

**SURFACE MOUNT ZENER DIODE**

**REVERSE VOLTAGE – 2.4 to 36 Volts  
POWER DISSIPATION – 0.4 Watts**

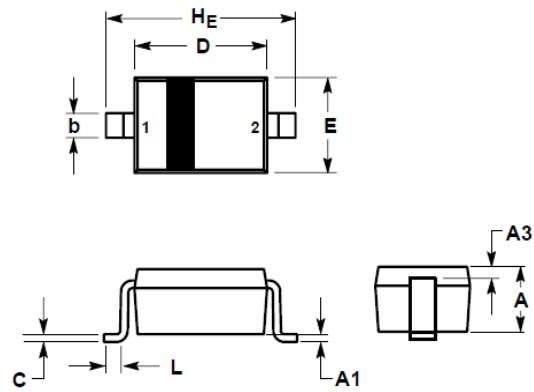
**FEATURES**

- Planar die construction
- 400mW power dissipation rating
- Ultra-small surface mount package

**MECHANICAL DATA**

- Case: SOD-323 plastic
- Case Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Free in RoHS 2002/95/EC Compliant

**SOD-323**



SOD-323		
Dim.	Min.	Max.
A	0.80	1.00
A1	0.00	0.10
A3	0.15 REF	
b	0.25	0.4
C	0.089	0.177
D	1.60	1.80
E	1.15	1.35
L	0.08	--
HE	2.30	2.70
Dimensions in millimeter		

**MAXIMUM RATING @ T<sub>A</sub> = 25°C unless otherwise specified**

PARAMETER	SYMBOL	VALUE	UNIT
Continuous forward current	I <sub>F</sub>	200	mA
Power dissipation (Note 2)	P <sub>D</sub>	400	mW
Operating temperature range	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>STG</sub>	-55~+150	°C

**THERMAL CHARACTERISTICS @ T<sub>A</sub> = 25°C unless otherwise specified**

PARAMETER	SYMBOL	VALUE	UNIT
Typical thermal resistance (Note 1, 2)	R <sub>thJ<sub>S</sub></sub> R <sub>thJ<sub>A</sub></sub>	130 340	°C/W

**DEVICE MARKING @ T<sub>A</sub> = 25°C unless otherwise specified**

DEVICE P/N	MARKING	PIN DIAGRAM	EQUIVALENT CIRCUIT DIAGRAM
UDZSXVXB	XX=Specific device code (See below table)		

**Note:**

1. Thermal resistance junction to soldering point and ambient.
2. Device mounted on a printed-circuit board measuring 11 × 25 × 1.6 mm.

**ELECTRIAL CHARACTERISTIC (Ta = 25°C)**  
**UDZSXVB Series**



Device	Device Marking	Zener Voltage			Operating resistance		Rising operating resistance		Temp. Coeff. Sz(mV/K) @Izt=5mA		Maximum Reverse Current	
		Vz(V)			Zz (Ω)		Zzk (Ω)		Min	Max	IR	VR
		Min	Max	Iz (mA)	Max	Iz (mA)	Max	Iz (mA)			uA	V
UDZS2V4B	22	2.43	2.63	5	100	5	1000	0.5	-3.5	0	100	1
UDZS2V7B	32	2.69	2.91	5	110	5	1000	0.5	-3.5	0	100	1
UDZS3V0B	42	3.01	3.22	5	120	5	1000	0.5	-3.5	0	50	1
UDZS3V3B	52	3.32	3.53	5	120	5	1000	0.5	-3.5	0	20	1
UDZS3V6B	62	3.6	3.845	5	100	5	1000	1	-3.5	0	10	1
UDZS3V9B	72	3.89	4.16	5	100	5	1000	1	-3.5	-2.5	5	1
UDZS4V3B	82	4.17	4.43	5	100	5	1000	1	-3.5	0	5	1
UDZS4V7B	92	4.55	4.75	5	100	5	800	0.5	-3.5	0.2	2	1
UDZS5V1B	A2	4.98	5.2	5	80	5	500	0.5	-2.7	1.2	2	1.5
UDZS5V6B	C2	5.49	5.73	5	60	5	200	0.5	-2	2.5	1	2.5
UDZS6V2B	E2	6.06	6.33	5	60	5	100	0.5	0.4	3.7	1	3
UDZS6V8B	F2	6.65	6.93	5	40	5	60	0.5	1.2	4.5	0.5	3.5
UDZS7V5B	H2	7.28	7.6	5	30	5	60	0.5	2.5	5.3	0.5	4
UDZS8V2B	J2	8.02	8.36	5	30	5	60	0.5	3.2	6.2	0.5	5
UDZS9V1B	L2	8.85	9.23	5	30	5	60	0.5	3.8	7.0	0.5	6
UDZS10B	05	9.77	10.21	5	30	5	60	0.5	4.5	8.0	0.1	7
UDZS11B	15	10.78	11.22	5	30	5	60	0.5	5.4	9.0	0.1	8
UDZS12B	25	11.74	12.24	5	30	5	80	0.5	6.0	10.0	0.1	9
UDZS13B	35	12.91	13.49	5	37	5	80	0.5	7.0	11.0	0.1	10
UDZS15B	45	14.34	14.98	5	42	5	80	0.5	9.2	13.0	0.1	11
UDZS16B	55	15.85	16.51	5	50	5	80	0.5	10.4	14.0	0.1	12
UDZS18B	65	17.56	18.35	5	65	5	80	0.5	12.4	16.0	0.1	13
UDZS20B	75	19.52	20.39	5	85	5	100	0.5	14.4	18.0	0.1	15
UDZS22B	85	21.54	22.47	5	100	5	100	0.5	16.4	20.0	0.1	17
UDZS24B	95	23.72	24.78	5	120	5	120	0.5	18.4	22.0	0.1	19
UDZS27B	A5	26.19	27.53	5	150	5	150	0.5	21.4	25.3	0.1	21
UDZS30B	C5	29.19	30.69	5	200	5	200	0.5	24.4	29.4	0.1	23
UDZS33B	E5	32.15	33.79	5	250	5	250	0.5	27.4	33.4	0.1	25
UDZS36B	F5	35.07	36.87	5	300	5	300	0.5	30.4	37.4	0.1	27

**Note:**

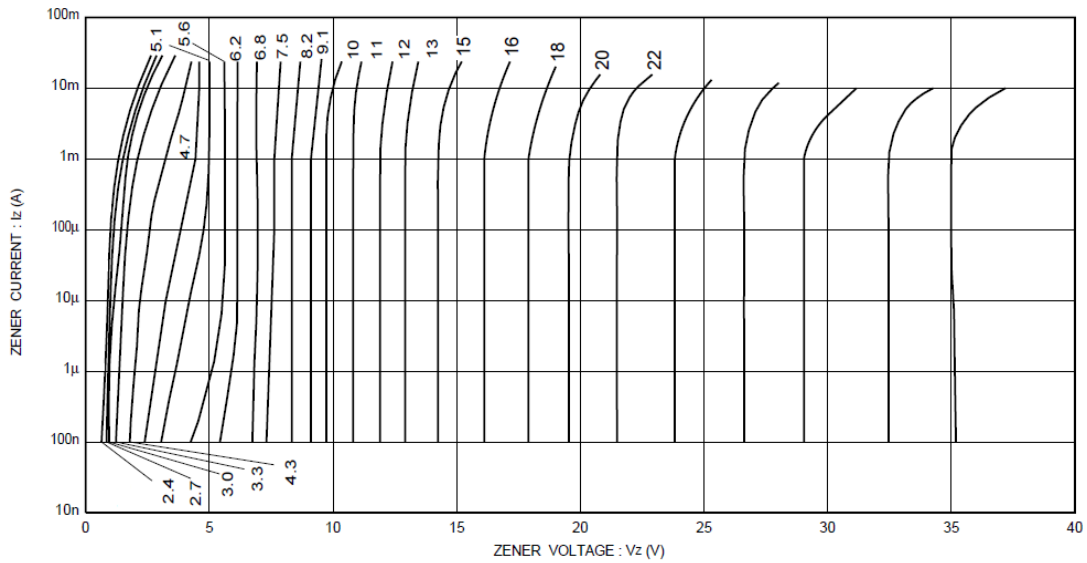
1. The zener voltage (Vz) is measured 40ms after power is supplied.
2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current (Iz).

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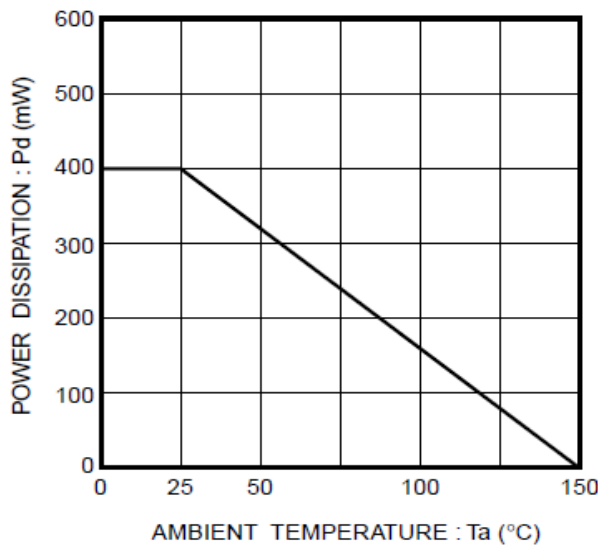
**RATING AND CHARACTERISTIC CURVES ( Ta = 25°C )**  
**UDZSXVB Series**



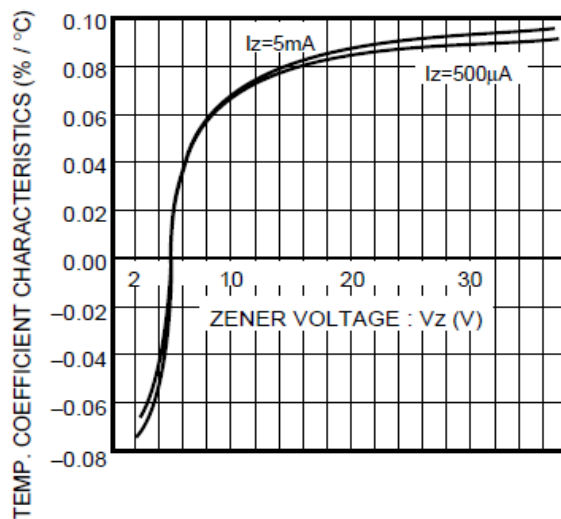
**FIG.1 ZENER VOLTAGE CHARACTERISTICS**



**FIG.2 DERATING CURVE**



**FIG.3 ZENER VOLTAGE TEMP. VS. COEFFICIENT CHARACTERISTICS**



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