

# 1SS399

High Voltage, High Speed Switching Applications

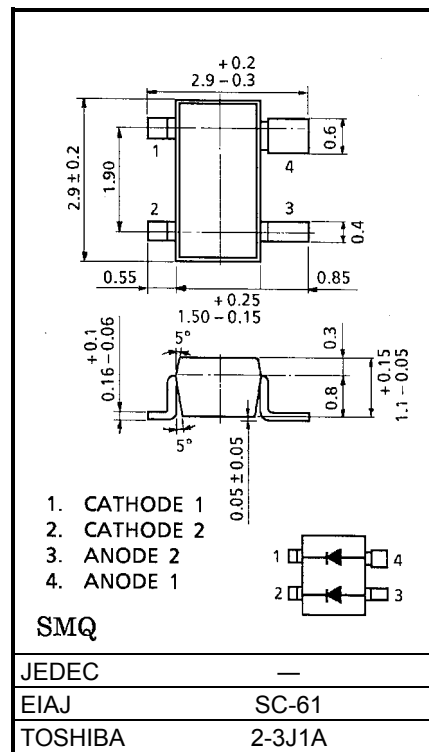
Unit: mm

- Low forward voltage :  $V_F = 1.0V$  (typ.)
- High voltage :  $V_R = 400V$  (min.)
- Fast reverse recovery time:  $t_{rr} = 0.5\mu s$  (typ.)
- Small total capacitance :  $C_T = 2.5pF$  (typ.)
- Small package : SC-61

## Maximum Ratings ( $T_a = 25^\circ C$ )

| Characteristic                 | Symbol    | Rating  | Unit       |
|--------------------------------|-----------|---------|------------|
| Maximum (peak) reverse Voltage | $V_{RM}$  | 420     | V          |
| Reverse voltage                | $V_R$     | 400     | V          |
| Maximum (peak) forward current | $I_{FM}$  | 300 *   | mA         |
| Average forward current        | $I_O$     | 100 *   | mA         |
| Surge current (10ms)           | $I_{FSM}$ | 2 *     | A          |
| Power dissipation              | P         | 150 *   | mW         |
| Junction temperature           | $T_j$     | 125     | $^\circ C$ |
| Storage temperature range      | $T_{stg}$ | -55~125 | $^\circ C$ |

\* : Unit rating. Total rating = unit rating  $\times$  1.5

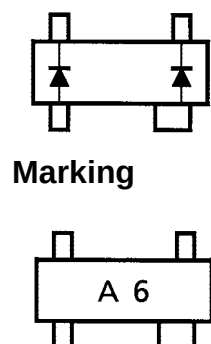


Weight: 0.013g

## Electrical Characteristics ( $T_a = 25^\circ C$ )

| Characteristic        | Symbol    | Test Circuit | Test Condition       | Min | Typ. | Max | Unit    |
|-----------------------|-----------|--------------|----------------------|-----|------|-----|---------|
| Forward voltage       | $V_F$ (1) | —            | $I_F = 10mA$         | —   | 0.8  | —   | V       |
|                       | $V_F$ (2) | —            | $I_F = 100mA$        | —   | 1.0  | 1.3 |         |
| Reverse current       | $I_R$ (1) | —            | $V_R = 300V$         | —   | —    | 0.1 | $\mu A$ |
|                       | $I_R$ (2) | —            | $V_R = 400V$         | —   | —    | 1.0 |         |
| Total capacitance     | $C_T$     | —            | $V_R = 0, f = 1MHz$  | —   | 2.5  | 5.0 | pF      |
| Reverse recovery time | $t_{rr}$  | —            | $I_F = 10mA$ (Fig.1) | —   | 0.5  | —   | $\mu s$ |

## Equivalent Circuit (Top View)



## Fig.1 Reverse Recovery Time ( $t_{rr}$ ) Test Circuit

