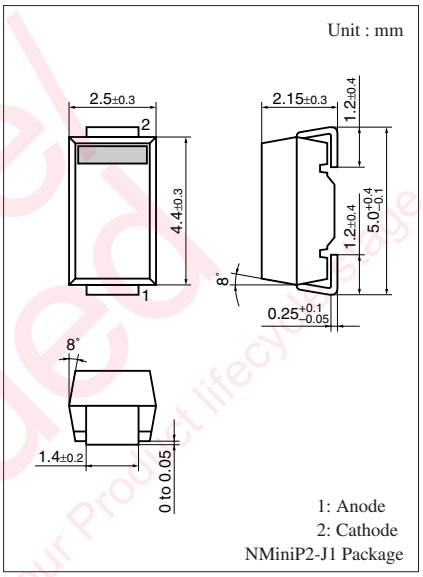
MAZYxxx Series (MA1Zxxx Series)

Silicon planar type

For stabilization of power supply



■ Features

- Large power dissipation P_D : 1 W
- Zener voltage V_Z: 4.7 V to 51 V
- Zener voltage allowable deviation: 10%
- Auto mounting possible

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Repetitive peak forward current	I_{FRM}	500	mA
Power dissipation *1	P_D	1.0	W
Non-repetitive reverse surge power dissipation *2	P_{ZSM}	100	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−40 to +150	°C

Note) ∗1: P_D = 1.0 W achieved with a printed circuit board (alumina)
t = 50 µs for the product of $V_Z \leq 6.8$ V
∗2: t = 100 µs, T_j = 150°C

Marking Symbol
Refer to the list of the electrical characteristics within part numbers
(Example) MAZY047: 4.7

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 200 mA			1.2	V
Zener voltage *2	V_Z	I_Z Specified value	Refer to the list of the electrical characteristics within part numbers			V
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

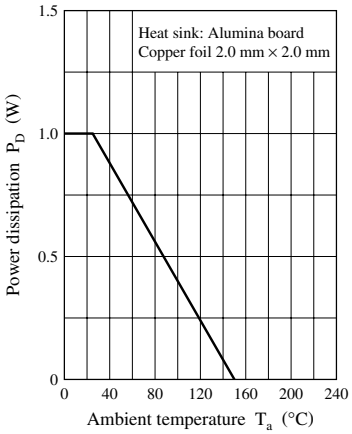
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.
2. Absolute frequency of input and output is 5 MHz.
3. ∗1: The temperature must be controlled 25°C for V_Z mesurement.
V_Z value measured at other temperature must be adjusted to V_Z (25°C)
∗2: 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.

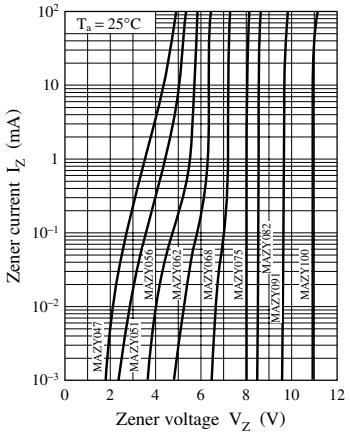
■ Electrical Characteristics within Part Numbers $T_a = 25°C \pm 3°C$

Part number	Zener voltage V_Z (V)				Reverse current I_R (μA)		Zener operating resistance R_Z (Ω)		Temperature coefficient of zener voltage S_Z (mV/°C)		Marking symbol
	Min	Nom	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)	Typ	I_Z (mA)	
MAZY047	4.4	4.7	5.0	20	40	1.0	60	20	0	20	4.7
MAZY051	4.8	5.1	5.4	20	20	1.0	50	20	0	20	5.1
MAZY056	5.2	5.6	6.0	20	20	2.0	40	20	1.5	20	5.6
MAZY062	5.6	6.2	6.8	10	20	3.0	30	10	2.4	10	6.2
MAZY068	6.2	6.8	7.4	10	10	3.0	30	10	3.1	10	6.8
MAZY075	6.8	7.5	8.3	10	10	3.0	30	10	3.8	10	7.5
MAZY082	7.4	8.2	9.1	10	10	4.0	30	10	4.5	10	8.2
MAZY091	8.2	9.1	10.1	10	10	5.0	30	10	5.4	10	9.1
MAZY100	9.0	10.0	11.0	10	10	7.0	30	10	6.3	10	10
MAZY110	9.9	11.0	12.1	10	10	7.0	30	10	7.4	10	11
MAZY120	10.8	12.0	13.2	10	10	8.0	30	10	8.4	10	12
MAZY130	11.7	13.0	14.3	10	10	9.0	30	10	9.4	10	13
MAZY150	13.5	15.0	16.5	10	10	10.0	30	10	11.4	10	15
MAZY160	14.4	16.0	17.6	10	10	11.0	30	10	12.5	10	16
MAZY180	16.2	18.0	19.8	10	10	13.0	30	10	14.5	10	18
MAZY200	18.0	20.0	22.0	10	10	14.0	30	10	16.6	10	20
MAZY220	19.8	22.0	24.2	10	10	16.0	30	10	18.6	10	22
MAZY240	21.6	24.0	26.4	10	10	17.0	30	10	20.7	10	24
MAZY270	24.3	27.0	29.7	10	10	19.0	30	10	23.8	10	27
MAZY300	27.0	30.0	33.0	10	10	21.0	30	10	26.9	10	30
MAZY330	29.7	33.0	36.3	10	10	26.4	30	10	30.0	10	33
MAZY360	32.4	36.0	39.6	5	10	28.8	30	5	33.4	5	36
MAZY390	35.1	39.0	42.9	5	10	31.8	65	5	36.3	5	39
MAZY430	38.7	43.0	47.3	5	10	35.8	65	5	41.1	5	43
MAZY470	42.3	47.0	51.7	5	10	37.6	65	5	44.9	5	47
MAZY510	45.9	51.0	56.1	5	10	40.8	65	5	48.6	5	51

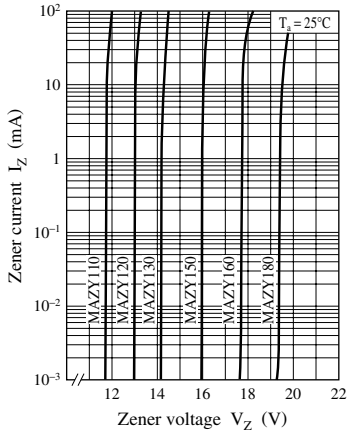
P_D — T_a



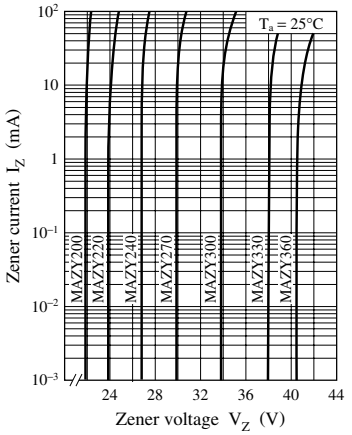
I_Z — V_Z



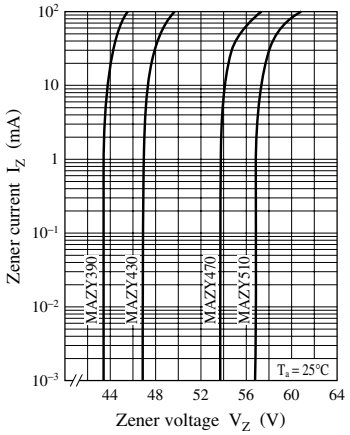
I_Z — V_Z



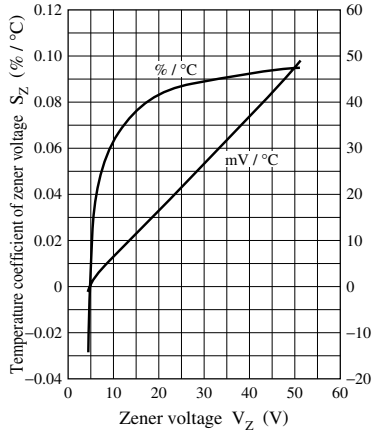
I_Z — V_Z



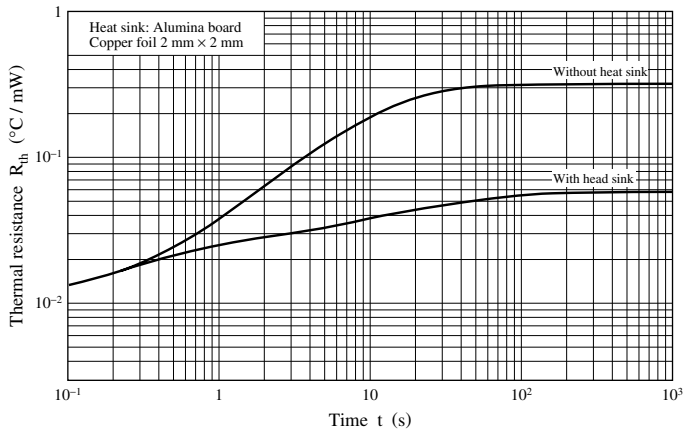
I_Z — V_Z



S_Z — V_Z



R_{th} — t



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