

MA3100W

Silicon planer type

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

■ Features

- Mini type package (4-pin)
- Two-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
	Double	$I_{F(AV)}$	75	mA
Instantaneous forward current	Single	I_{FRM}	200	mA
	Double	I_{FRM}	150	mA
Total power dissipation	Single	P_{tot}^{*1}	150	mW
	Double	P_{tot}^{*1}	110	mW
Non-repetitive reverse surge power dissipation		P_{ZSM}^{*2}	15	W
Junction temperature		T_j	125	°C
Storage temperature		T_{stg}	- 55 to + 125	°C

*1 With a printed-circuit board

*2 $t=100\mu s$, $T_j=125^\circ C$

■ 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	Ω
	R_Z	$I_Z=5mA$		8	20	Ω
Reverse current	I_{R1}	$V_R=7V$			0.2	μA
	I_{R2}	$V_R=8.9V$			60	μA
Temperature coefficient of zener voltage	S_Z^{*3}	$I_Z=5mA$	4.5	6.4	8.0	mV/°C
Terminal capacitance	C_t	$V_R=0V$, $f=1MHz$		70	90	pF

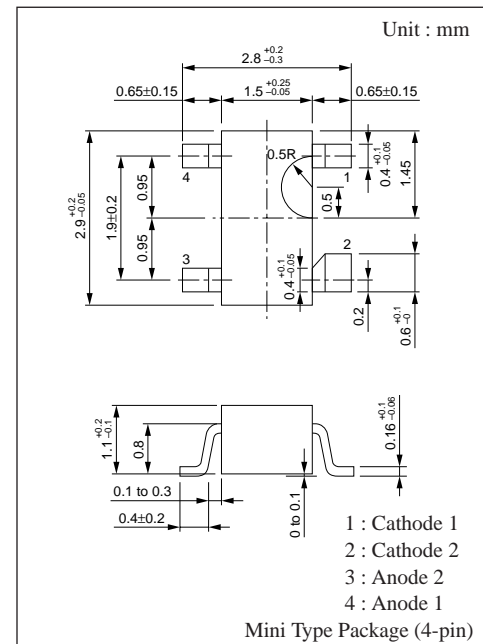
Note 1. Rated input/output frequency : 5MHz

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

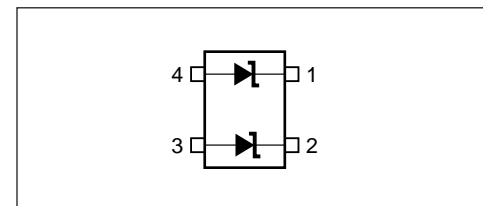
*2 : Guaranteed at 20ms after power application

*3 : $T_j=25$ to $125^\circ C$

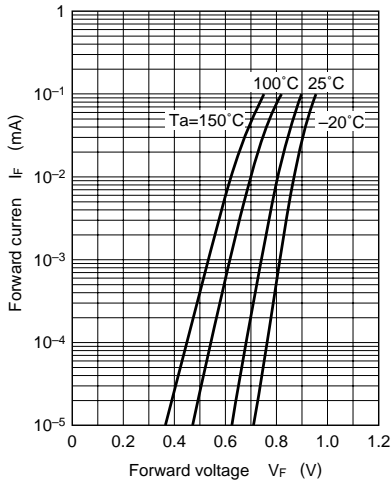
■ Marking



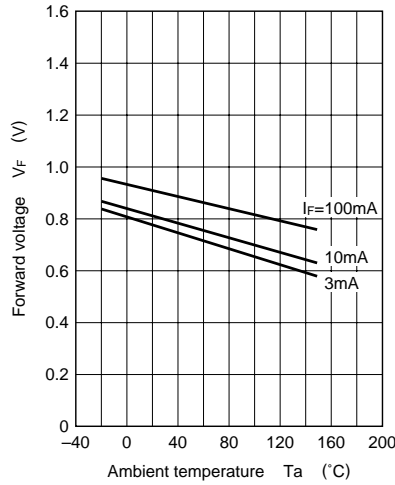
■ Internal Connection



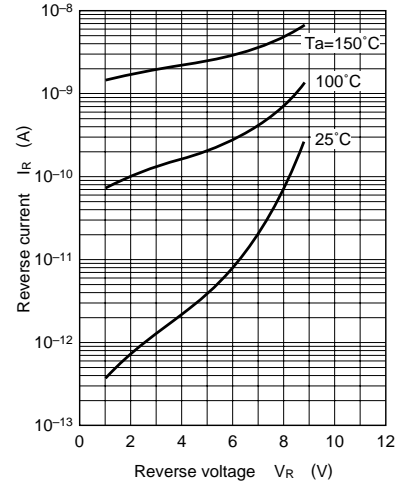
$I_F - V_F$



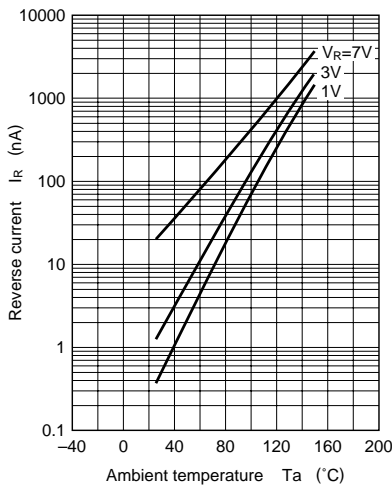
$V_F - T_a$



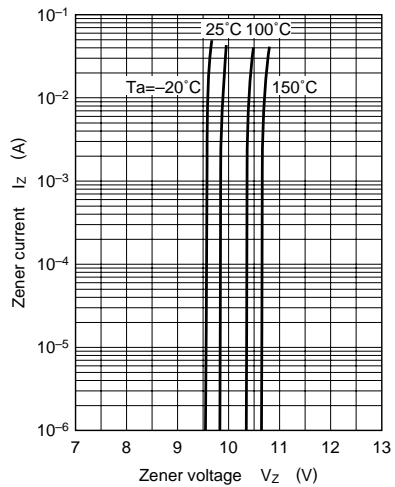
$I_R - V_R$



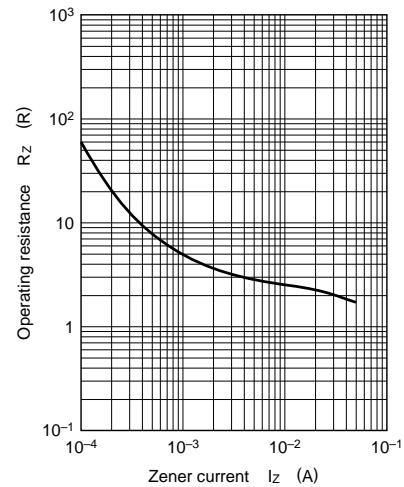
$I_R - T_a$



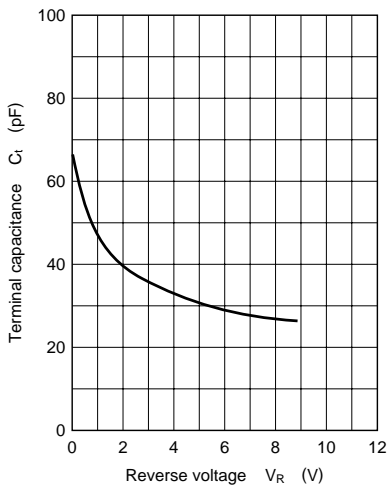
$I_Z - V_Z$



$R_Z - I_Z$



$C_t - V_R$



$P_{ZSM} - t_w$

