

MA1Z000 Series

Silicon planer type

For stabilization of power supply

■ Features

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

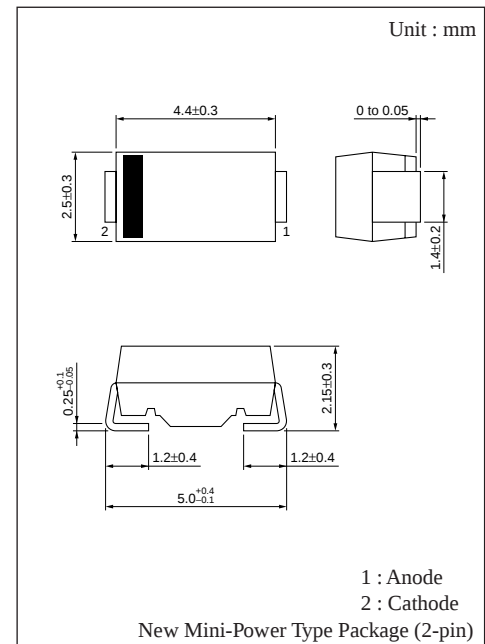
■ Absolute Maximum Ratings ($T_a=25^\circ C$)

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

* ¹ $P_{tot}=1.0W$ achieved with a printed-circuit board (alumina)

$t=50\mu s$ for the product of V_Z 6.8V

* ² $t=100\mu s$, $T_j=150^\circ C$



■ Common Electrical Characteristics ($T_a=25^\circ C$)^{*1}

Parameter	Symbol	Condition	min	typ	max	Unit
Forward voltage	V_F	$I_F=200mA$			1.2	V
Zener voltage	V_Z^{*2}	I_Z Specified value				V
Operating resistance	R_Z	I_Z Specified value	Refer to the electrical characteristics			Ω
Reverse current	I_R	V_R Specified value	list of P439			μA
Temperature coefficient of zener voltage	S_Z^{*3}	I_Z Specified value				mV/ $^\circ C$

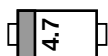
Note 1. Rated input/output frequency : 5MHz

2. * ¹ : The V_Z value is for the temperature of $25^\circ C$. In other cases, carry out the temperature compensation.

* ² : Guaranteed at 20ms after power application

* ³ : $T_j=25$ to $150^\circ C$

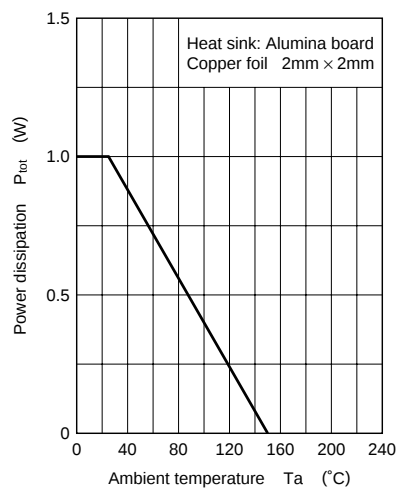
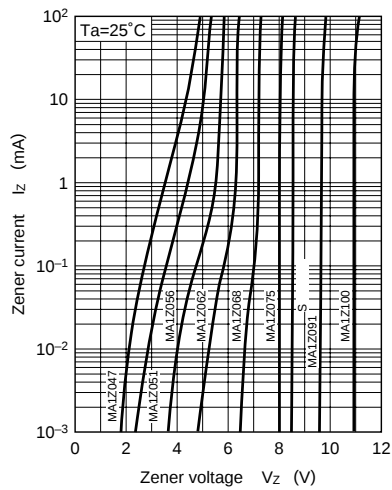
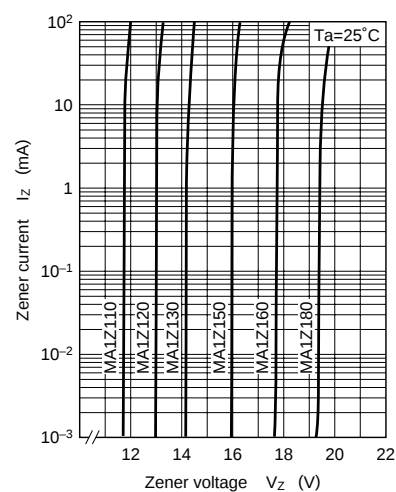
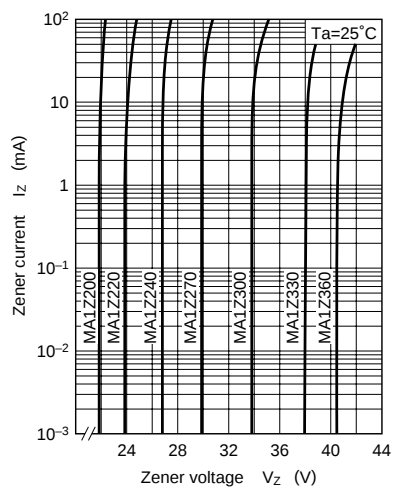
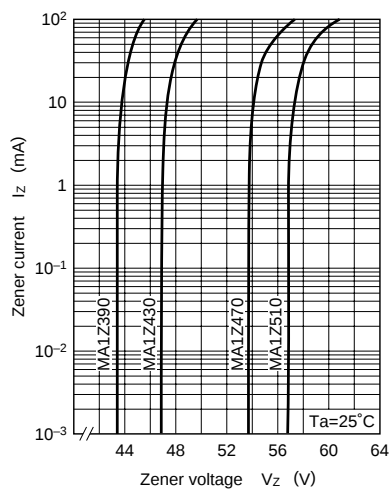
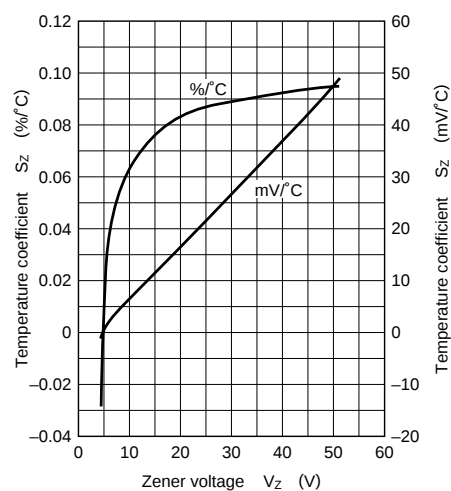
■ Marking (Example)



MAZ1047

■ Electrical Characteristics (Ta= 25°C)

Part Number	Zener voltage				Reverse current		Operating resistance		Temperature coefficient of zener voltage		Marking
	V _Z				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)	
MA1Z047	4.4	4.7	5.0	20	40	1.0	60	20	0	20	4.7
MA1Z051	4.8	5.1	5.4	20	20	1.0	50	20	0	20	5.1
MA1Z056	5.2	5.6	6.0	20	20	2.0	40	20	1.5	20	5.6
MA1Z062	5.6	6.2	6.8	10	20	3.0	30	10	2.4	10	6.2
MA1Z068	6.2	6.8	7.4	10	10	3.0	30	10	3.1	10	6.8
MA1Z075	6.8	7.5	8.3	10	10	3.0	30	10	3.8	10	7.5
MA1Z082	7.4	8.2	9.1	10	10	4.0	30	10	4.5	10	8.2
MA1Z091	8.2	9.1	10.1	10	10	5.0	30	10	5.4	10	9.1
MA1Z100	9.0	10.0	11.0	10	10	7.0	30	10	6.3	10	10
MA1Z110	9.9	11.0	12.1	10	10	7.0	30	10	7.4	10	11
MA1Z120	10.8	12.0	13.2	10	10	8.0	30	10	8.4	10	12
MA1Z130	11.7	13.0	14.3	10	10	9.0	30	10	9.4	10	13
MA1Z150	13.5	15.0	16.5	10	10	10.0	30	10	11.4	10	15
MA1Z160	14.4	16.0	17.6	10	10	11.0	30	10	12.5	10	16
MA1Z180	16.2	18.0	18.8	10	10	13.0	30	10	14.5	10	18
MA1Z200	18.0	20.0	22.0	10	10	14.0	30	10	16.6	10	20
MA1Z220	19.8	22.0	24.2	10	10	16.0	30	10	18.6	10	22
MA1Z240	21.6	24.0	26.4	10	10	17.0	30	10	20.7	10	24
MA1Z270	24.3	27.0	29.7	10	10	19.0	30	10	23.8	10	27
MA1Z300	27.0	30.0	33.0	10	10	21.0	30	10	26.9	10	30
MA1Z330	29.7	33.0	36.3	10	10	26.4	30	10	30.0	10	33
MA1Z360	32.4	36.0	39.6	5	10	28.8	30	5	33.4	5	36
MA1Z390	37.0	39.0	41.0	5	10	31.8	65	5	36.3	5	39
MA1Z430	40.0	43.0	46.0	5	10	35.8	65	5	41.1	5	43
MA1Z470	42.3	47.0	51.7	5	10	37.6	65	5	44.9	5	47
MA1Z510	45.9	51.0	56.1	5	10	40.8	65	5	48.6	5	51

$P_{tot} - T_a$  $I_Z - V_Z$  $I_Z - V_Z$  $I_Z - V_Z$  $I_Z - V_Z$  $S_Z - V_Z$  $R_{th} - t$ 