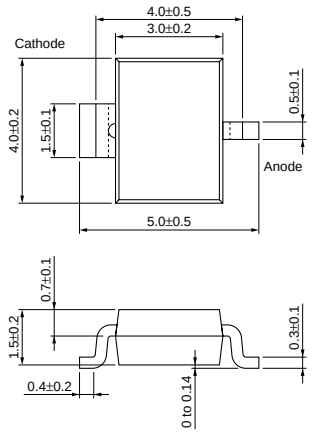
MA5000 Series

Silicon planer type

For stabilization of power supply

Unit : mm



1 : Anode
2 : Cathode
Mini Power Type Package (2-pin)

■ Features

- Mini power type package (2-pin)
- Automatic mounting with emboss taping possible
- Sharp rising performance

■ Absolute Maximum Ratings (Ta= 25˚C)

Parameter	Symbol	Rating	Unit
Average forward current	$I_{F(AV)}$	250	mA
Instanious forward current	I_{FRM}	250	mA
Total power dissipation	P_{tot} * 1	500	mW
Non-repetitive reverse surge power dissipation	P_{ZSM}*2	30	W
Junction temperature	T_j	125	˚C
Storage temperature	T_{stg}	– 55 to +125	˚C

*1 With a printed-circuit board
*2 t=100µ s, T_j=125˚C

■ Common Electrical Characteristics (Ta= 25˚C)*1

Parameter	Symbol	Condition	min	typ	max	Unit
Forward voltage	V_F	I_F= 10mA		0.8	0.9	V
Zener voltage	V_Z * 2	I_Z ..... Specified value	Refer to the electrical characteristics list of P466			V
Operating resistance	R_{ZK}	I_Z ..... Specified value				Ω
	R_Z	I_Z ..... Specified value				Ω
Reverse current	I_{R1}	V_R..... Specified value				µA
	I_{R2}	V_R..... Specified value				µA
Temperature coefficient of zener voltage	S_Z * 3	I_Z ..... Specified value				mV/˚C
Terminal capacitance	C_t	V_R..... Specified value				pF

Note 1. Rated input/output frequency : 50MHz
2. * 1 : The V_Z value is for the temperature of 25˚C. In other cases, carry out the temperature compensation.
* 2 : Guaranteeed at 20ms after power application
* 3 : T_j= 25 to 125˚C

■ Marking (Example)

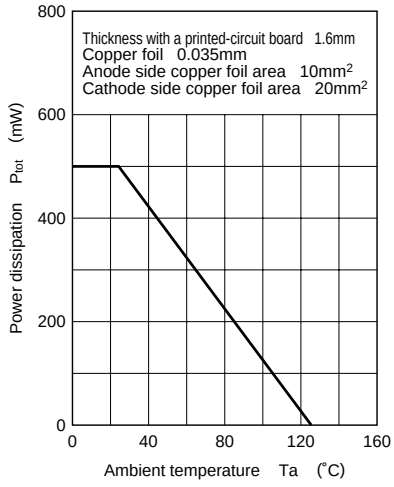
MA5047

■ Electrical Characteristics(V_Z ±5% Ta= 25˚C)

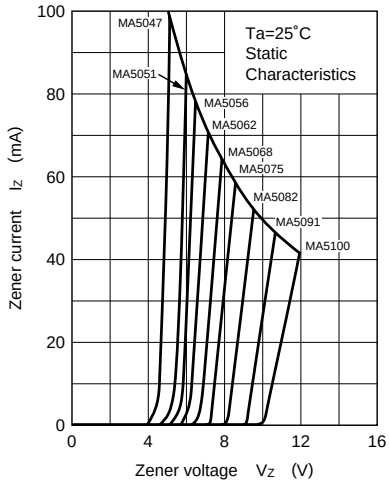
Part Number	Zener voltage V_Z (V) I_Z= 5mA			Reverse current I_{R1}		I_{R2}		Operating resistance R_Z(Ω) I_Z= 5mA		R_{ZK}		Temperature coefficient of zener voltage S_Z (mV/˚C) I_Z= 5mA			Terminal capacitance C_t(pF) (V_R= 0V) f=1MHz		Marking
	min	nom	max	V_R (V)	max (μA)	V_R (V)	max (μA)	typ	max	I_Z (mA)	max (Ω)	min	typ	max	typ	max	
MA5047	4.4	4.7	5.0	1	3000	—	—	50	80	1	900	– 3.5	–1.4	0.2	130	180	4.7
MA5051	4.8	5.1	5.4	2	2000	—	—	40	60	1	800	– 2.7	– 0.8	1.2	110	160	5.1
MA5056	5.3	5.6	6.0	2	1000	—	—	15	40	1	500	– 2.0	1.2	2.5	95	140	5.6
MA5062	5.8	6.2	6.6	4	3000	5.3	60	6	20	0.5	300	0.4	2.3	3.7	90	130	6.2
MA5068	6.4	6.8	7.2	4	2000	5.9	60	6	15	0.5	140	1.2	3.0	4.5	85	110	6.8
MA5075	7.0	7.5	7.9	5	1000	6.5	60	6	15	0.5	120	2.5	4.0	5.3	80	100	7.5
MA5082	7.7	8.2	8.7	5	500	7.2	60	6	15	0.5	120	3.2	4.6	6.2	75	95	8.2
MA5091	8.5	9.1	9.6	6	200	8.0	60	6	15	0.5	130	3.8	5.5	7.0	70	90	9.1
MA5100	9.4	10.0	10.6	7	200	8.9	60	8	20	0.5	130	4.5	6.4	8.0	70	90	10
MA5110	10.4	11.0	11.6	7	100	9.9	60	10	20	0.5	170	5.4	7.4	9.0	65	85	11
MA5120	11.4	12.0	12.7	8	100	10.9	60	10	25	0.5	170	6.0	8.4	10.0	65	85	12
MA5130	12.4	13.0	14.1	9	100	11.9	60	10	30	0.5	170	7.0	9.4	11.0	60	80	13
MA5150	13.9	15.0	15.6	10	50	13.4	60	10	30	0.5	170	9.2	11.4	13.0	55	75	15
MA5160	15.3	16.0	17.1	11	50	14.8	60	10	40	0.5	170	10.4	12.4	14.0	52	75	16
MA5180	16.9	18.0	19.1	13	50	16.4	60	10	45	0.5	170	12.4	14.4	16.0	47	70	18
MA5200	18.8	20.0	21.2	14	50	18.3	60	15	55	0.5	180	14.4	16.4	18.0	36	60	20
MA5220	20.8	22.0	23.3	15	50	20.3	60	20	55	0.5	180	16.4	18.4	20.0	34	60	22
MA5240	22.8	24.0	25.6	17	50	22.3	60	25	70	0.5	180	18.4	20.4	22.0	33	55	24

Note 1. The V_Z value is the one after power application for 20ms at Ta= 25˚C.
Note 2. The Zener voltage temperature coefficient is the one for T_j= 25 to 150˚C.

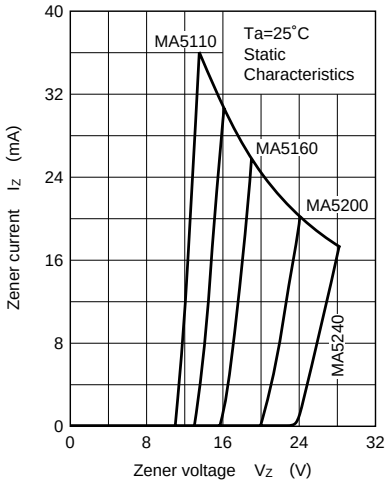
P_{tot} – Ta



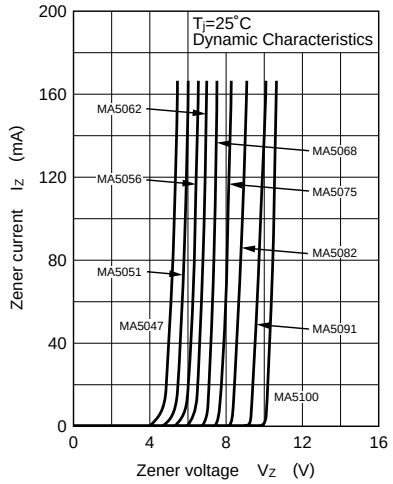
I_Z – V_Z



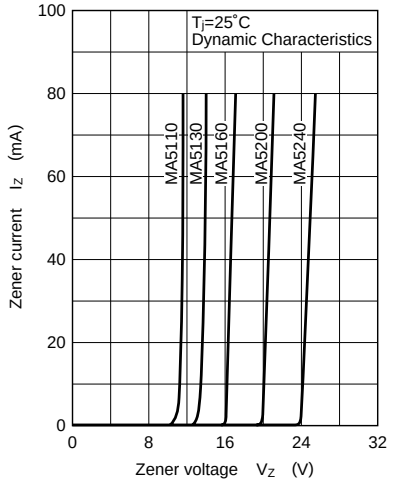
I_Z – V_Z



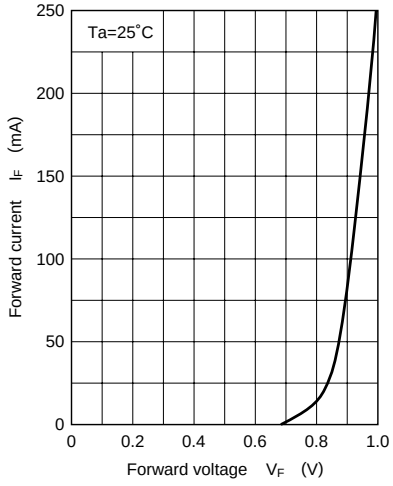
$I_Z - V_Z$



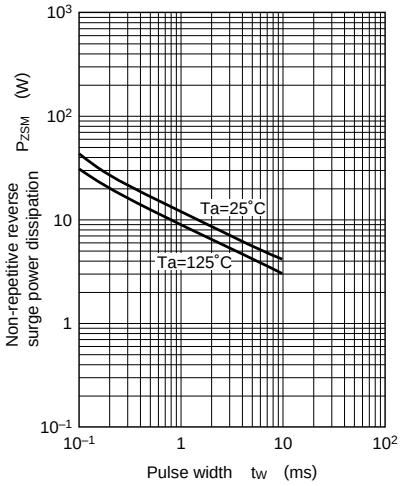
$I_Z - V_Z$



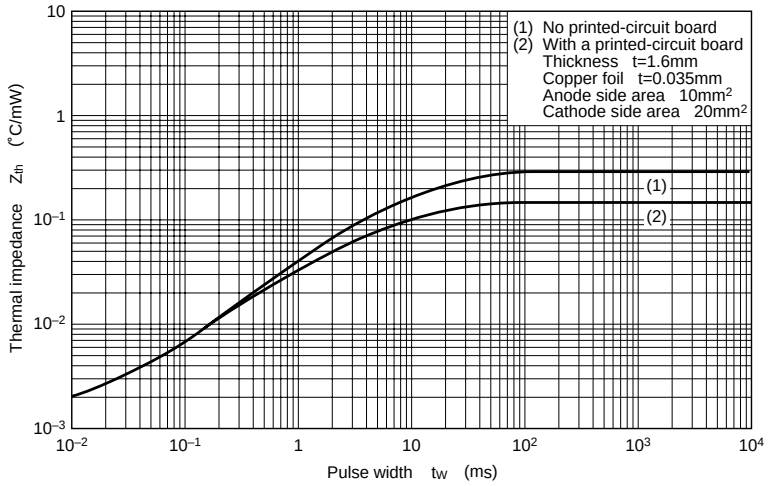
$I_F - V_F$



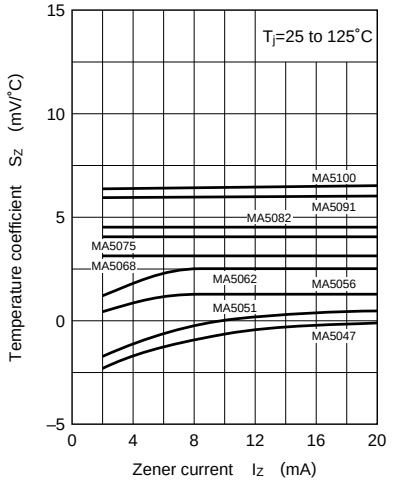
$P_{ZSM} - t_W$



$Z_{th} - t_W$



$S_Z - I_Z$



$R_Z - I_Z$