Zener Diode

Features:

- High reliability.
- Very sharp reverse characteristic.
- Low reverse current level.
- V_Z-tolerance ±5%.

Application:

Voltage stabilization.

Absolute Maximum Ratings T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Power dissipation	$T_{amb} \leq 50°C$	P_v	1	W
Z-current	-	I_z	P_v / V_z	mA
Junction temperature	-	T_j	200	°C
Storage temperature range	-	T_{stg}	-65 to +175	

Maximum Thermal Resistance T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	I = 9.5 mm (3/8") T_L = constant	R_{thJA}	100	K/W

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

Electrical Characteristics T_j = 25°C

Parameter	Test Conditions	Symbol	Maximum	Unit
Forward voltage	I_F = 200 mA	V_F	1.2	V

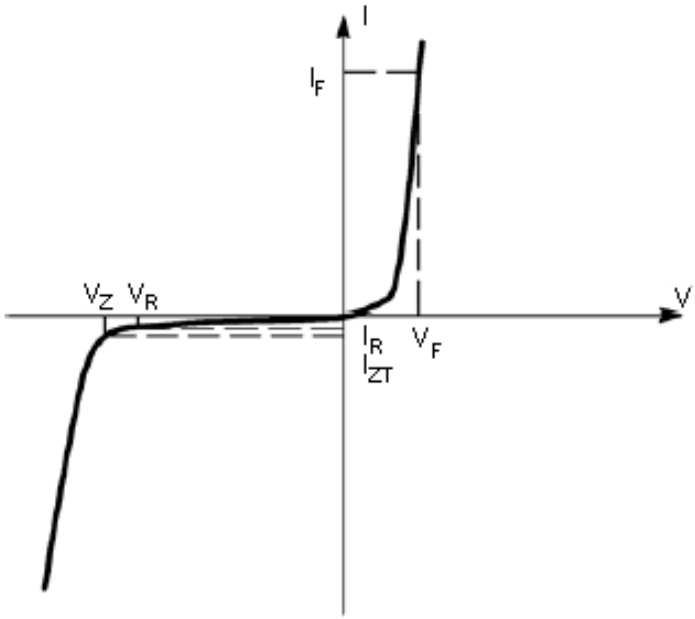
Specification Table

V_{Znom} [1]	I_{ZT} for r_{ziT}		r_{ziK} at I_{ZK}		I_R at V_R		Part Number
V	mA	Ω	Ω	mA	µA	V	
3.3	76	< 10	< 400	1	< 100	1	1N4728A
3.6	69	< 10	< 400	1	< 100	1	1N4729A
3.9	64	< 9	< 400	1	< 50	1	1N4730A
4.7	53	< 8	< 500	1	< 10	1	1N4732A
5.1	49	< 7	< 550	1	< 10	1	1N4733A
5.6	45	< 5	< 600	1	< 10	2	1N4734A
6.2	41	< 2	< 700	1	< 10	3	1N4735A
6.8	37	< 3.5	< 700	1	< 10	4	1N4736A
7.5	34	< 4	< 700	0.5	< 10	5	1N4737A
8.2	31	< 4.5	< 700	0.5	< 10	6	1N4738A
9.1	28	< 5	< 700	0.5	< 10	7	1N4739A
10	25	< 7	< 700	0.25	< 10	7.6	1N4740A
11	23	< 8	< 700	0.25	< 5	8.4	1N4741A
12	21	< 9	< 700	0.25	< 5	9.1	1N4742A
13	19	< 10	< 700	0.25	< 5	9.9	1N4743A
15	17	< 14	< 700	0.25	< 5	11.4	1N4744A
16	15.5	< 16	< 700	0.25	< 5	12.2	1N4745A
18	14	< 20	< 750	0.25	< 5	13.7	1N4746A
20	12.5	< 22	< 750	0.25	< 5	15.2	1N4747A
22	11.5	< 23	< 750	0.25	< 5	16.7	1N4748A
24	10.5	< 25	< 750	0.25	< 5	18.2	1N4749A
27	9.5	< 35	< 750	0.25	< 5	20.6	1N4750A
30	8.5	< 40	< 1000	0.25	< 5	22.8	1N4751A
33	7.5	< 45	< 1000	0.25	< 5	25.1	1N4752A
36	7	< 50	< 1000	0.25	< 5	27.4	1N4753A
39	6.5	< 60	< 1000	0.25	< 5	29.7	1N4754A
43	6	< 70	< 1500	0.25	< 5	32.7	1N4755A
47	5.5	< 80	< 1500	0.25	< 5	35.8	1N4756A
51	5	< 95	< 1500	0.25	< 5	38.8	1N4757A
56	4.5	< 110	< 2000	0.25	< 5	42.6	1N4758A
62	4	< 125	< 2000	0.25	< 5	47.1	1N4759A
68	3.7	< 150	< 2000	0.25	< 5	51.7	1N4760A
75	3.3	< 175	< 2000	0.25	< 5	56	1N4761A

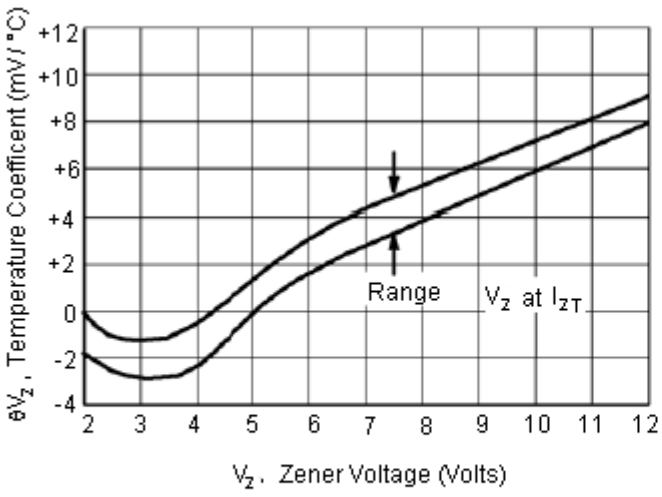
[1] Based on DC-measurement at thermal equilibrium while maintaining the lead temperature (T_L) at 30°C, 9.5 mm (3/8”) from the diode body.

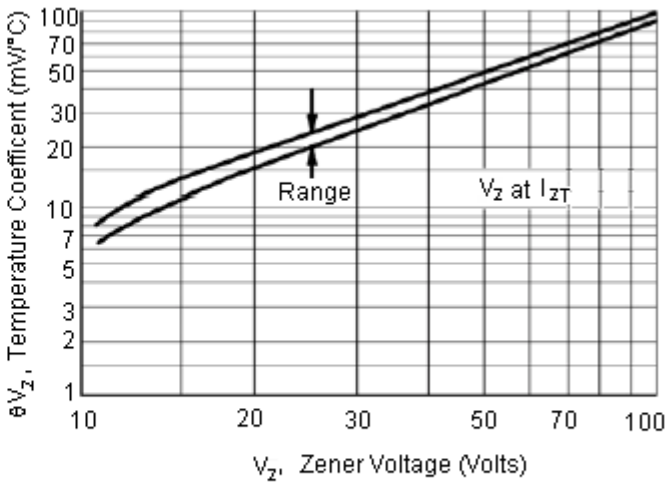
Characteristics (T_j = 25°C unless otherwise specified)

Symbol	Parameter
V_Z	Reverse zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
V_R	Breakdown voltage
I_F	Forward current
V_F	Forward voltage at I_F



Zener Voltage Regulator

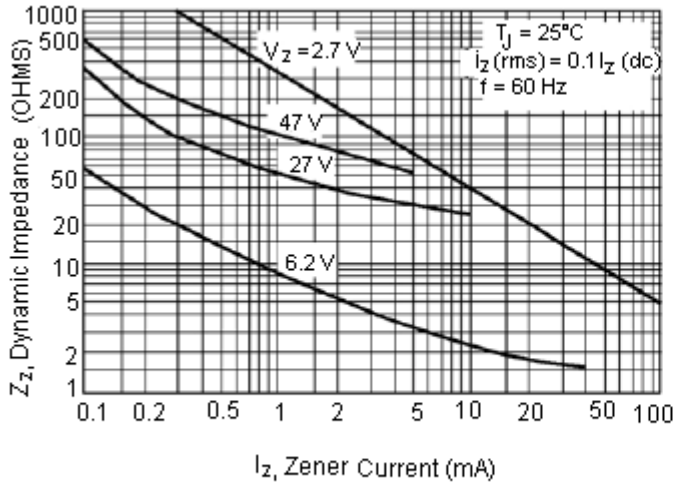




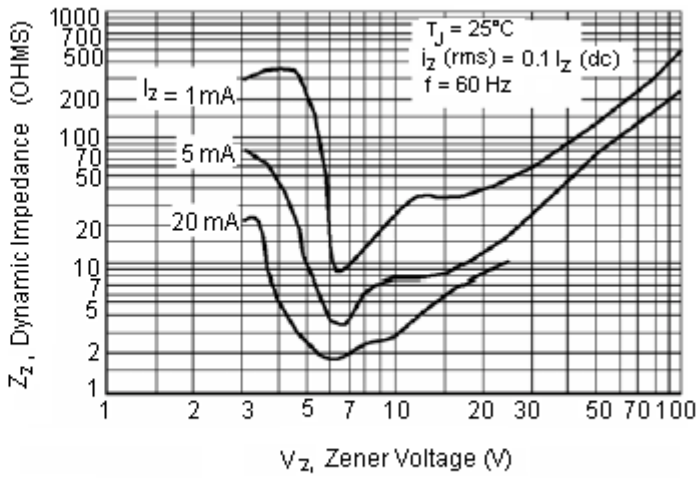
Temperature Coefficients

(-55°C to +150°C temperature range; 90% of the units are in the ranges indicated)

Characteristics (T_j = 25°C unless otherwise specified)

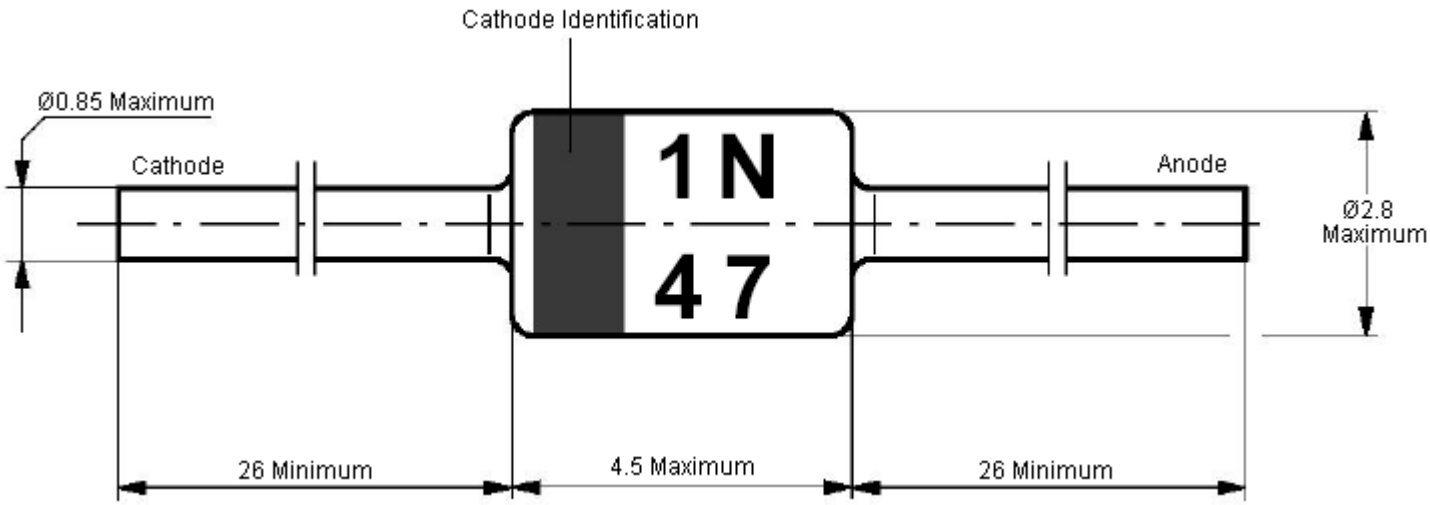


Effect of Zener Current on Zener Impedance



Effect of Zener Voltage on Zener Impedance

Dimensions



Standard Glass case
JEDEC DO-41

Dimensions: Millimetres