

# MA3075WK

## Silicon planer type

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

### ■ Features

- Mini type package (3-pin)
- Two cathode-common wiring of MA3075

### ■ 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 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> | $I_Z=5mA$           | 7.0 | 7.5 | 7.9 | V        |
| Operating resistance                     | $R_{ZK}$             | $I_Z=0.5mA$         |     |     | 120 | $\Omega$ |
|  | $R_Z$                | $I_Z=5mA$           |     | 6   | 15  | $\Omega$ |
| Reverse current                          | $I_{R1}$             | $V_R=5V$            |     |     | 1   | $\mu A$  |
|  | $I_{R2}$             | $V_R=6.5V$          |     |     | 60  | $\mu A$  |
| Temperature coefficient of zener voltage | $S_Z$ * <sup>3</sup> | $I_Z=5mA$           | 2.5 | 4.0 | 5.3 | mV/°C    |
| Terminal capacitance                     | $C_t$                | $V_R=0V$ , $f=1MHz$ |     | 80  | 100 | pF       |

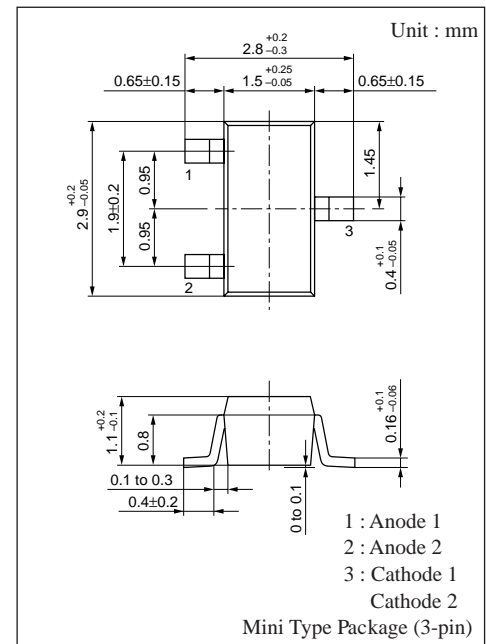
Note 1. Rated input/output frequency : 5MHz

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

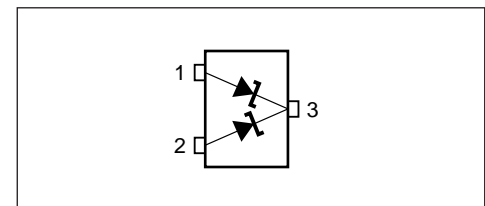
\*<sup>2</sup> : Guaranteed at 20ms after power application

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

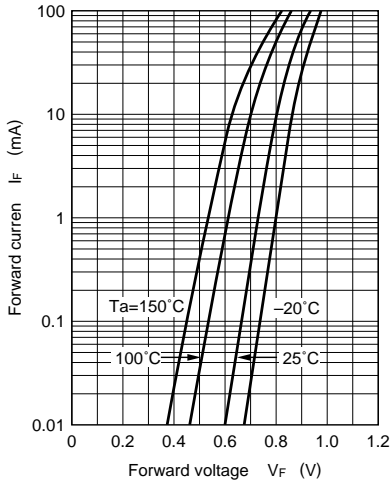
### ■ Marking



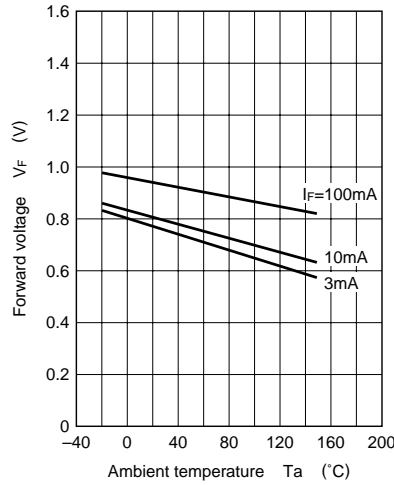
### ■ Internal Connection



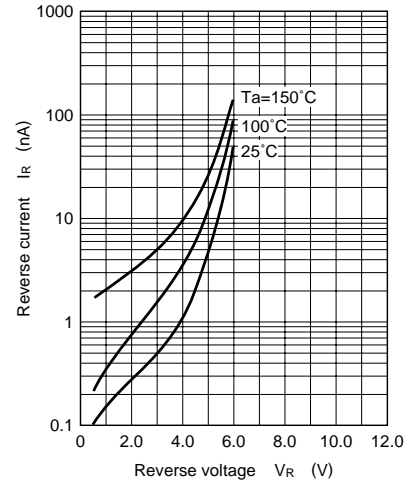
$I_F - V_F$



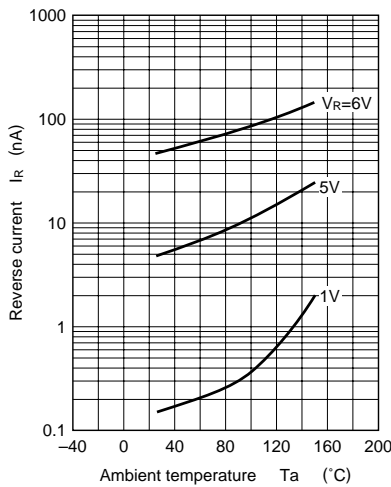
$V_F - T_a$



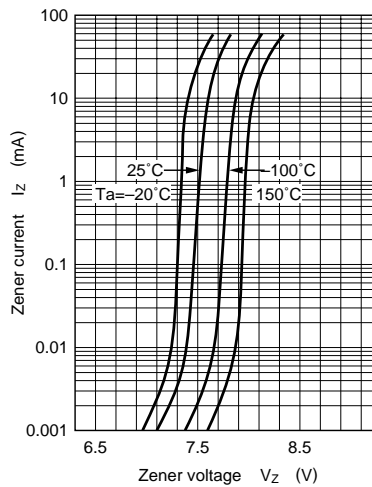
$I_R - V_R$



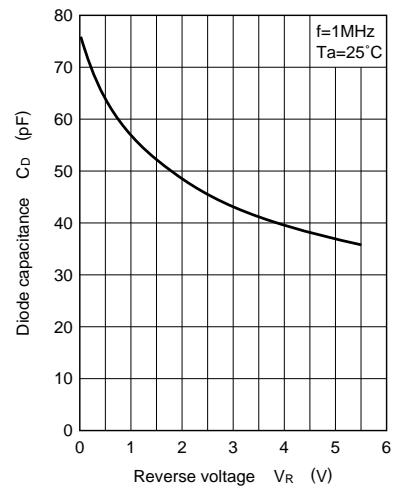
$I_R - T_a$



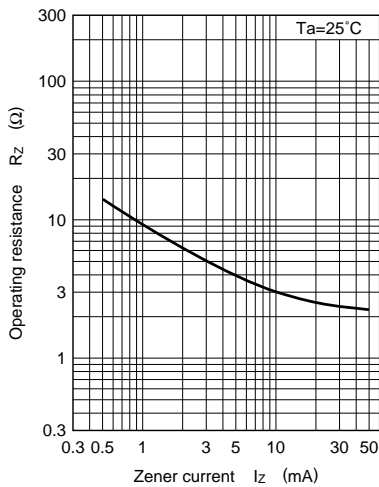
$I_Z - V_Z$



$C_D - V_R$



$R_Z - I_Z$



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