zener Voltage Tolerance: See Table-1

Mechanical Data

- Case: Molded With UL-94 ClassV-0 Recognized, RoHS-Compliant
- Polarity: Look At The Diagram And Polarity On The Right
- Terminals: Tin Plated Leads, Solderable Per J-STD-002 And JESD22-B102
- Mounting Position: Any

Diagram:



Polarity:



Single Phase, Half Wave, 60Hz, Resistive Or Inductive Load. For Capacitive Load, Derate Current By 20%

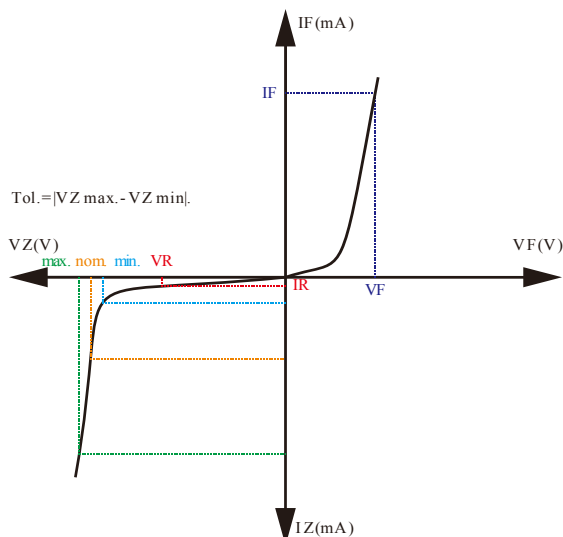
Maximum Ratings (Ta=25°C Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	200	mW
Maximum Regulator Current	I _{ZM}	PD/VZ	mA

Thermal Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Operating Temperature Range	T _{OPR}	-55 ~ 150	°C
Storage temperature range	T _{STG}	-55 ~ 150	°C

C-V Curve Chart



Symbol Instruction

Symbol	Instruction
I _F	Maximum Average Forward Rectified Current
V _F	Maximum Instantaneous Forward Voltage
V _R	Working Peak Reverse Voltage
I _R	Maximum Reverse Leakage Current @ V _{RWM}
V _Z	The Zener Voltage @ I _Z
I _{ZT}	The Zener Current @ V _Z

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Table-1.ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device	MARK	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current	
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	μ A	V
BZX584C2V4	Z11	2.40	2.20	2.60	5	100	600	1.00	50.0	1.0
BZX584C2V7	Z12	2.70	2.50	2.90	5	100	600	1.00	20.0	1.0
BZX584C3V0	Z13	3.00	2.80	3.20	5	95	600	1.00	10.0	1.0
BZX584C3V3	Z14	3.30	3.10	3.50	5	95	600	1.00	5.0	1.0
BZX584C3V6	Z15	3.60	3.40	3.80	5	90	600	1.00	5.0	1.0
BZX584C3V9	Z16	3.90	3.70	4.10	5	90	600	1.00	3.0	1.0
BZX584C4V3	Z17	4.30	4.00	4.60	5	90	600	1.00	3.0	1.0
BZX584C4V7	Z1	4.70	4.40	5.00	5	80	500	1.00	3.0	2.0
BZX584C5V1	Z2	5.10	4.80	5.40	5	60	480	1.00	2.0	2.0
BZX584C5V6	Z3	5.60	5.20	6.00	5	40	400	1.00	1.0	2.0
BZX584C6V2	Z4	6.20	5.80	6.60	5	10	150	1.00	3.0	4.0
BZX584C6V8	Z5	6.80	6.40	7.20	5	15	80	1.00	2.0	4.0
BZX584C7V5	Z6	7.50	7.00	7.90	5	15	80	1.00	1.0	5.0
BZX584C8V2	Z7	8.20	7.70	8.70	5	15	80	1.00	0.7	5.0
BZX584C9V1	Z8	9.10	8.50	9.60	5	15	100	1.00	0.5	6.0
BZX584C10	Z9	10.00	9.40	10.60	5	20	150	1.00	0.2	7.0
BZX584C11	Y1	11.00	10.40	11.60	5	20	150	1.00	0.1	8.0
BZX584C12	Y2	12.00	11.40	12.70	5	25	150	1.00	0.1	8.0
BZX584C13	Y3	13.00	12.40	14.10	5	30	170	1.00	0.1	8.0
BZX584C14	Z10	14.00	13.30	14.70	5	30	110	1.00	0.1	10.5
BZX584C15	Y4	15.00	13.80	15.60	5	30	200	1.00	0.1	10.5
BZX584C16	Y5	16.00	15.30	17.10	5	40	200	1.00	0.1	11.2
BZX584C18	Y6	18.00	16.80	19.10	5	45	225	1.00	0.1	12.6
BZX584C20	Y7	20.00	18.80	21.20	5	55	225	1.00	0.1	14.0
BZX584C22	Y8	22.00	20.80	23.30	5	55	250	1.00	0.1	15.4
BZX584C24	Y9	24.00	22.80	25.60	5	70	250	1.00	0.1	16.8
BZX584C27	Y10	27.00	25.10	28.90	2	80	300	0.50	0.1	18.9
BZX584C30	Y11	30.00	28.00	32.00	2	80	300	0.50	0.1	21.0
BZX584C33	Y12	33.00	31.00	35.00	2	80	325	0.50	0.1	23.1
BZX584C36	Y13	36.00	34.00	38.00	2	90	350	0.50	0.1	25.2
BZX584C39	Y14	39.00	37.00	41.00	2	130	350	0.50	0.1	27.3
BZX584C43	Y15	43.00	40.00	46.00	2	100	700	1.00	0.1	32.0
BZX584C47	V1	47.00	44.65	49.35	2	170	1000	0.25	0.1	36.0
BZX584C51	V2	51.00	48.45	53.55	2	180	1300	0.25	0.1	39.0
BZX584C56	V3	56.00	53.20	58.80	2	200	1400	0.25	0.1	43.0
BZX584C62	V4	62.00	58.90	65.10	2	225	1400	0.25	0.1	47.0
BZX584C68	V5	68.00	64.60	71.40	2	240	1600	0.25	0.1	52.0
BZX584C75	V6	75.00	71.25	78.75	2	265	1700	0.25	0.1	56.0

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Typical Characteristics Curves

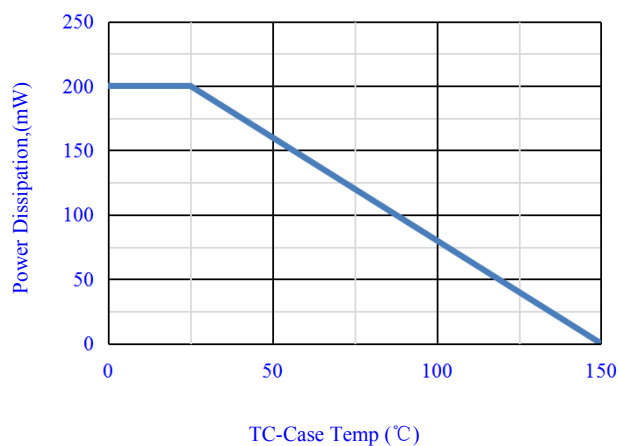


Fig.1-Power Dissipation Vs. Case Temp.

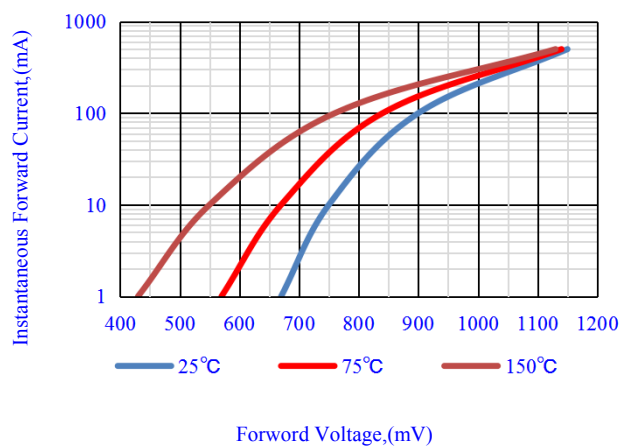


Fig.2-Forward Characteristics

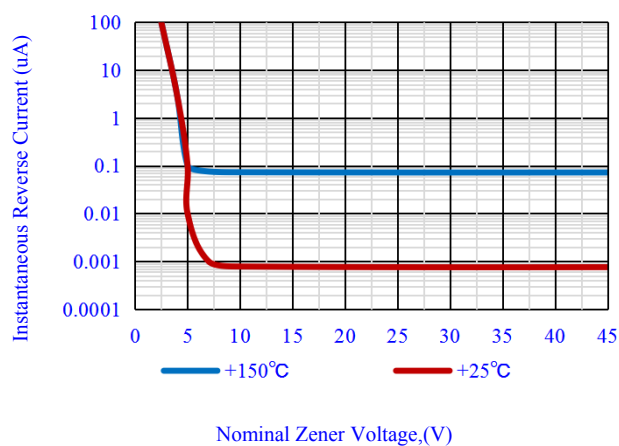


Fig.3-Typical Reverse Characteristics

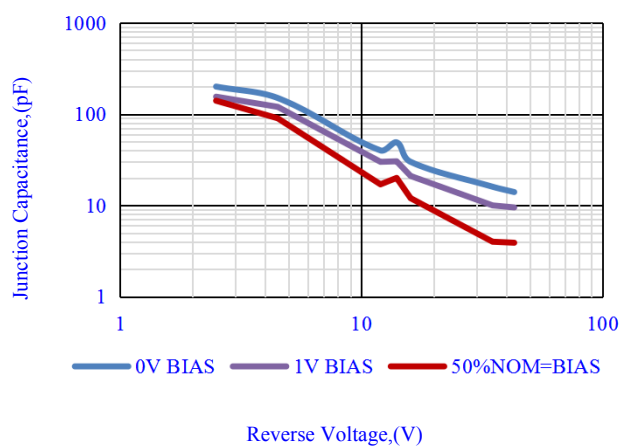


Fig.4-Typical Junction Capacitance

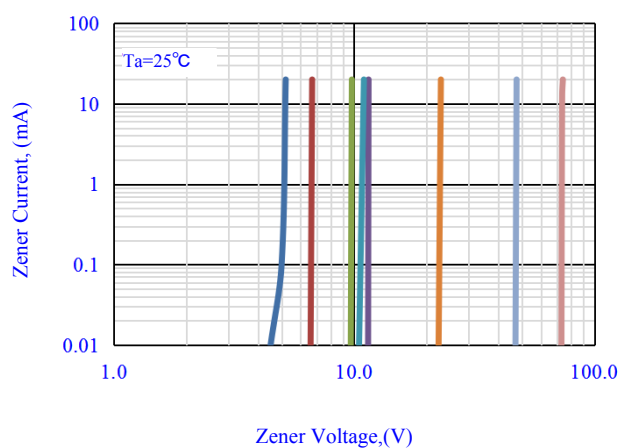


Fig.5-Zener Breakdown Characteristics

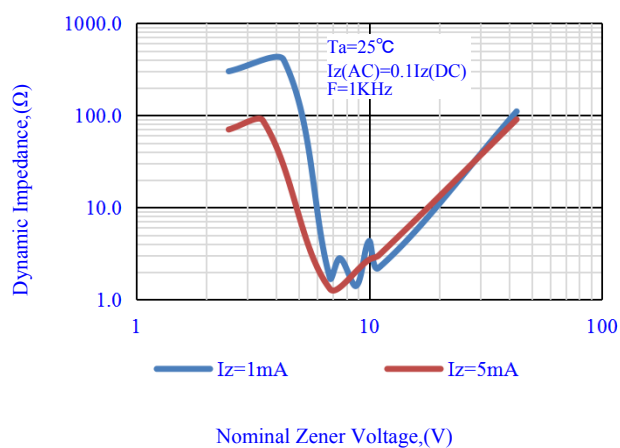


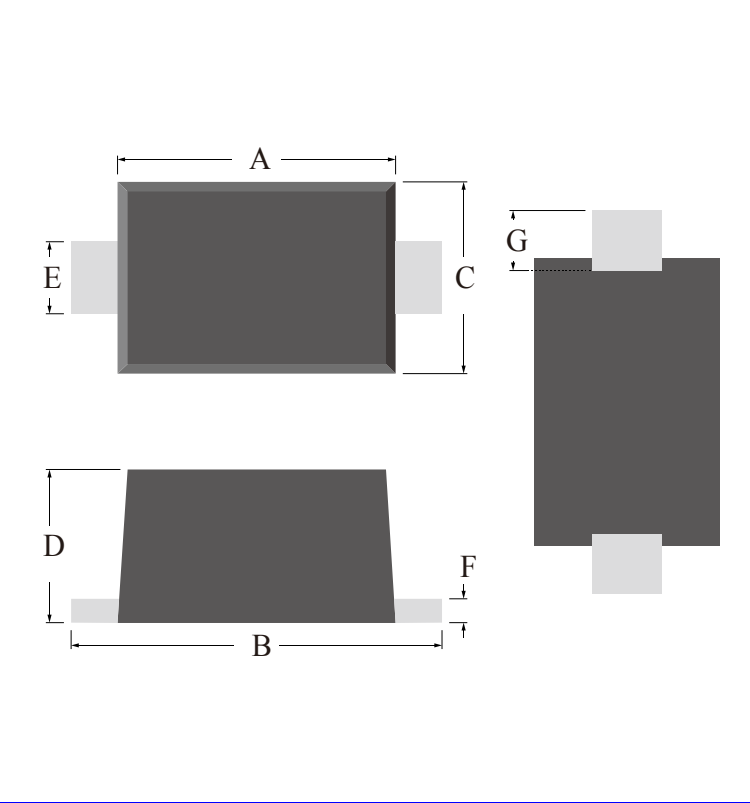
Fig.6-Effect Of Zener Voltage On Zener Impedance

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OUTLINE DRAWINGS

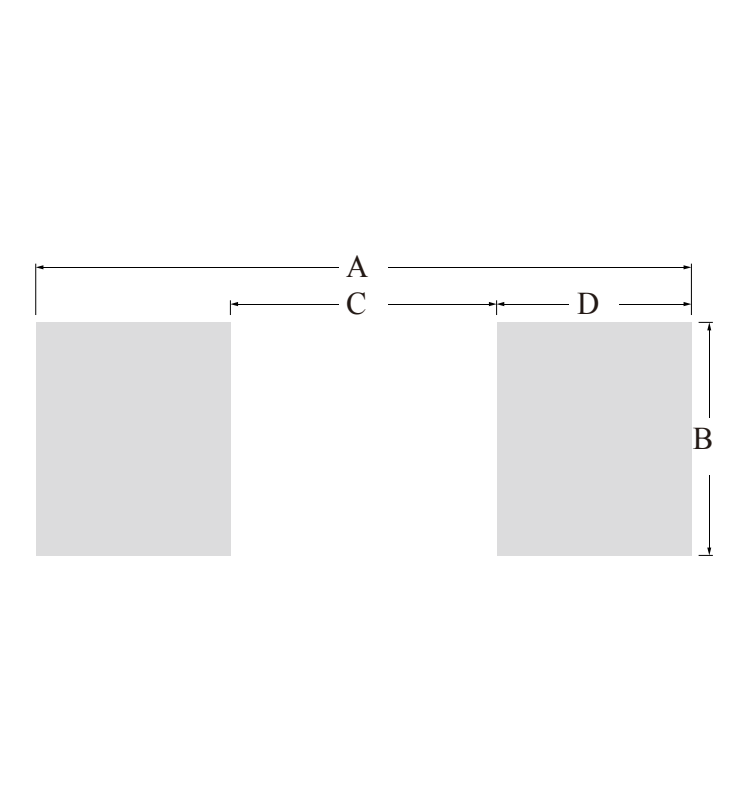
SOD-523



OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.10	-	1.30	0.0433	-	0.0512
B	1.50	-	1.70	0.0591	-	0.0669
C	0.75	-	0.85	0.0295	-	0.0335
D	0.51	-	0.77	0.0201	-	0.0303
E	0.25	-	0.35	0.0098	-	0.0138
F	0.03	-	0.15	0.0012	-	0.0059
G	-	0.25	-	-	0.0098	-

RECOMMEDND LAYOUT DRAWINGS

SOD-523



OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	2.02	-	-	0.0795	-
B	--	0.70	--	--	0.0276	--
C	--	0.82	--	--	0.0323	--
D	--	0.60	--	--	0.0236	--

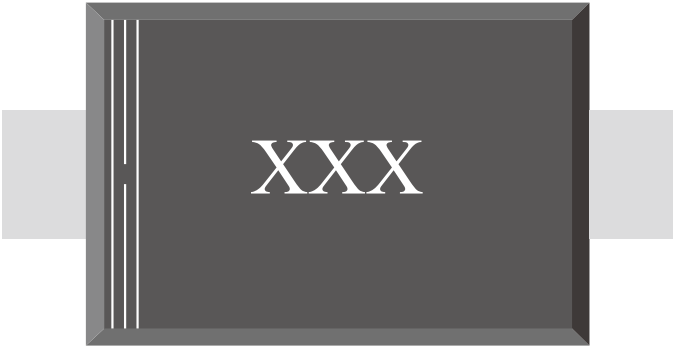
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MARKING

MARKING INSTRUCTION



XXX=Make,XX=See Table-1
White band denotes cathode

PACKING INFORMATION

Package Type	Package Code	Product Weight Approx(g/Pcs)	Package Method	Quantity (Pcs/Min. Pack.)	Quantity (Pcs/Inner Box)	Quantity (Pcs/Carton)
SOD-523	P1	0.02	7" Reel	3000	15000	180000

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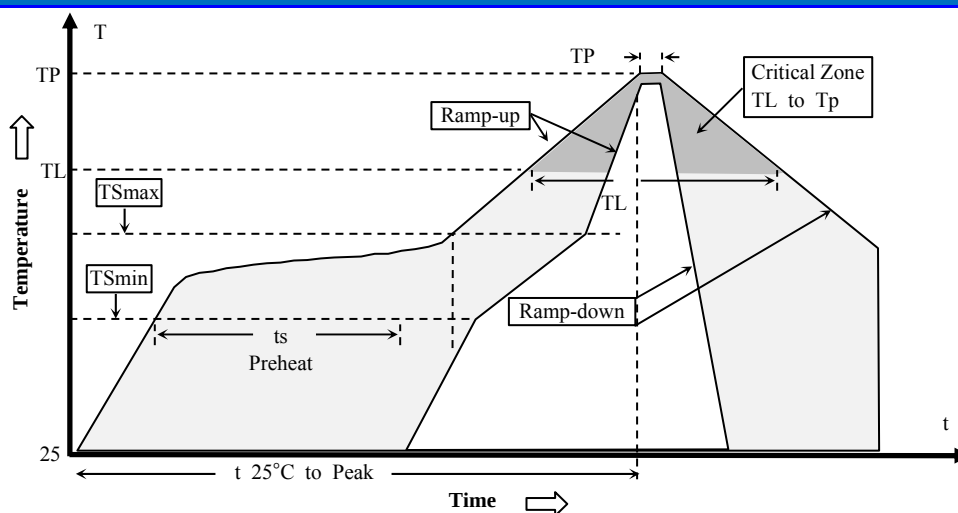
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(T _S min) -Temperature Max(T _S max) -Time(t _s min to t _s max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (T _L) - Time (t _L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T _P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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