2V to 51V 150mW Zener Diode

Description

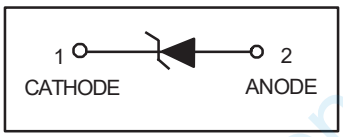
Type OVZP0152V0D5 series are 2-pin Ultra super mini mold package zener diodes possessing an allowable power dissipation of 150mW.

Features

- ✧ zener voltage from 2.0V to 51V
- ✧ 150mW Power Dissipation
- ✧ Pb−Free, Halogen Free and RoHS Compliant

Applications

- ✧ Circuits for Constant Voltage
- ✧ Constant Current, Waveform clipper
- ✧ Surge absorber



Circuit Diagram



SOD523

Absolute Maximum Rating （T_A = 25 °C, unless otherwise specified）

Rating	Symbol	Value	Units
Power Dissipation	P_D	150	mW
Forward Voltage	V_F	0.9	V
Typical thermal resistance junction to ambient	$R_{\theta JA}$	417	°C/W
Operating Temperature	Tj	-65 ~ +150	℃
Storage Temperature	T_{stg}	-65 ~ +150	℃

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Electrical Characteristics （T_A = 25 °C, unless otherwise specified, V_F = 0.9 V Max. @ IF = 10 mA for all types）

Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficent @ IZTC=mV/℃		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR			
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	uA	V	Min	Max	mA
OVZP0152V0D5	Z10	2.0	1.85	2.15	5	150	600	1.0	100	1.0	-3.5	0	5
OVZP0152V4D5	Z11	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
OVZP0152V7D5	Z12	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
OVZP0153V0D5	Z13	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
OVZP0153V3D5	Z14	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
OVZP0153V6D5	Z15	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
OVZP0153V9D5	Z16	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
OVZP0154V3D5	Z17	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
OVZP0154V7D5	Z1	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
OVZP0155V1D5	Z2	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
OVZP0155V6D5	Z3	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
OVZP0156V2D5	Z4	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
OVZP0156V8D5	Z5	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
OVZP0157V5D5	Z6	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
OVZP0158V2D5	Z7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
OVZP0159V1D5	Z8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
OVZP01510VD5	Z9	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
OVZP01511VD5	Y1	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
OVZP01512VD5	Y2	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
OVZP01513VD5	Y3	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
OVZP01515VD5	Y4	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
OVZP01516VD5	Y5	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
OVZP01518VD5	Y6	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
OVZP01520VD5	Y7	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
OVZP01522VD5	Y8	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
OVZP01524VD5	Y9	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
OVZP01527VD5	Y10	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
OVZP01530VD5	Y11	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
OVZP01533VD5	Y12	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
OVZP01536VD5	Y13	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
OVZP01539VD5	Y14	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
OVZP01543VD5	Y15	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
OVZP01547VD5	Y16	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
OVZP01551VD5	Y17	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5

1. Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C.

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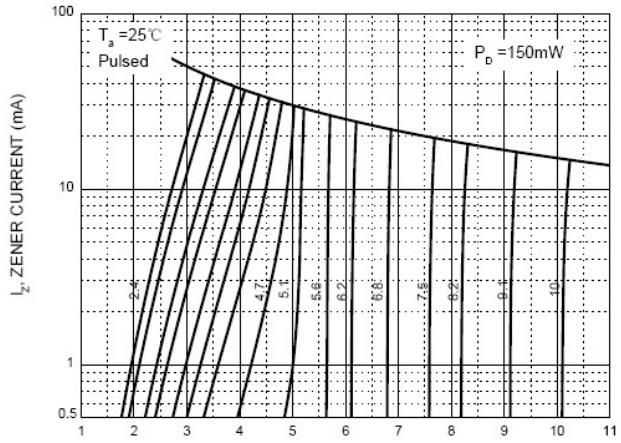
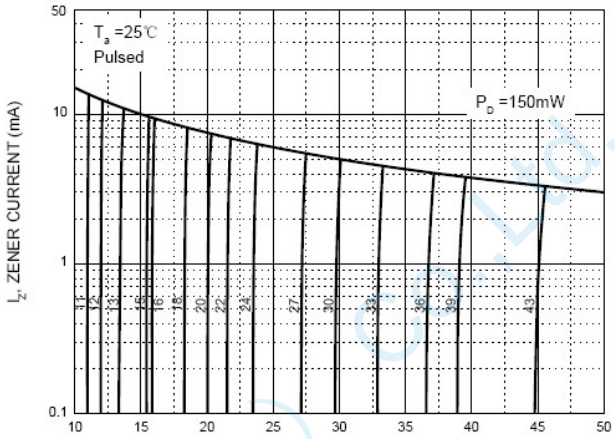
Typical Characteristics （at TA = 25 °C, unless otherwise specified）

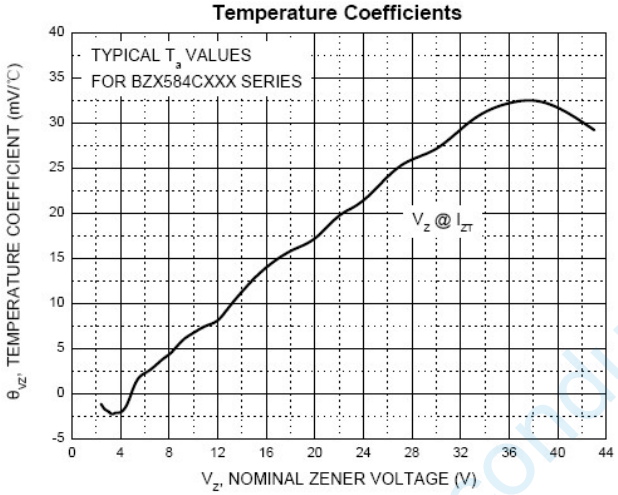
Zener Characteristics (V_Z Up to 10 V)



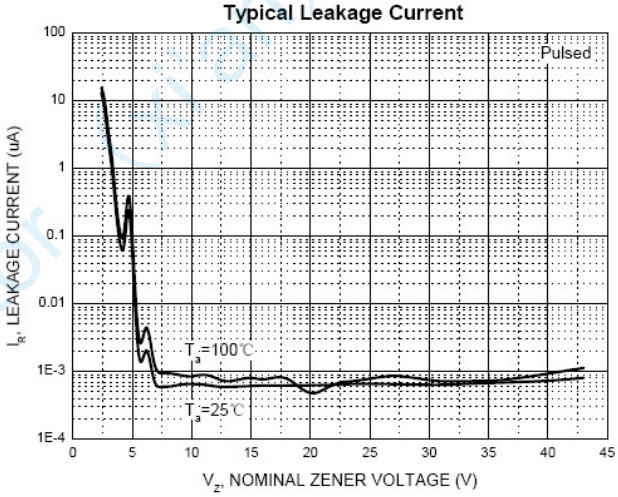
Zener Characteristics (11 V to 43 V)



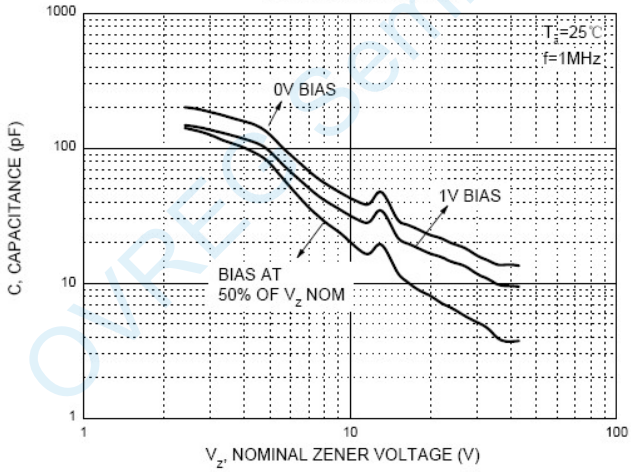
Temperature Coefficients



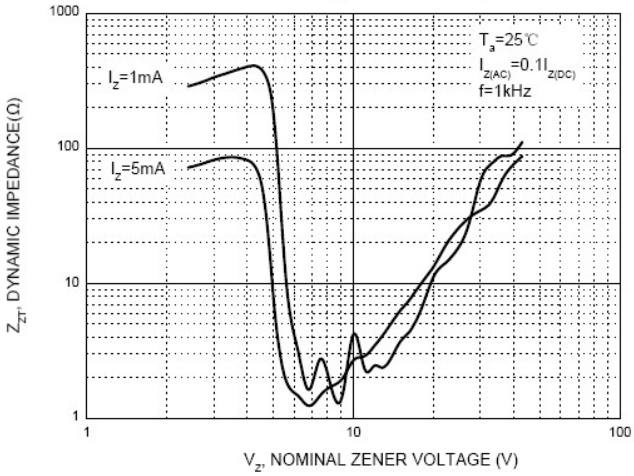
Typical Leakage Current



Typical Capacitance



Effect of Zener Voltage on Zener Impedance



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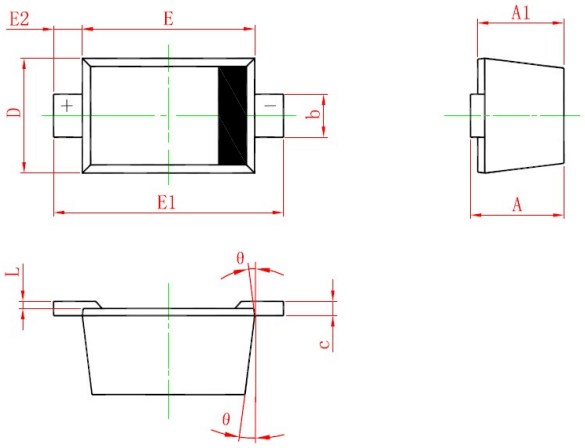
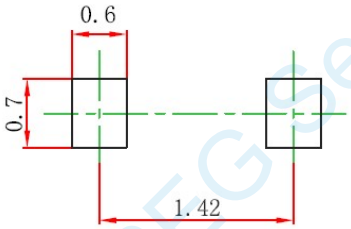
Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

Recommend PCB Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

Marking



XX：Marking Code

Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVZP0152V0D5 Series	GREEN	T/R	7 inch	5k/reel	10reel= 50k/box	4boxes=200k/carton

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