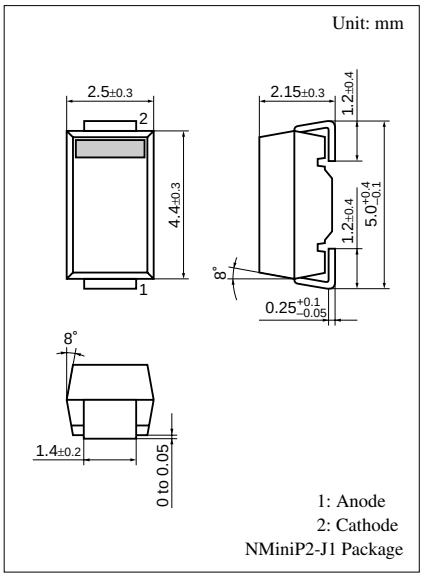
MAZY000 Series (MA1Z000 Series)

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



Marking Symbol

Refer to the list of the electrical characteristics within part numbers

(Example) MAZY047 : 4.7

■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Repetitive peak forward current	I_{FRM}	500	mA
Total power dissipation *1	P_{tot}	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_{tot} = 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

■ Common Electrical Characteristics T_a = 25°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

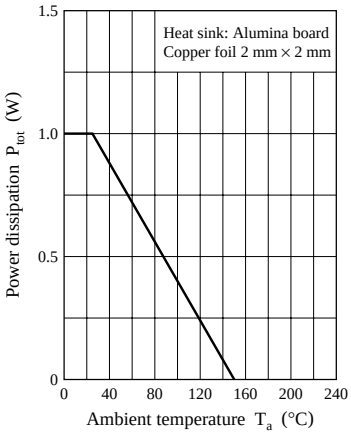
Note) 1. Rated input/output frequency: 5 MHz
2. ∗1: The V_Z value is for the temperature of 25°C. In other cases, carry out the temperature compensation.
∗2: Guaranteed at 20 ms after power application.
∗3: T_j = 25°C to 150°C

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

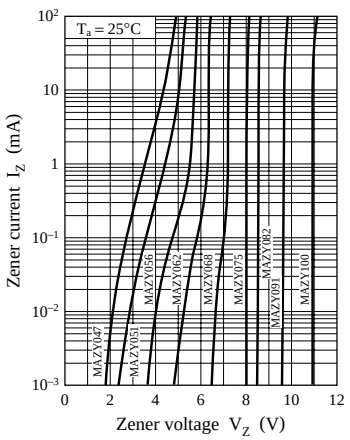
■ Electrical characteristics within part numbers $T_a = 25°C$

Part number	Zener voltage				Reverse current		Zener operating resistance		Temperature coefficient of zener voltage		Marking symbol
	V_Z (V)				I_R (μA)		R_Z (Ω)		S_Z (mV/°C)		
	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	19.9	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

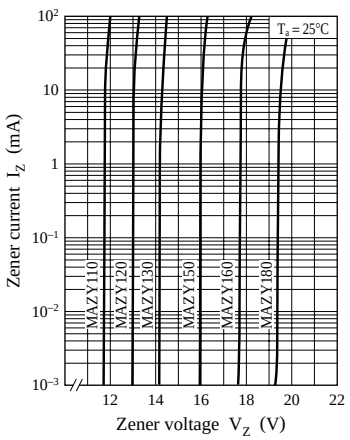
P_{tot} — T_a



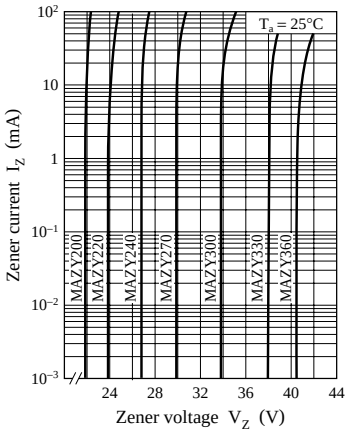
I_Z — V_Z



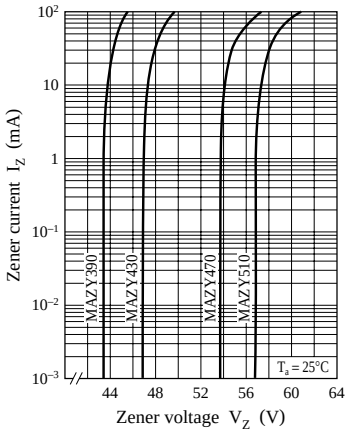
I_Z — V_Z



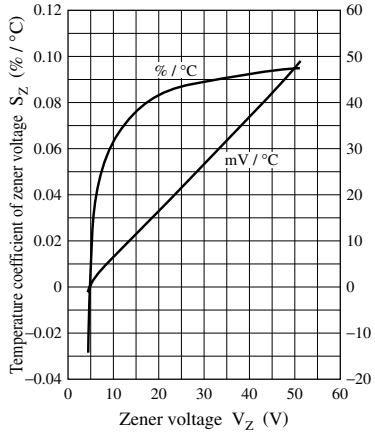
I_Z — V_Z



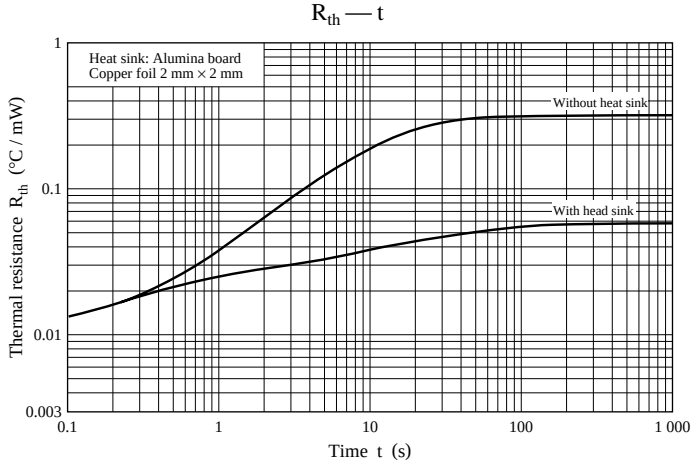
I_Z — V_Z



S_Z — V_Z



R_{th} — t



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