

DFN1006-2L SURFACE MOUNT SILICON ZENER DIODES

Features

- Low Zener Impedance
- Power Dissipation of 250mW
- Planar Die construction
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

Mechanical Data

- Case: DFN-1006-2L
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

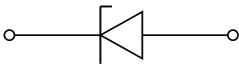
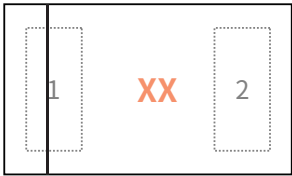
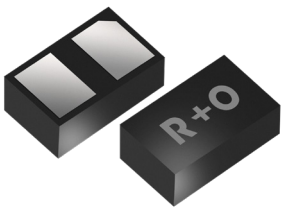
Zener Diode

2.4 to 75 Volts

Power Dissipation

250 Milliwatts

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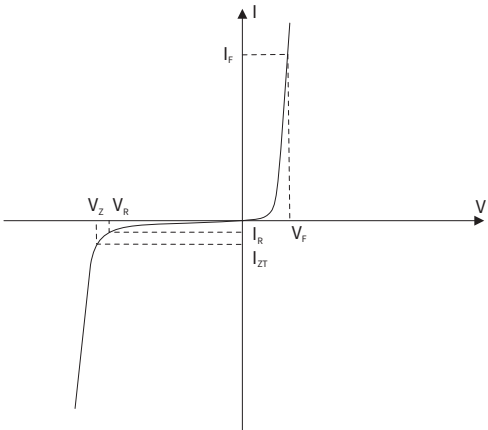


Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	P _D	mW	250
Forward Voltage @ I _F =10mA	V _F	V	0.9
Storage Temperature	T _{stg}	°C	-55 ~+150
Junction Temperature	T _J	°C	-55 ~+150
Typical Thermal Resistance	R _{θJA}	°C /W	417

Electrical Parameter

SYMBOL	PARAMETER
V _Z	Reverse zener voltage @ I _{ZT}
I _{ZT}	Reverse current
Z _{ZT}	Maximum Zener Impedance @ I _{ZT}
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ I _{ZK}
I _R	Reverse leakage current @ V _R
V _R	Reverse voltage
I _F	Forward current
V _F	Forward voltage @ I _F



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SURFACE MOUNT ZENER DIODES

Electrical Characteristics (Ta=25°C Unless otherwise noted)

Type Number	Marking	Nominal Zener Voltage				Zener Impedance			Leakage Current	
		V _Z (V)			I _{ZT}	Z _{1T} @I _{1T}	Z _{1K} @I _{1K}	I _{1K}	I _R @V _R	
		Min.	Nom.	Max.	(mA)	(Ω)		(mA)	I _R (μA)	V _R (V)
BZX884B2V4	A1	2.35	2.4	2.45	5.0	100	400	1.0	50	1.0
BZX884B2V7	A2	2.65	2.7	2.75	5.0	100	450	1.0	20	1.0
BZX884B3V0	A3	2.94	3.0	3.06	5.0	95	500	1.0	10	1.0
BZX884B3V3	A4	3.23	3.3	3.37	5.0	95	500	1.0	5.0	1.0
BZX884B3V6	A5	3.53	3.6	3.67	5.0	90	500	1.0	5.0	1.0
BZX884B3V9	A6	3.82	3.9	3.98	5.0	90	500	1.0	3.0	1.0
BZX884B4V3	A7	4.21	4.3	4.39	5.0	90	600	1.0	3.0	1.0
BZX884B4V7	A8	4.61	4.7	4.79	5.0	80	500	1.0	3.0	2.0
BZX884B5V1	A9	5.00	5.1	5.20	5.0	60	480	1.0	2.0	2.0
BZX884B5V6	AA	5.49	5.6	5.71	5.0	40	400	1.0	1.0	2.0
BZX884B6V2	AB	6.08	6.2	6.32	5.0	10	150	1.0	3.0	4.0
BZX884B6V8	AC	6.66	6.8	6.94	5.0	15	80	1.0	2.0	4.0
BZX884B7V5	AD	7.35	7.5	7.65	5.0	15	80	1.0	1.0	5.0
BZX884B8V2	AE	8.04	8.2	8.36	5.0	15	80	1.0	0.7	5.0
BZX884B9V1	AF	8.92	9.1	9.28	5.0	15	100	1.0	0.5	6.0
BZX884B10	AG	9.80	10	10.20	5.0	20	150	1.0	0.2	7.0
BZX884B11	AH	10.78	11	11.22	5.0	20	150	1.0	0.1	8.0
BZX884B12	AJ	11.76	12	12.24	5.0	25	150	1.0	0.1	8.0
BZX884B13	AK	12.74	13	13.26	5.0	30	170	1.0	0.1	8.0
BZX884B15	AL	14.70	15	15.30	5.0	30	200	1.0	0.05	10.5
BZX884B16	C1	15.68	16	16.32	5.0	40	200	1.0	0.05	11.2
BZX884B18	C2	17.64	18	18.36	5.0	45	225	1.0	0.05	12.6
BZX884B20	C3	19.60	20	20.40	5.0	55	225	1.0	0.05	14.0
BZX884B22	C4	21.56	22	22.44	5.0	55	250	1.0	0.05	15.4
BZX884B24	C5	23.52	24	24.48	5.0	70	250	1.0	0.05	16.8
BZX884B27	C6	26.46	27	27.54	2.0	80	300	0.5	0.05	18.9
BZX884B30	C7	29.40	30	30.60	2.0	80	300	0.5	0.05	21.0
BZX884B33	C8	32.34	33	33.66	2.0	80	325	0.5	0.05	23.1
BZX884B36	C9	35.28	36	36.72	2.0	90	350	0.5	0.05	25.2
BZX884B39	CA	38.22	39	39.78	2.0	130	350	0.5	0.05	27.3
BZX884B43	CB	42.14	43	43.86	2.0	150	375	0.5	0.05	30.1
BZX884B47	CC	45.83	47	48.17	2.0	170	375	0.5	0.05	32.9
BZX884B51	CD	49.73	51	52.27	2.0	180	400	0.5	0.05	35.7
BZX884B56	CE	54.60	56	57.40	2.0	200	425	0.5	0.05	39.2
BZX884B62	CF	60.45	62	63.55	2.0	215	450	0.5	0.05	43.4
BZX884B68	CG	66.30	68	69.70	2.0	240	475	0.5	0.05	47.6
BZX884B75	CH	73.13	75	76.87	2.0	255	500	0.5	0.05	52.5

Notes:
1. Valid provided that device terminals are kept at ambient temperature.
2. Pulse width = 10ms.
3. f=1kHz.

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SURFACE MOUNT ZENER DIODES

● Ratings And Characteristics Curves ($T_a=25^\circ\text{C}$ Unless otherwise specified)

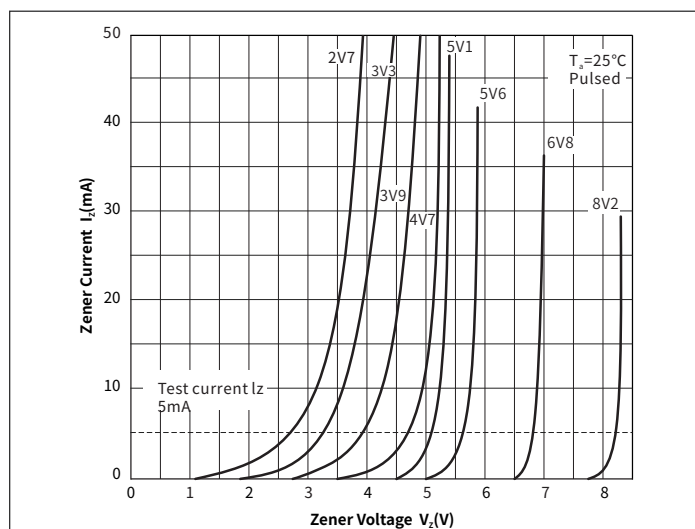


Fig. 1 Zener Breakdown Characteristic

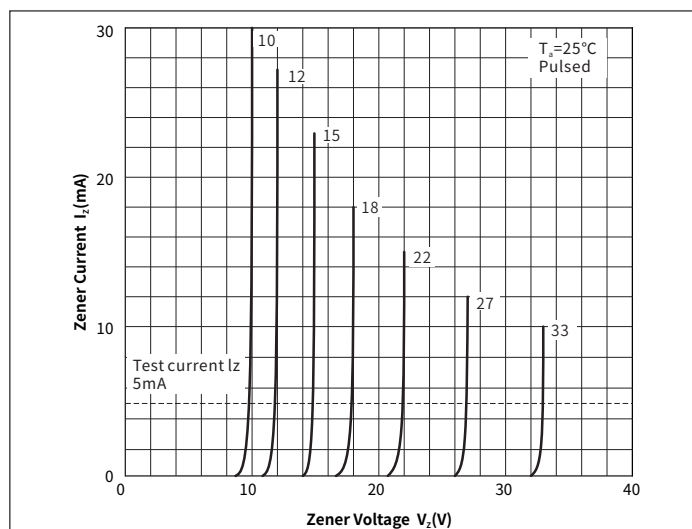


Fig. 2 Zener Breakdown Characteristic

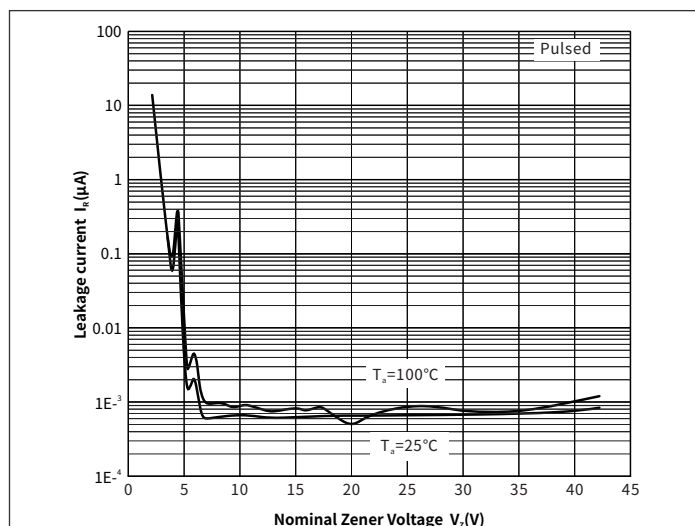


Fig. 3 Typical Leakage Current

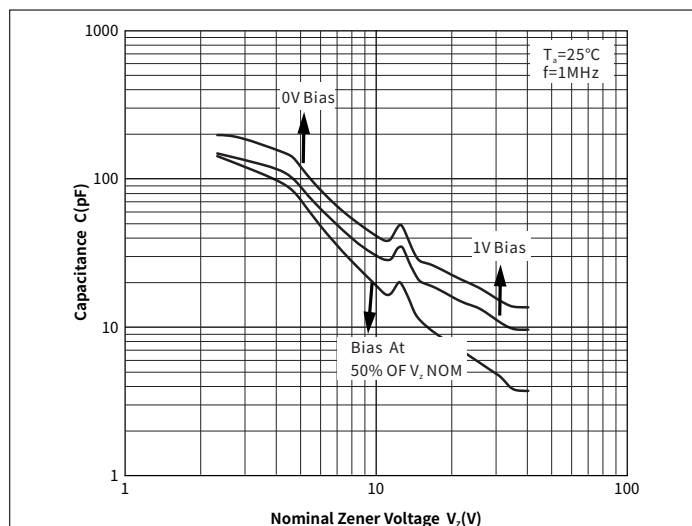


Fig. 4 Typical Capacitance

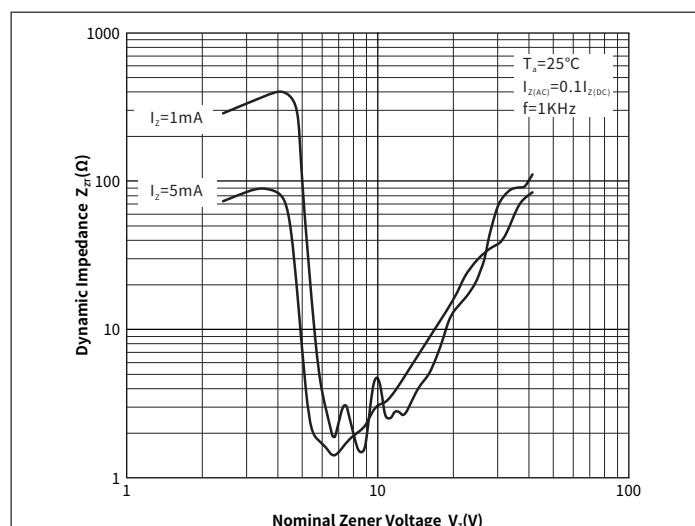


Fig. 5 Effect of Zener Voltage on Zener Impedance

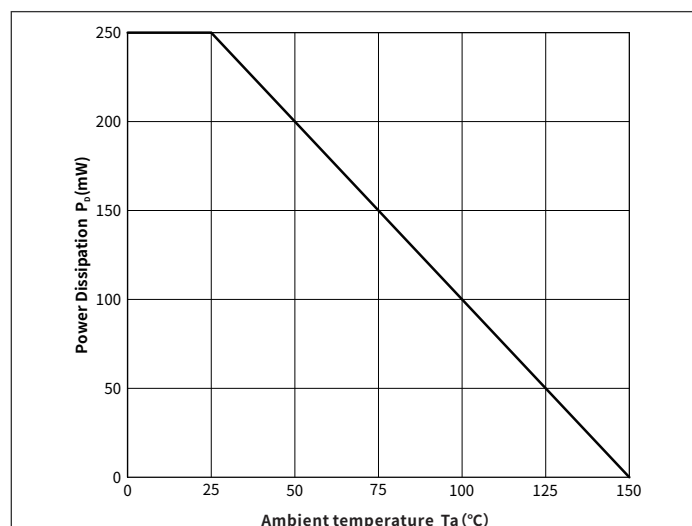


Fig. 6 Power Derating Curve

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SURFACE MOUNT ZENER DIODES

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
DFN1006	R1	0.0011	10000	50000	600000	7"

● Package Outline Dimensions (DFN1006-2L)

Symbol	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.950	1.050	0.037	0.041
B	0.550	0.650	0.022	0.026
C	0.350	0.450	0.014	0.018
D	0.550	0.650	0.022	0.026
D ₁	0.280	0.380	0.011	0.015
E	0.450	0.550	0.018	0.022
L	0.000	0.100	0.000	0.004

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
J	0.50	0.60	0.020	0.024
K	0.25	0.35	0.010	0.014
M	0.55	0.65	0.022	0.026