

# MA3091WK

## Silicon planer type

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

### ■ Features

- Mini type package (3-pin)
- Two cathode-common wiring of MA3091

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

Parameter	Symbol	Rating	Unit
Average forward current	$I_{F(AV)}$	100* <sup>1</sup>	mA
Instantaneous forward current	$I_{FRM}$	200* <sup>1</sup>	mA
Total power dissipation	$P_{tot}$ * <sup>2</sup>	100* <sup>1</sup>	mW
Non-repetitive reverse surge power dissipation	$P_{ZSM}$ * <sup>3</sup>	15	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	- 55 to + 150	°C

\*<sup>1</sup> Working value in a single piece

\*<sup>2</sup> With a printed-circuit board

\*<sup>3</sup>  $t=100\mu s$ ,  $T_j=150^\circ C$

### ■ Electrical Characteristics (Ta= 25°C)\*<sup>1</sup>

Parameter	Symbol	Condition	min	typ	max	Unit
Forward voltage	$V_F$	$I_F=10mA$		0.8	0.9	V
Zener voltage	$V_Z$ * <sup>2</sup>	$I_Z=5mA$	8.5	9.1	9.6	V
Operating resistance	$R_{ZK}$	$I_Z=0.5mA$			130	$\Omega$
	$R_Z$	$I_Z=5mA$		6	15	$\Omega$
Reverse current	$I_{R1}$	$V_R=6V$			0.2	$\mu A$
	$I_{R2}$	$V_R=8V$			60	$\mu A$
Temperature coefficient of zener voltage	$S_Z$ * <sup>3</sup>	$I_Z=5mA$	3.8	5.5	7	mV/°C

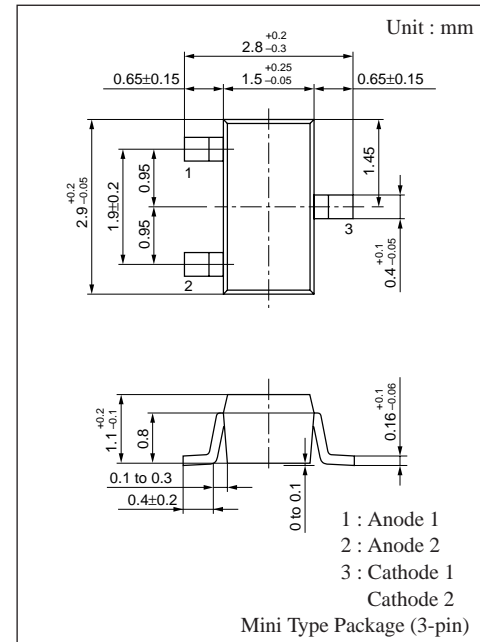
Note 1. Rated input/output frequency : 5MHz

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

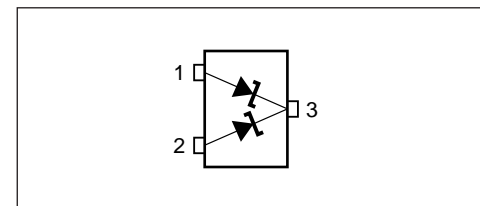
\*<sup>2</sup> : Guaranteed at 20ms after power application

\*<sup>3</sup> :  $T_j=25$  to  $150^\circ C$

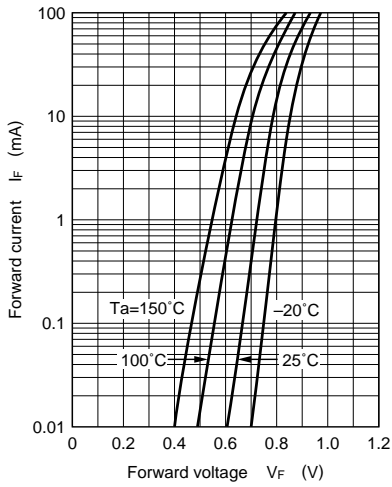
### ■ Marking



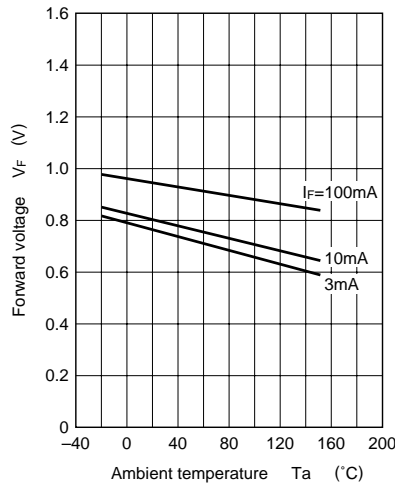
### ■ Internal Connection



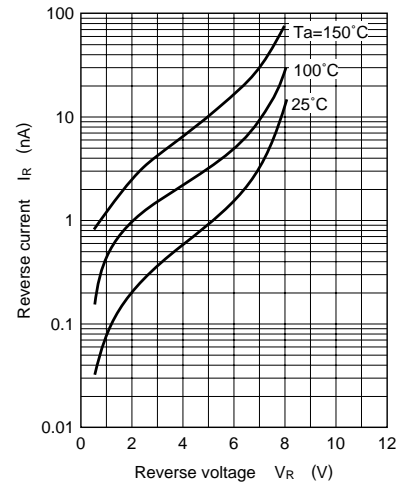
$I_F - V_F$



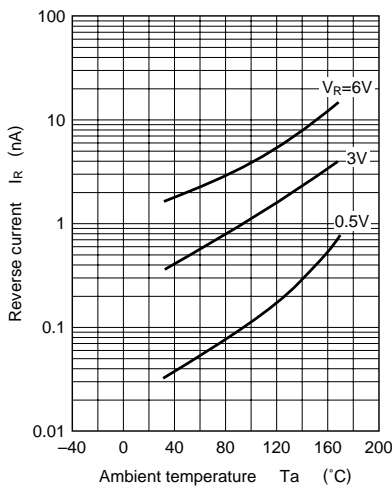
$V_F - T_a$



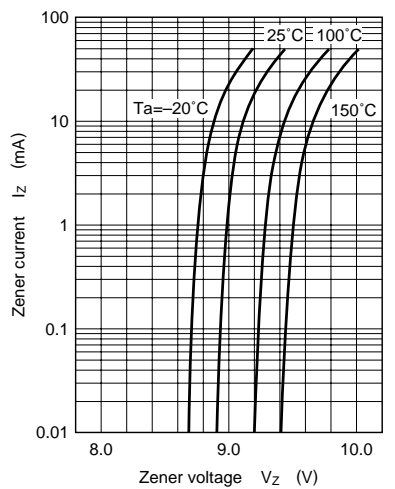
$I_R - V_R$



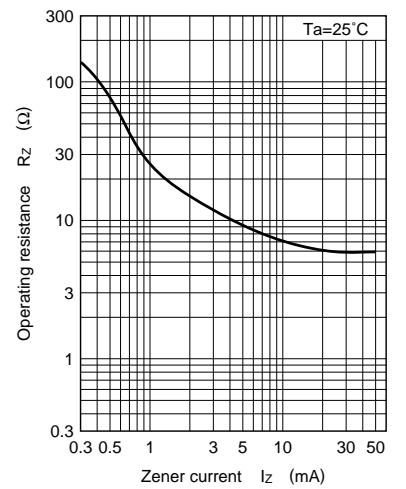
$I_R - T_a$



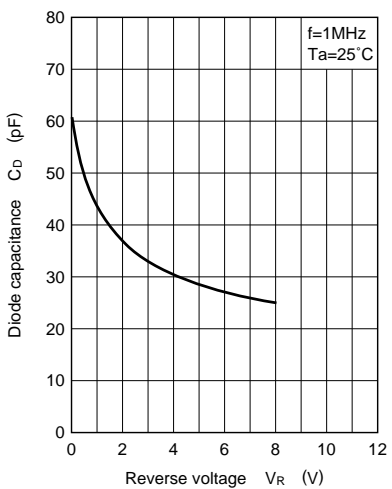
$I_Z - V_Z$



$R_Z - I_Z$



$C_t - V_R$



$P_{ZSM} - t_w$

