BZX584C2V4 THRU BZX584C75

PLASTIC-ENCAPSULATE ZENER DIODE

VOLTAGE:	2.4~75 Volts	POWER:	200 mW

SOD-523

FEATURES

- Low Zener Impedance
- Power Dissipation of 200mW
- High Stability and High Reliability
- Zener Voltage Tolerance: ± 5%

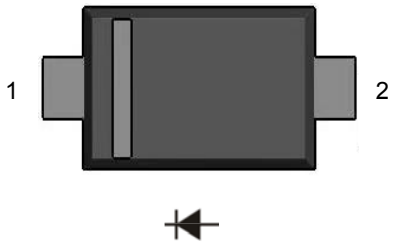
MECHANICAL DATA

- **Case:** SOD-523 Small Outline Plastic Package
- **Epoxy UL:** 94V-0
- **Polarity:** Color band denotes cathode end
- **Mounting position:** Any

Marking and Polarity

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameter	*Symbol*	*Value*	*Unit*
Power Dissipation	P_d	200	mW
Junction temperature	T_j	150	℃
Storage temperature range	T_s	-55-150	℃
Maximum Regulator Current	I_{ZM}	P_D/V_Z	mA

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Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

Device	MARKING	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current	
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR
		Min(V)	Nom(V)	Max(V)	mA	Ω		mA	uA	V
BZX584C2V4	Z11	2.20	2.4	2.60	5	100	600	1.0	50	1.0
BZX584C2V7	Z12	2.50	2.7	2.90	5	100	600	1.0	20	1.0
BZX584C3V0	Z13	2.8	3.0	3.2	5	95	600	1.0	10	1.0
BZX584C3V3	Z14	3.1	3.3	3.5	5	95	600	1.0	5	1.0
BZX584C3V6	Z15	3.4	3.6	3.8	5	90	600	1.0	5	1.0
BZX584C3V9	Z16	3.7	3.9	4.1	5	90	600	1.0	3	1.0
BZX584C4V3	Z17	4.0	4.3	4.6	5	90	600	1.0	3	1.0
BZX584C4V7	Z1	4.4	4.7	5.0	5	80	500	1.0	3	2.0
BZX584C5V1	Z2	4.8	5.1	5.4	5	60	480	1.0	2	2.0
BZX584C5V6	Z3	5.2	5.6	6.0	5	40	400	1.0	1	2.0
BZX584C6V2	Z4	5.8	6.2	6.6	5	10	150	1.0	3	4.0
BZX584C6V8	Z5	6.4	6.8	7.2	5	15	80	1.0	2	4.0
BZX584C7V5	Z6	7.0	7.5	7.9	5	15	80	1.0	1	5.0
BZX584C8V2	Z7	7.7	8.2	8.7	5	15	80	1.0	0.7	5.0
BZX584C9V1	Z8	8.5	9.1	9.6	5	15	100	1.0	0.5	6.0
BZX584C10	Z9	9.4	10.0	10.6	5	20	150	1.0	0.2	7.0
BZX584C11	Y1	10.4	11.0	11.6	5	20	150	1.0	0.1	8.0
BZX584C12	Y2	11.4	12.0	12.7	5	25	150	1.0	0.1	8.0
BZX584C13	Y3	12.4	13.0	14.1	5	30	170	1.0	0.1	8.0
BZX584C15	Y4	13.8	15.0	15.6	5	30	200	1.0	0.1	10.5
BZX584C16	Y5	15.3	16.0	17.1	5	40	200	1.0	0.1	11.2
BZX584C18	Y6	16.8	18.0	19.1	5	45	225	1.0	0.1	12.6
BZX584C20	Y7	18.8	20.0	21.2	5	55	225	1.0	0.1	14.0
BZX584C22	Y8	20.8	22.0	23.3	5	55	250	1.0	0.1	15.4
BZX584C24	Y9	22.8	24.0	25.6	5	70	250	1.0	0.1	16.8
BZX584C27	Y10	25.1	27.0	28.9	2	80	300	0.5	0.1	18.9
BZX584C30	Y11	28.0	30.0	32.0	2	80	300	0.5	0.1	21.0
BZX584C33	Y12	31.0	33.0	35.0	2	80	325	0.5	0.1	23.1
BZX584C36	Y13	34.0	36.0	38.0	2	90	350	0.5	0.1	25.2
BZX584C39	Y14	37.0	39.0	41.0	2	130	350	0.5	0.1	27.3
BZX584C43	Y15	40.0	43.0	46.0	2	100	700	1.0	0.1	32.0
BZX584C47	V1	44.65	47.0	49.35	2	170	1000	0.25	0.1	36.0
BZX584C51	V2	48.45	51.0	53.55	2	180	1300	0.25	0.1	39.0
BZX584C56	V3	53.20	56.0	58.80	2	200	1400	0.25	0.1	43.0
BZX584C62	V4	58.90	62.0	65.10	2	225	1400	0.25	0.1	47.0
BZX584C68	V5	64.60	68.0	71.40	2	240	1600	0.25	0.1	52.0
BZX584C75	V6	71.25	75.0	78.75	2	265	1700	0.25	0.1	56.0

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RATING AND CHARACTERISTIC CURVES

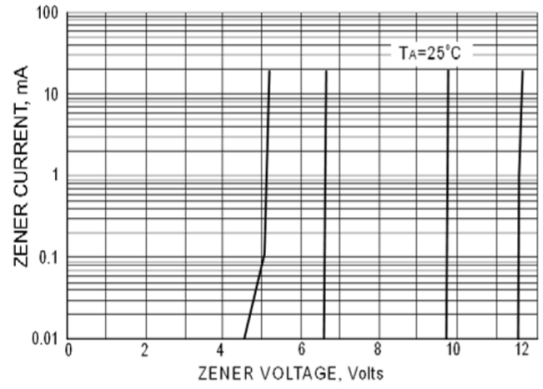

Fig.1-ZENER BREAKDOWN CHARACTERISTIC

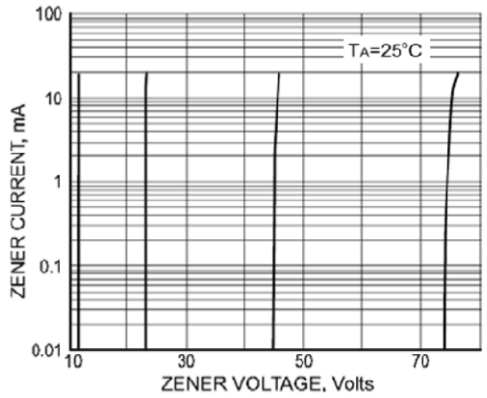

Fig.2- ZENER BREAKDOWN CHARACTERISTIC

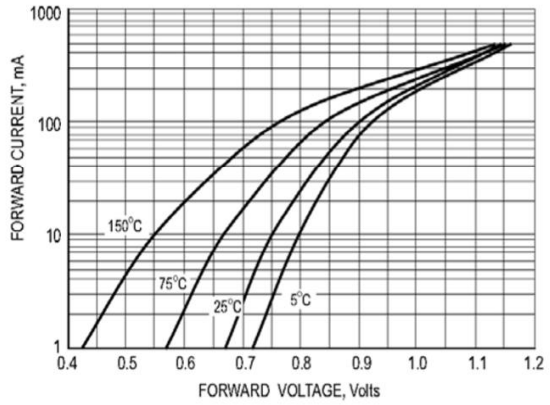

Fig.3- TYPICAL FORWARD VOLTAGE

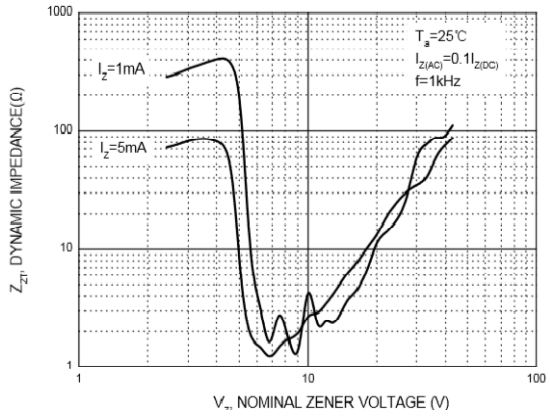

Fig.4- Effect of Zener Voltage on Zener Impedance

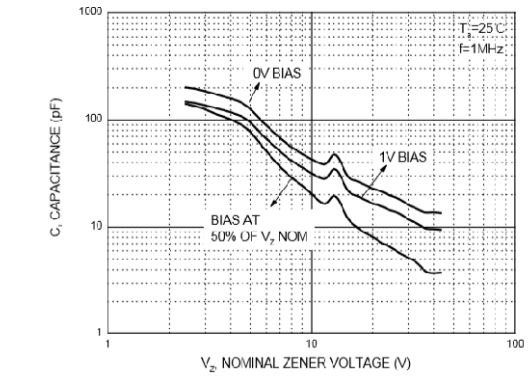

Fig.5-Typical Capacitance

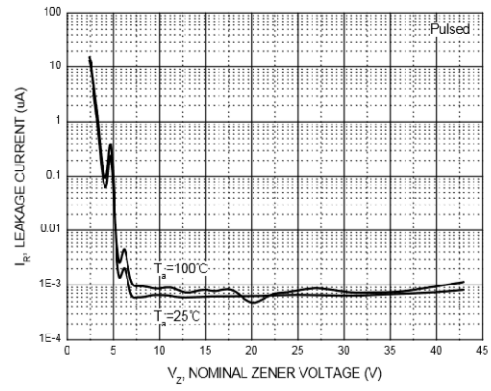

Fig.6-Typical Leakage Current

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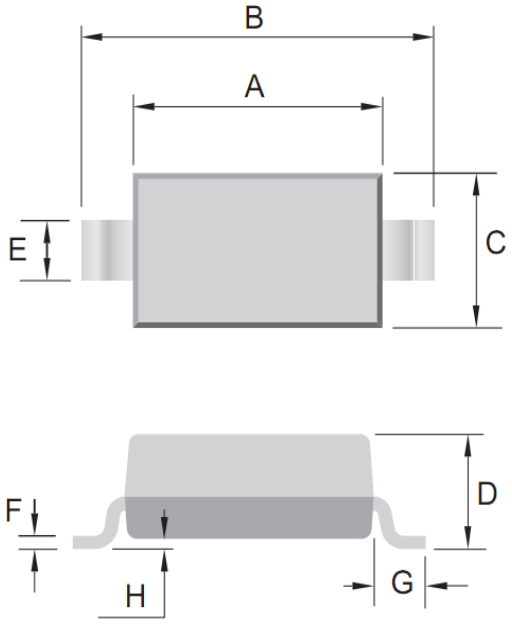
OUTLINE DRAWINGS

SOD-523



OUTLINE DIMENSIONS						
DIM	MILLIME TERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	1.100	-	1.300	0.043	-	0.051
B	1.500	-	1.700	0.059	-	0.067
C	0.750	-	0.850	0.030	-	0.033
D	0.510	-	0.770	0.020	-	0.030
E	0.250	-	0.350	0.010	-	0.014
F	0.080	-	0.150	0.003	-	0.006
G	0.170	-	0.200	0.007	-	0.008
H	0.010	-	0.070	0.000	-	0.003

MOUNTING PAD LAYOUT

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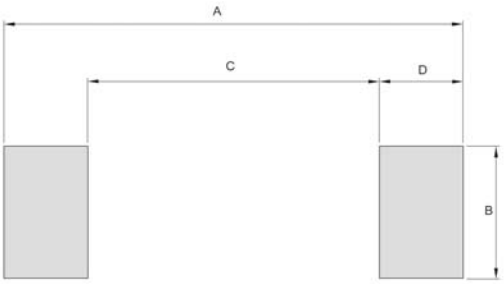

OUTLINE DIMENSIONS						
DIM	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	--	1.60	--	--	0.063	--
B	--	0.70	--	--	0.0276	--
C	--	1.42	--	--	0.0559	--
D	--	0.60	--	--	0.0236	--

Packing Information

Package	Pack	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size L×W×H(mm)	Carton Size L×W×H(mm)	Quantity (Inner Box/carton)
SOD-523	T/R	Φ180	8000	210×208×203	440×440×230	4

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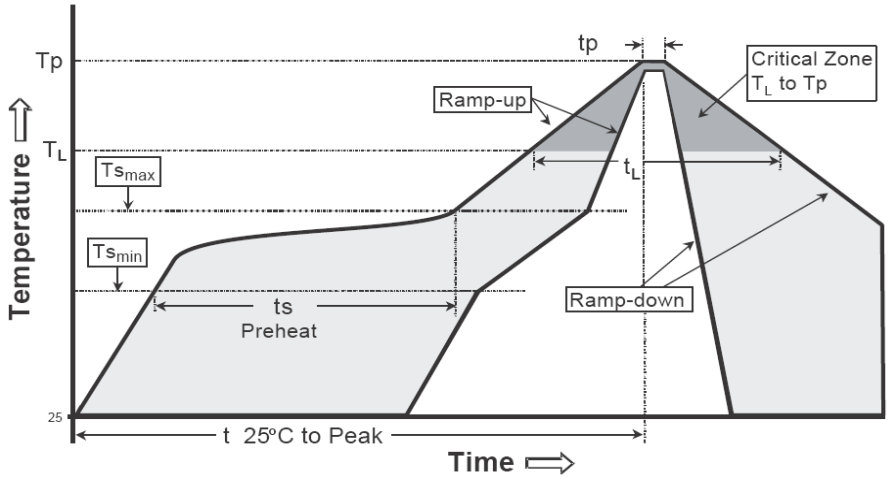
Recommended wave soldering condition

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 (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(TS min) −Temperature Max(TS max) −Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (TL) − Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	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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