Small Signal Zener Diodes

FEATURES

- Silicon planar Zener diodes
- Low Zener impedance and low leakage current
- Popular in Asian designs
- Compact surface mount device
- Ideal for automated mounting
- AEC-Q101 qualified available
- ESD capability according to AEC-Q101:
  human body model > 8 kV
  machine model > 800 V
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

DESIGN SUPPORT TOOLS

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3D Models Available

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
V_Z range nom.	2.0 to 36	V
Test current I_{ZT}	5	mA
V_Z specification	Pulse current	
Circuit configuration	Single	

ORDERING INFORMATION			
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
GDZ-series	GDZ2V0B-E3-08 to GDZ36B-E3-08	3000 (8 mm tape on 7" reel)	15 000/box
	GDZ2V0B-HE3-08 to GDZ36B-HE3-08		
	GDZ2V0B-E3-18 to GDZ36B-E3-18	10 000 (8 mm tape on 13" reel)	10 000/box
	GDZ2V0B-HE3-18 to GDZ36B-HE3-18		

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD-323	4.3 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation		P_{tot}	200	mW
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-55 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE		TEST CURRENT		REVERSE CURRENT		DYNAMIC RESISTANCE	
		V_Z at I_{ZT1}		I_{ZT1}	I_{ZT2}	I_R at V_R		Z_Z at I_{ZT1}	Z_{ZK} at I_{ZT2}
		V		mA		µA	V	Ω	
		MIN.	MAX.			MAX.		MAX.	MAX.
GDZ2V0B	02	2.02	2.2	5	0.5	120	0.5	100	1000
GDZ2V2B	12	2.22	2.41	5	0.5	120	0.7	100	1000
GDZ2V4B	22	2.43	2.63	5	0.5	120	1	100	1000
GDZ2V7B	32	2.69	2.91	5	0.5	100	1	110	1000
GDZ3V0B	42	3.01	3.22	5	0.5	50	1	120	1000
GDZ3V3B	52	3.32	3.53	5	0.5	20	1	120	1000
GDZ3V6B	62	3.6	3.845	5	1	10	1	100	1000
GDZ3V9B	72	3.89	4.16	5	1	5	1	100	1000
GDZ4V3B	82	4.17	4.43	5	1	5	1	100	1000
GDZ4V7B	92	4.55	4.75	5	0.5	2	1	100	800
GDZ5V1B	T1	4.98	5.2	5	0.5	2	1	80	500
GDZ5V6B	T2	5.49	5.73	5	0.5	1	2.5	60	200
GDZ6V2B	T3	6.06	6.33	5	0.5	1	3	60	100
GDZ6V8B	T4	6.65	6.93	5	0.5	0.5	3.5	40	60
GDZ7V5B	T5	7.28	7.6	5	0.5	0.5	4	30	60
GDZ8V2B	T6	8.02	8.36	5	0.5	0.5	5	30	60
GDZ9V1B	T7	8.85	9.23	5	0.5	0.5	6	30	60
GDZ10B	T8	9.77	10.21	5	0.5	0.1	7	30	60
GDZ11B	T9	10.76	11.22	5	0.5	0.1	8	30	60
GDZ12B	TA	11.74	12.24	5	0.5	0.1	9	30	80
GDZ13B	TB	12.91	13.49	5	0.5	0.1	10	37	80
GDZ15B	TC	14.34	14.98	5	0.5	0.1	11	42	80
GDZ16B	TD	15.85	16.51	5	0.5	0.1	12	50	80
GDZ18B	TE	17.56	18.35	5	0.5	0.1	13	65	80
GDZ20B	TH	19.52	20.39	5	0.5	0.1	15	85	100
GDZ22B	TK	21.54	22.47	5	0.5	0.1	17	100	100
GDZ24B	TL	23.72	24.78	5	0.5	0.1	19	120	120
GDZ27B	TM	26.19	27.53	5	0.5	0.1	21	150	150
GDZ30B	TN	29.19	30.69	5	0.5	0.1	23	200	200
GDZ33B	TP	32.15	33.79	5	0.5	0.1	25	250	250
GDZ36B	TT	35.07	36.87	5	0.5	0.1	27	300	300

Notes

- The Zener voltage V_Z is measured 40 ms after power is supplied
- The operating resistance (Z_Z, Z_{ZK}) are measured by superimposing a 1 kHz alternating current on the regulated current (I_Z).

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

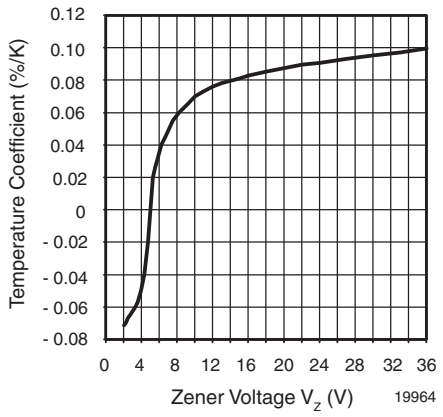
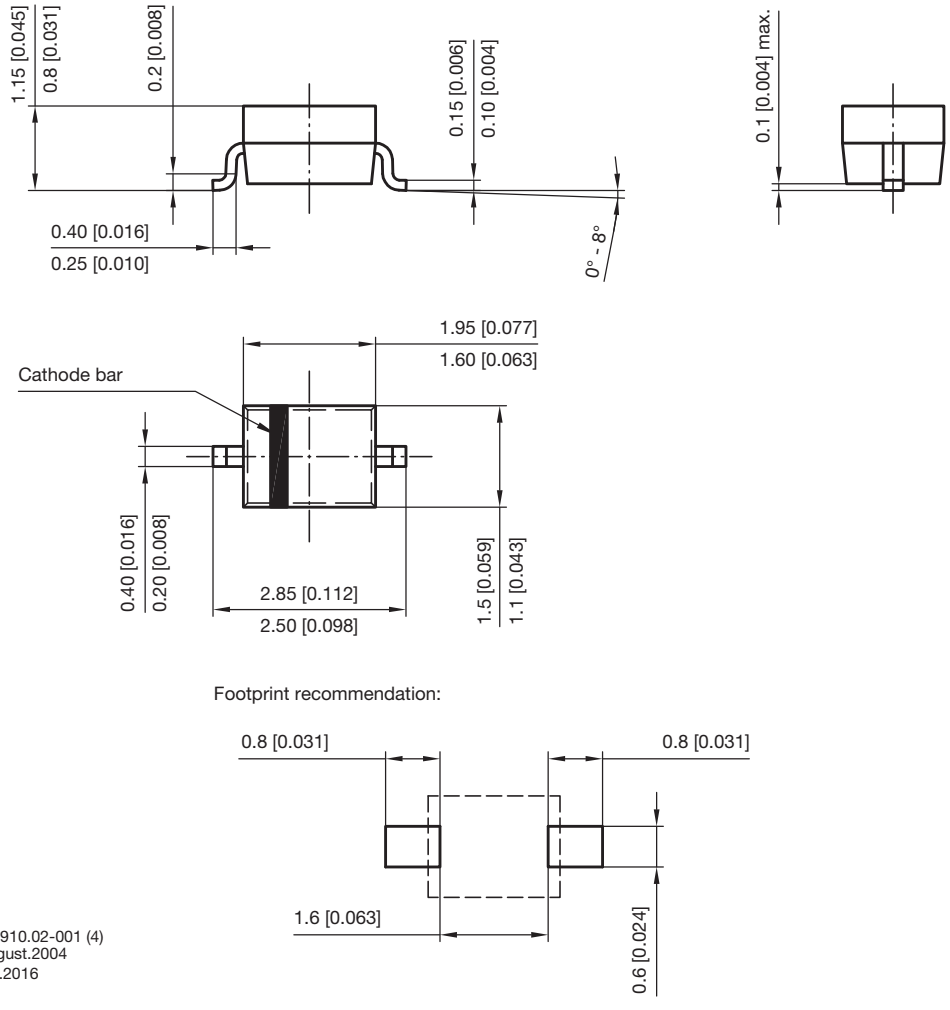


Fig. 1 - Zener Voltage Temperature Coefficient vs. Zener Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-323



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