

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* ¹	mA
Instantaneous forward current	I_{FRM}	200* ¹	mA
Total power dissipation	P_{tot} * ²	100* ¹	mW
Non-repetitive reverse surge power dissipation	P_{ZSM} * ³	15	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	- 55 to + 150	°C

*¹ Working value in a single piece

*² With a printed-circuit board

*³ $t=100\mu s$, $T_j=150^\circ C$

■ 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	$I_Z= 5mA$	8.5	9.1	9.6	V
Operating resistance	R_{ZK}	$I_Z= 0.5mA$			130	Ω
	R_Z	$I_Z= 5mA$		6	15	Ω
Reverse current	I_{R1}	$V_R= 6V$			0.2	μA
	I_{R2}	$V_R= 8V$			60	μA
Temperature coefficient of zener voltage	S_Z * ³	$I_Z= 5mA$	3.8	5.5	7	mV/°C

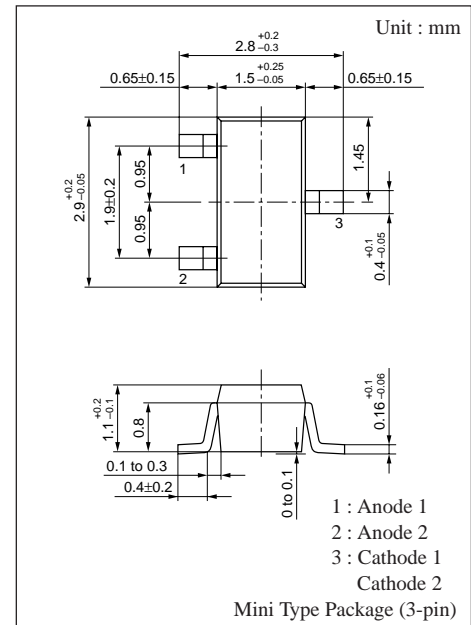
Note 1. Rated input/output frequency : 5MHz

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

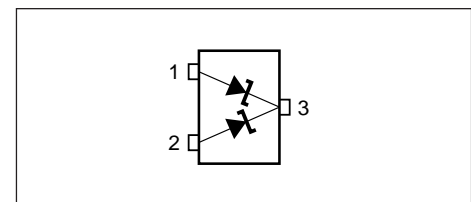
*² : Guaranteed at 20ms after power application

*³ : $T_j= 25$ to $150^\circ C$

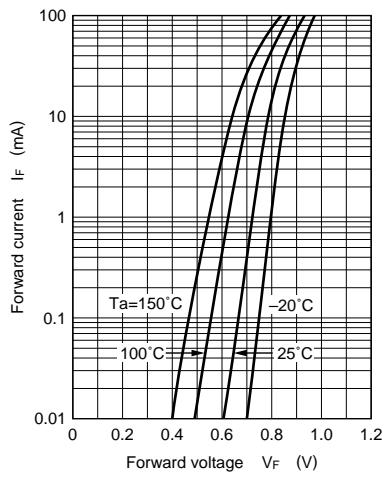
■ Marking



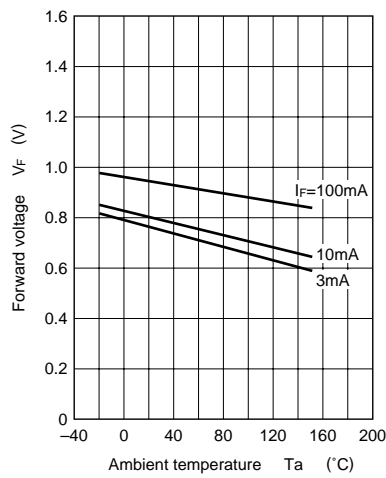
■ Internal Connection



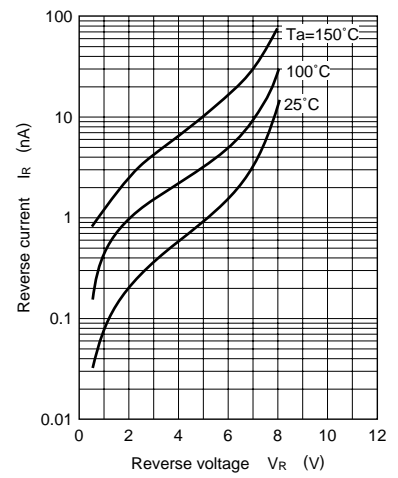
$I_F - V_F$



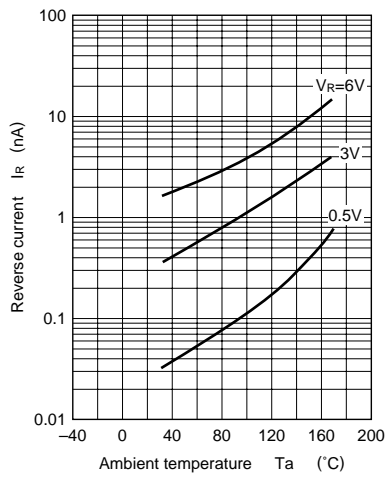
$V_F - T_a$



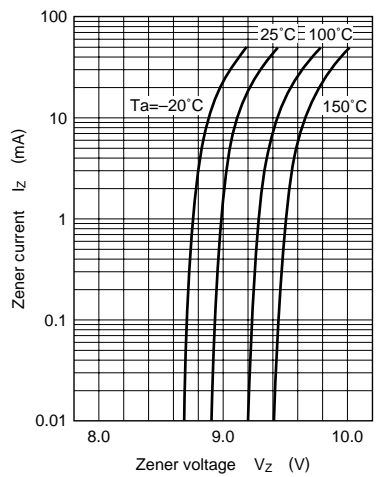
$I_R - V_R$



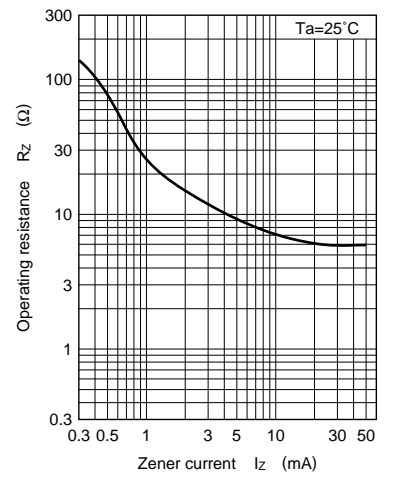
$I_R - T_a$



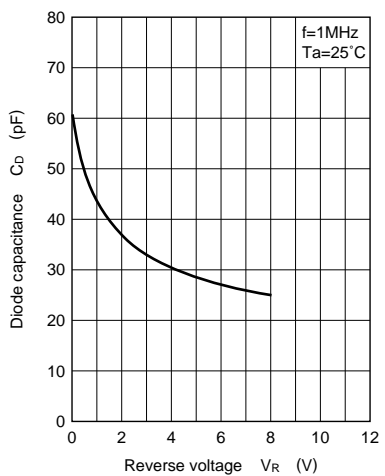
$I_Z - V_Z$



$R_Z - I_Z$



$C_t - V_R$



$P_{ZSM} - t_w$

