

# MA3A100

## Silicon planer type

Constant voltage, constant current, waveform clipper and surge absorption circuit

### ■ Features

- Mini type package (6-pin)
- Three-element wiring in parallel of MA3100

### ■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit	
Average forward current	Single	$I_{F(AV)}$	100	mA
	Triple	$I_{F(AV)}$	70	mA
Instantaneous forward current	Single	$I_{FRM}$	200	mA
	Triple	$I_{FRM}$	100	mA
Total power dissipation	Single	$P_{tot}^{*1}$	200	mW
	Triple	$P_{tot}^{*1}$	100	mW
Non-repetitive reverse surge power dissipation	$P_{ZSM}^{*2}$	15	W	
Junction temperature	$T_j$	150	°C	
Storage temperature	$T_{stg}$	- 55 to + 150	°C	

\*1 With a printed-circuit board

\*2  $t=100\mu s$ ,  $T_j=150^\circ C$

### ■ 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	$V_Z^{*2}$	$I_Z= 5mA$	9.4	10.0	10.6	V
Operating resistance	$R_{ZK}$	$I_Z= 0.5mA$			130	$\Omega$
	$R_Z$	$I_Z= 5mA$		8	20	$\Omega$
Reverse current	$I_{R1}$	$V_R= 7V$			0.2	$\mu A$
	$I_{R2}$	$V_R= 8.9V$			60	$\mu A$
Temperature coefficient of zener voltage	$S_Z^{*3}$	$I_Z= 5mA$	4.5	6.4	8.0	mV/°C

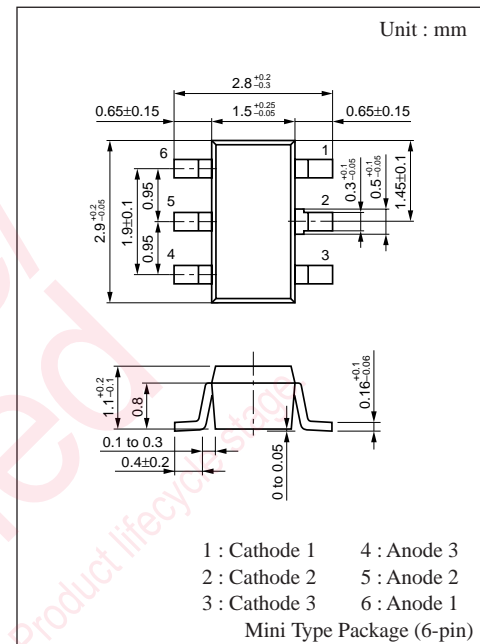
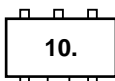
Note 1. Rated input/output frequency : 5MHz

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

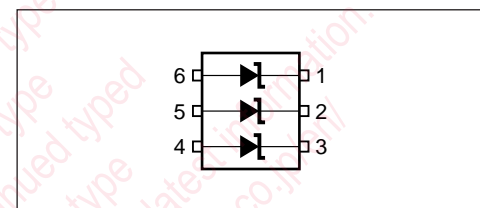
\*2 : Guaranteed at 20ms after power application

\*3 :  $T_j= 25$  to  $150^\circ C$

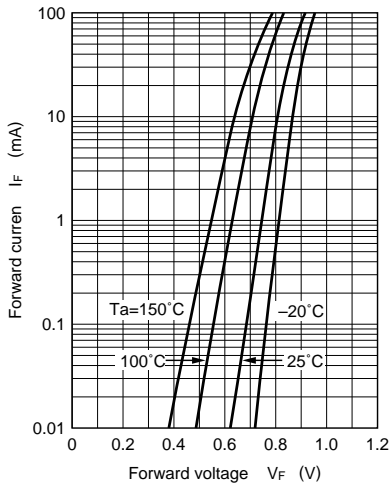
### ■ Marking



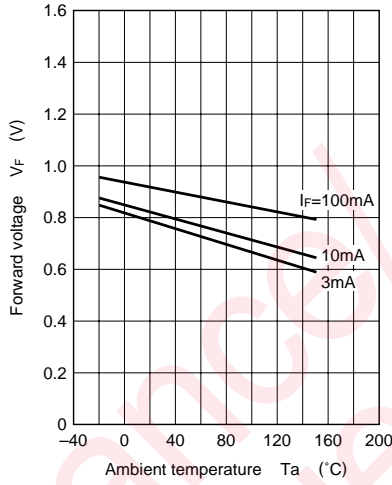
### ■ Internal Connection



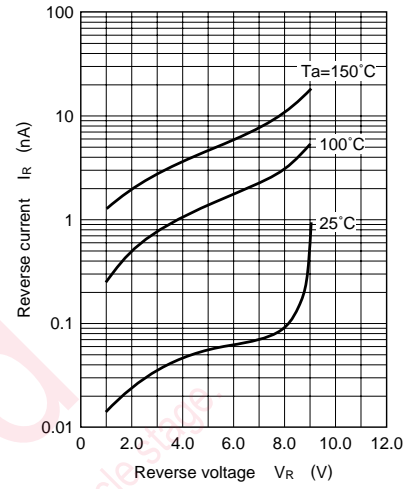
$I_F - V_F$



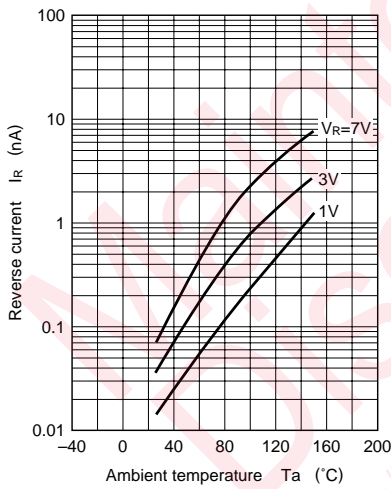
$V_F - T_a$



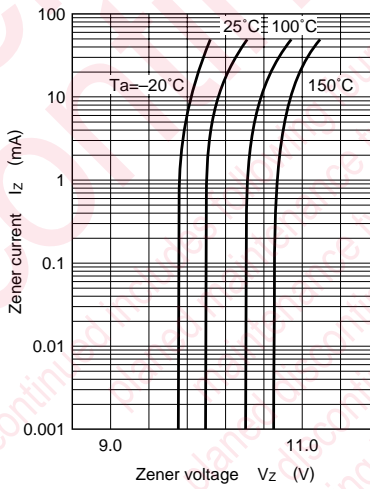
$I_R - V_R$



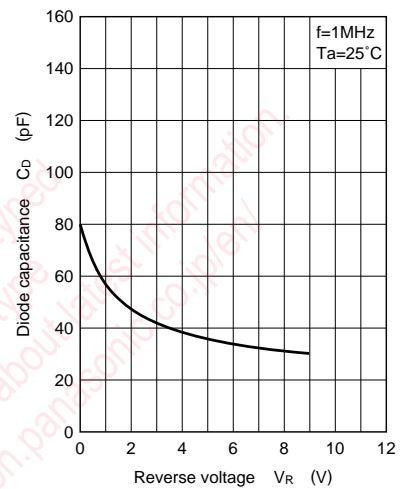
$I_R - T_a$



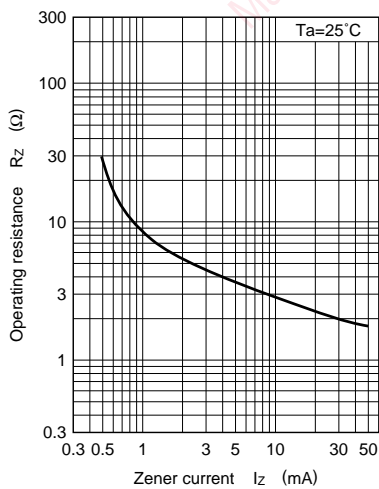
$I_Z - V_Z$



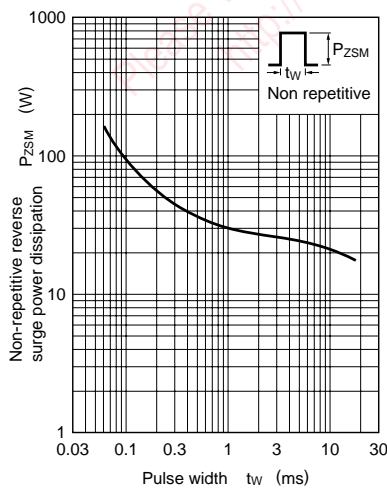
$C_D - V_R$



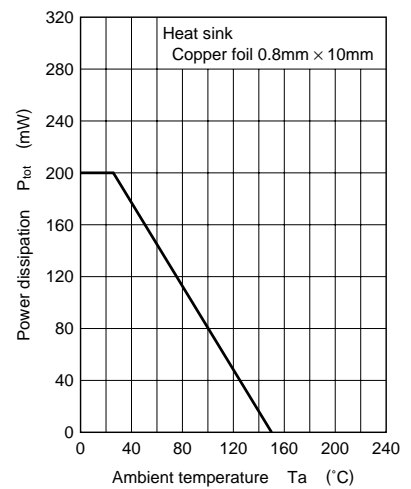
$R_Z - I_Z$



$P_{ZSM} - t_w$



$P_{tot} - T_a$



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