



## 1SS181W Silicon Epitaxial Planar Switching Diode

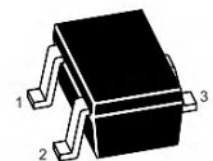
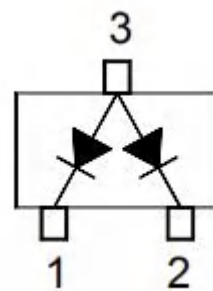
### Features

- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance

### Applications

- Ultra high speed switching application

Marking Code: A1



SOT-323 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                                         | Symbol      | Value         | Unit             |
|---------------------------------------------------|-------------|---------------|------------------|
| Maximum Peak Reverse Voltage                      | $V_{RM}$    | 85            | V                |
| Reverse Voltage                                   | $V_R$       | 80            | V                |
| Average Rectified Forward Current                 | $I_{F(AV)}$ | 100           | mA               |
| Maximum Peak Forward Current                      | $I_{FM}$    | 300           | mA               |
| Non-repetitive Peak Forward Surge Current (10 ms) | $I_{FSM}$   | 2             | A                |
| Power Dissipation                                 | $P_{tot}$   | 350           | mW               |
| Junction Temperature                              | $T_j$       | 150           | $^\circ\text{C}$ |
| Storage Temperature Range                         | $T_{stg}$   | - 55 to + 150 | $^\circ\text{C}$ |

### Characteristics at $T_a = 25^\circ\text{C}$

| Parameter                                                           | Symbol   | Max.       | Unit          |
|---------------------------------------------------------------------|----------|------------|---------------|
| Forward Voltage<br>at $I_F = 100\text{ mA}$                         | $V_F$    | 1.2        | V             |
| Reverse Current<br>at $V_R = 30\text{ V}$<br>at $V_R = 80\text{ V}$ | $I_R$    | 0.1<br>0.5 | $\mu\text{A}$ |
| Total Capacitance<br>at $V_R = 0$ , $f = 1\text{ MHz}$              | $C_T$    | 4          | pF            |
| Reverse Recovery Time<br>at $I_F = 10\text{ mA}$                    | $t_{rr}$ | 4          | ns            |

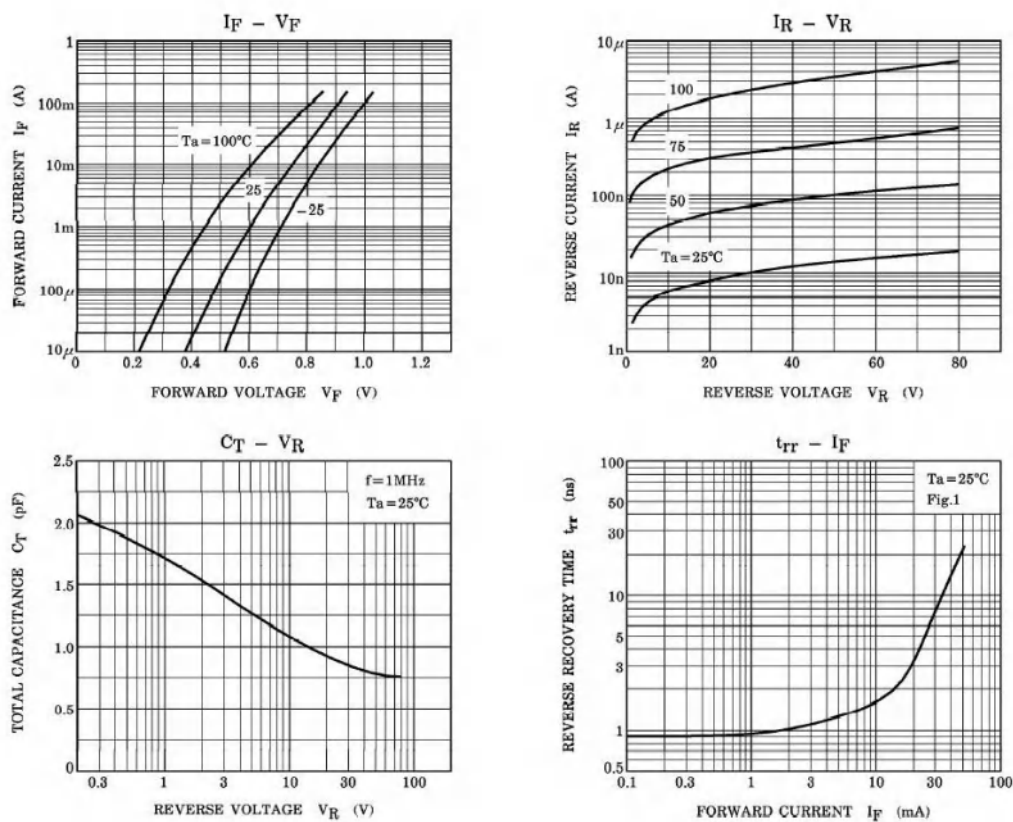
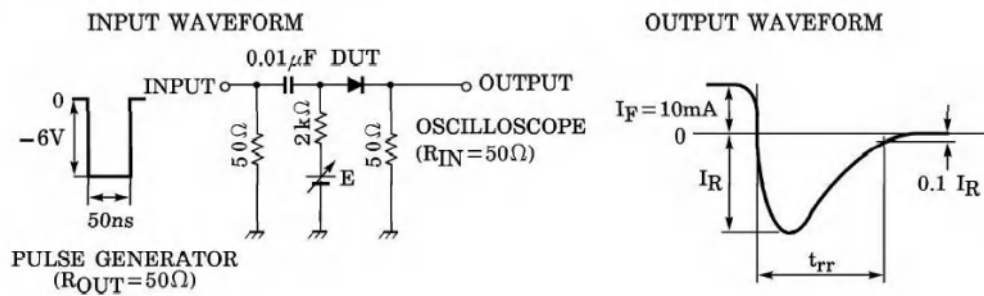
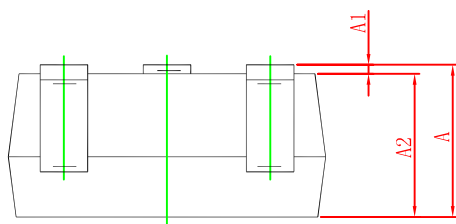
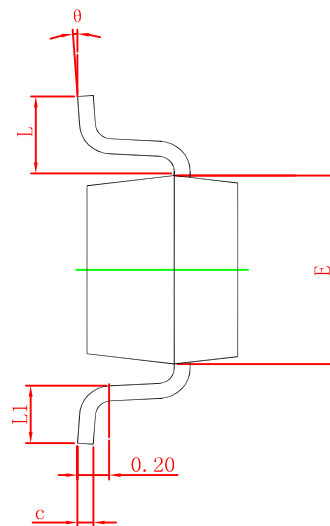
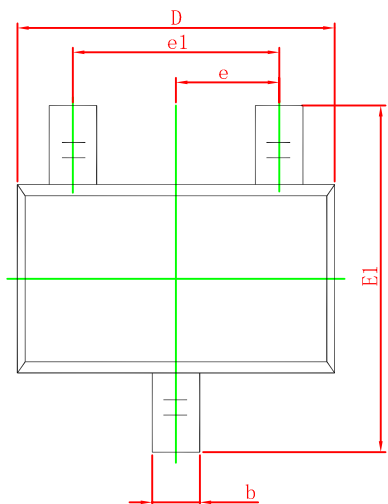


Fig.1 Reverse recovery time ( $t_{rr}$ ) test circuit





## SOT-323 PACKAGE OUTLINE DIMENSIONS



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | 0.900                     | 1.100 | 0.035                | 0.043 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.000 | 0.035                | 0.039 |
| b      | 0.200                     | 0.400 | 0.008                | 0.016 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.000                     | 2.200 | 0.079                | 0.087 |
| E      | 1.150                     | 1.350 | 0.045                | 0.053 |
| E1     | 2.150                     | 2.450 | 0.085                | 0.096 |
| e      | 0.650 TYP.                |       | 0.026 TYP.           |       |
| e1     | 1.200                     | 1.400 | 0.047                | 0.055 |
| L      | 0.525 REF.                |       | 0.021 REF.           |       |
| L1     | 0.260                     | 0.460 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |