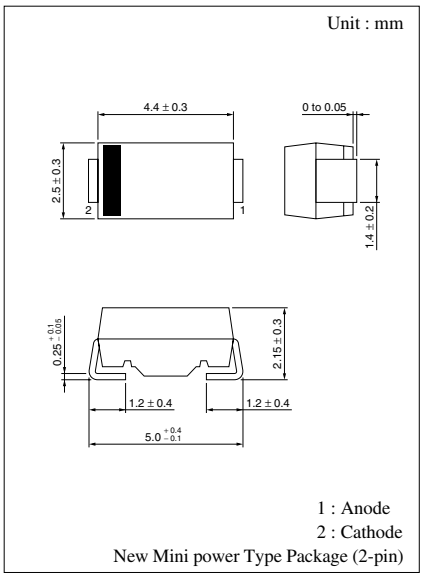
MAZY000 Series

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
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

Marking Symbol

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

■ Common Electrical Characteristics T_a = 25°C*1

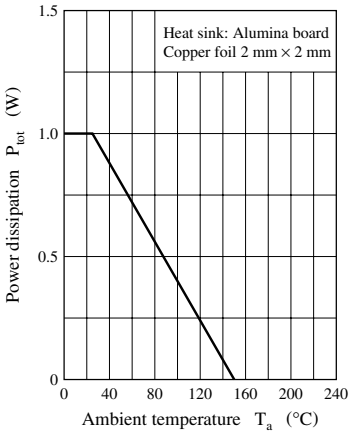
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 200 mA			1.2	V
Zener voltage*2	V_Z	I_Z ..... Specified value	Refer to the list of the electrical characteristics within part numbers			V
Operating resistance	R_Z	I_Z ..... Specified value				Ω
Reverse current	I_R	V_R ..... Specified 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

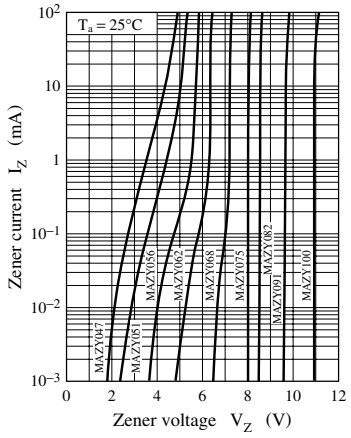
■ Electrical characteristics within part numbers $T_a = 25°C$

Part Number	Zener voltage				Reverse current		Operating resistance		Temperature coefficient of zener voltage		Marking Symbol
	V_Z (V)				I_R		R_Z		S_Z		
	Min (V)	Nom (V)	Max (V)	I_Z (mA)	Max (μA)	V_R (V)	Max (Ω)	I_Z (mA)	Typ (mV/°C)	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

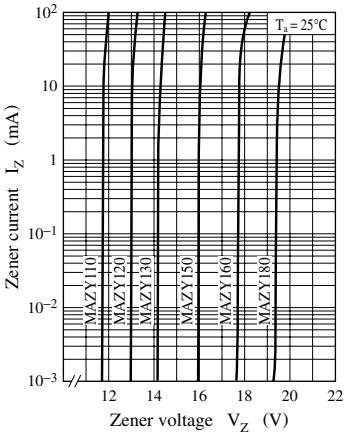
P_{tot} — T_a



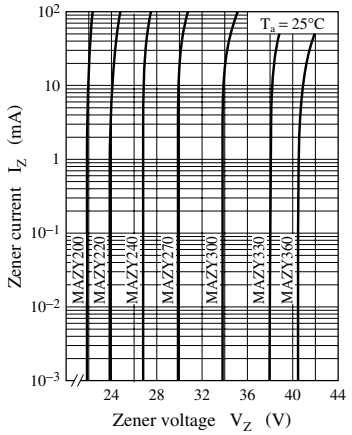
I_Z — V_Z



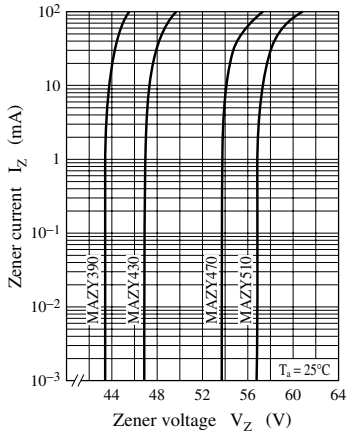
I_Z — V_Z



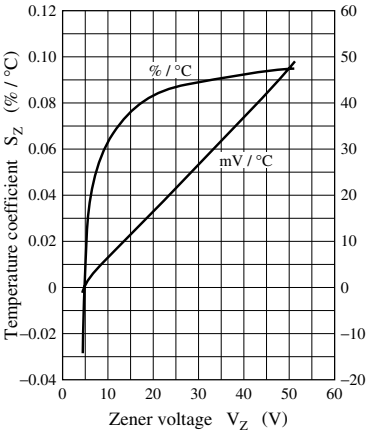
I_Z — V_Z



I_Z — V_Z



S_Z — V_Z



R_{th} — t