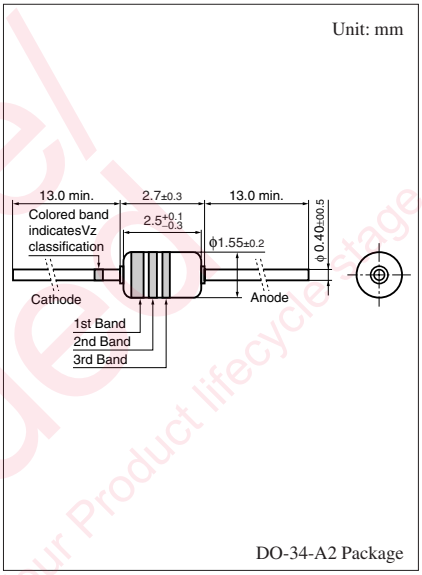
MAZ4xxxN Series (MA4xxx(N) Series)

Silicon planar type

For stabilization of power supply



DO-34-A2 Package

■ Features

- Extremely low noise voltage caused from diode (1/3 to 1/10 of our conventional MAZ4xxx series)
- Extremely good rising performance (in the low-current range)
- Easy-to-identify the zener-voltage rank by the color bands
- Easy-to-select the optimum diode because of their finely divided zener-voltage ranks
- Easy-to-mount through the adoption of the small glass-sealed DHD package (DO-34-A2)

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Forward current (Average)	$I_{F(AV)}$	250	mA
Repetitive peak forward current	I_{FRM}	250	mA
Power dissipation *	P_D	400	mW
Junction temperature	T_j	200	°C
Storage temperature	T_{stg}	−65 to +200	°C

Note) *: P_D = 400 mW achieved with a printed circuit board

■ Common Electrical Characteristics $T_a = 25°C \pm 3°C$ *1

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 10 mA		0.83	0.90	V
Zener voltage *2	V_Z	I_Z Specified value	Refer to the list of the electrical characteristics within part numbers			V
Zener rise operating resistance	R_{ZK}	I_Z Specified value				Ω
Zener operating resistance	R_Z	I_Z Specified value				Ω
Reverse current	I_R	V_R Specified value				μA
Temperature coefficient of zener voltage *3	S_Z	I_Z Specified value				mV/°C

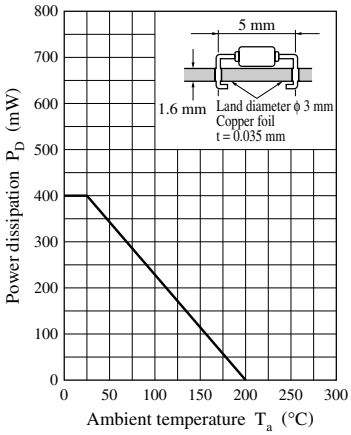
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.
2. Absolute frequency of input and output is 50 MHz.
3. *1: The temperature must be controlled 25°C for V_Z mesurement.
V_Z value measured at other temperature must be adjusted to V_Z (25°C)
*2: V_Z guaranteed 20 ms after current flow.
*3: T_j = 25°C to 150°C

Note) The part number in the parenthesis shows conventional part number.

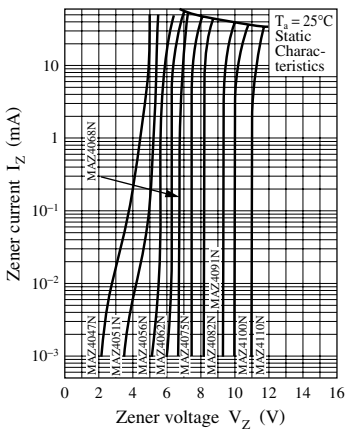
■ Electrical Characteristics within Part Numbers $T_a = 25°C \pm 3°C$

Part number	Zener voltage V_Z (V) I_Z = 5 mA			Reverse current I_R		Zener operating resistance R_Z		Zener rise operating resistance R_{ZK}		Temperature coefficient of zener voltage S_Z		Marking symbol (Color indication Main body: Light purple)		
	Min	Nom	Max	(μA) Max	V_R (V)	(Ω) Max	I_Z (mA)	(Ω) Max	I_Z (mA)	(mV/°C) Typ	I_Z (mA)	1st.	2nd.	3rd.
MAZ4047N	4.42	4.66	4.90	2.0	1.0	80	5	800	0.5	−1.4	5	Yellow	Purple	Purple
MAZ4051N	4.84	5.11	5.38	1.0	2.0	60	5	500	0.5	− 0.8	5	Green	Brown	Brown
MAZ4056N	5.32	5.62	5.92	0.5	2.5	40	5	200	0.5	1.2	5	Green	Blue	Blue
MAZ4062N	5.86	6.20	6.53	0.2	4.0	30	5	100	0.5	2.3	5	Blue	Red	Red
MAZ4068N	6.47	6.81	7.14	0.1	4.0	20	5	60	0.5	3.0	5	Blue	Gray	Gray
MAZ4075N	7.07	7.45	7.83	0.1	5.0	20	5	60	0.5	4.0	5	Purple	Green	Green
MAZ4082N	7.77	8.20	8.63	0.1	5.0	20	5	60	0.5	4.6	5	Gray	Red	Red
MAZ4091N	8.57	9.05	9.53	0.1	6.0	20	5	60	0.5	5.5	5	White	Brown	Brown
MAZ4100N	9.47	10.01	10.54	0.05	7.0	30	5	60	0.5	6.4	5	Brown	Black	—
MAZ4110N	10.45	11.01	11.56	0.05	8.0	30	5	60	0.5	7.4	5	Brown	Brown	—
MAZ4120N	11.43	12.01	12.58	0.05	9.0	30	5	80	0.5	8.4	5	Brown	Red	—
MAZ4130N	12.46	13.21	13.96	0.05	10.0	35	5	80	0.5	9.4	5	Brown	Orange	—
MAZ4150N	13.84	14.68	15.51	0.05	11.0	40	5	80	0.5	11.4	5	Brown	Green	—
MAZ4160N	15.38	16.23	17.08	0.05	12.0	50	5	80	0.5	12.4	5	Brown	Blue	—
MAZ4180N	16.94	17.98	19.02	0.05	13.0	60	5	80	0.5	14.4	5	Brown	Gray	—
MAZ4200N	18.88	19.98	21.08	0.05	15.0	80	5	100	0.5	16.4	5	Red	Black	—
MAZ4220N	20.89	22.02	23.15	0.05	17.0	80	5	100	0.5	18.4	5	Red	Red	—
MAZ4240N	22.93	24.25	25.57	0.05	19.0	100	5	120	0.5	20.4	5	Red	Yellow	—
MAZ4270N	25.20	26.91	28.61	0.05	21.0	120	5	120	0.5	23.4	5	Red	Purple	—
MAZ4300N	28.22	29.98	31.74	0.05	23.0	160	5	160	0.5	26.6	5	Orange	Black	—
MAZ4330N	31.18	33.01	34.83	0.05	25.0	200	5	200	0.5	29.7	5	Orange	Orange	—
MAZ4360N	34.12	36.02	37.91	0.05	27.0	250	5	250	0.5	33.0	5	Orange	Blue	—
MAZ4390N	37.04	39.02	40.99	0.05	30.0	300	5	300	0.5	35.6	5	Orange	White	—

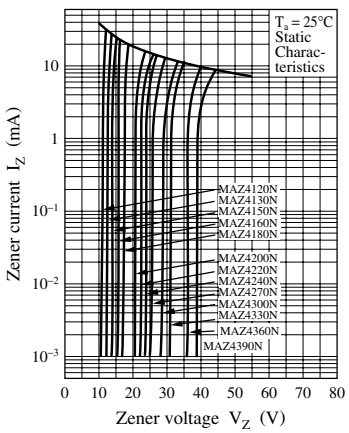
P_D — T_a



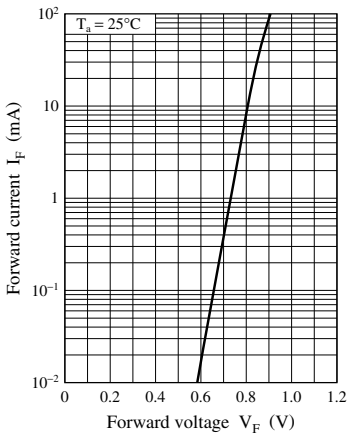
I_Z — V_Z



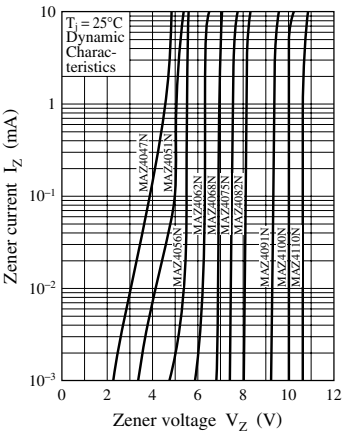
I_Z — V_Z



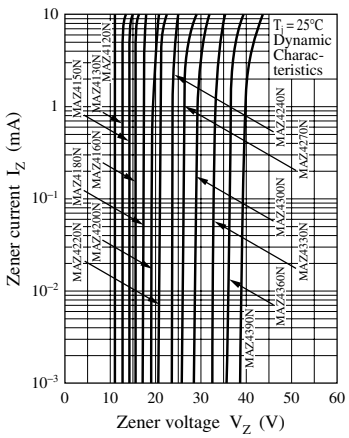
I_F — V_F



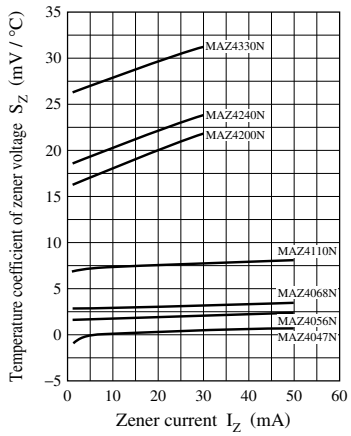
I_Z — V_Z



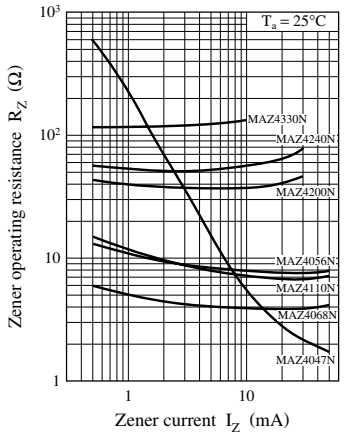
I_Z — V_Z

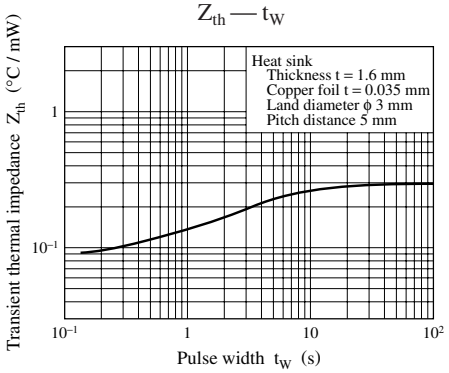


S_Z — I_Z

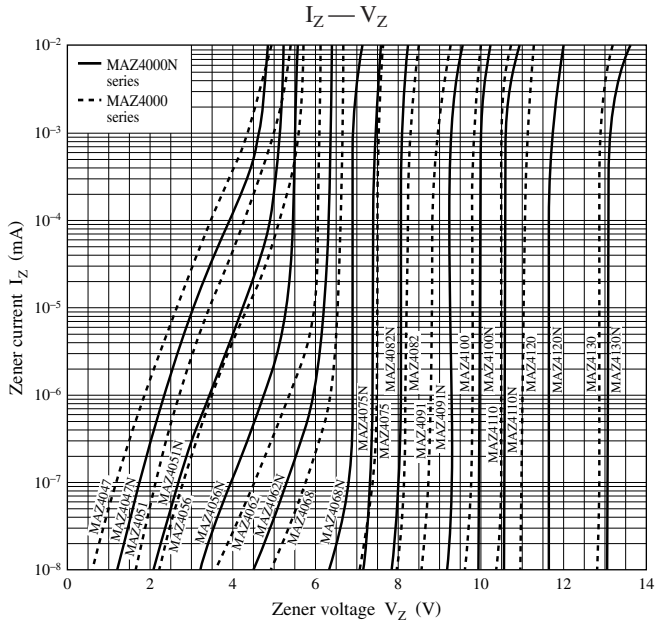


R_Z — I_Z

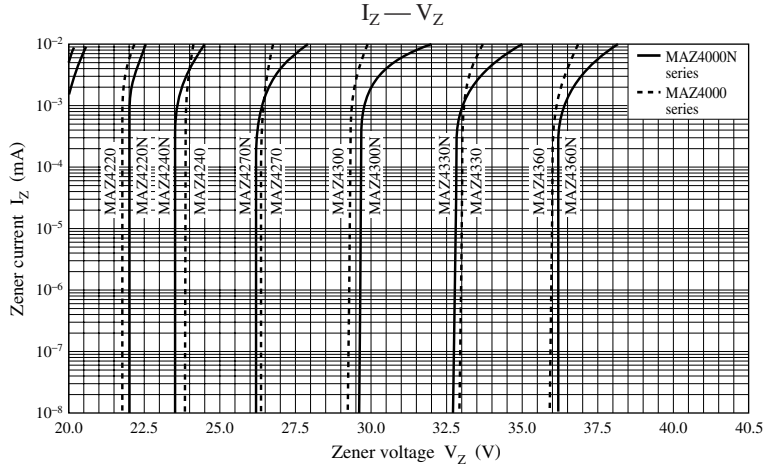




• Comparison (1) of rise performance between MAZ4xxxN and MAZ4xxx series



• Comparison (2) of rise performance between MAZ4xxxN and MAZ4xxx series



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