



# SDS142WMF

Switching Diode

## Features

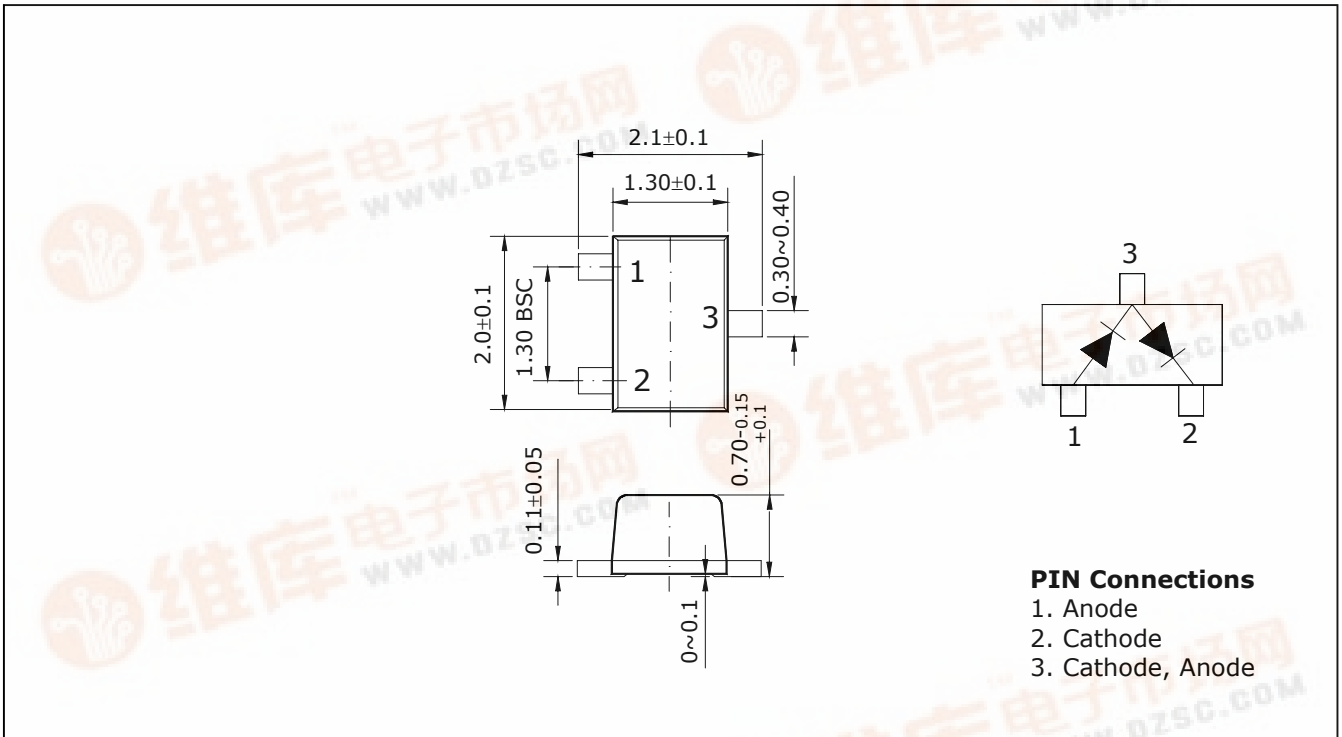
- SMD package : SOT-323F
- Low forward voltage :  $V_F=0.9V(Typ.)$
- Fast reverse recovery time :  $t_{rr}=1.6ns(Typ.)$
- Small total capacitance :  $C_T=2.2pF(Typ.)$
- Ultra high speed

## Ordering Information

| Type No.  | Marking | Package Code |
|-----------|---------|--------------|
| SDS142WMF | 5C      | SOT-323F     |

## Outline Dimensions

unit : mm



# SDS142WMF

## Absolute maximum ratings

Ta=25°C

| Characteristic                | Symbol      | Ratings   | Unit |
|-------------------------------|-------------|-----------|------|
| Maximum(peak) reverse voltage | $V_{RM}$    | 85        | V    |
| Reverse voltage               | $V_R$       | 80        | 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             | $P_D$       | 150       | mW   |
| Junction temperature          | $T_j$       | 150       | °C   |
| Storage temperature           | $T_{stg}$   | -55 ~ 150 | °C   |

\* : Unit ratings. Total rating = Unit rating ×1.5

## Electrical Characteristics

Ta=25°C

| Characteristic        | Symbol     | Test Condition  | Min. | Typ. | Max. | Unit |
|-----------------------|------------|-----------------|------|------|------|------|
| Forward voltage       | $V_{F(1)}$ | $I_F=1mA$       | -    | 0.6  | -    | V    |
|                       | $V_{F(2)}$ | $I_F=10mA$      | -    | 0.7  | -    |      |
|                       | $V_{F(3)}$ | $I_F=100mA$     | -    | 0.9  | 1.2  |      |
| Reverse current       | $I_R$      | $V_R=80V$       | -    | -    | 0.5  | μA   |
| Total capacitance     | $C_T$      | $V_R=0, f=1MHz$ | -    | 2.2  | 4.0  | pF   |
| Reverse recovery time | $t_{rr}$   | $I_F=10mA$      | -    | 1.6  | 4.0  | ns   |

Electrical Characteristic Curves

Fig. 1  $I_F-V_F$

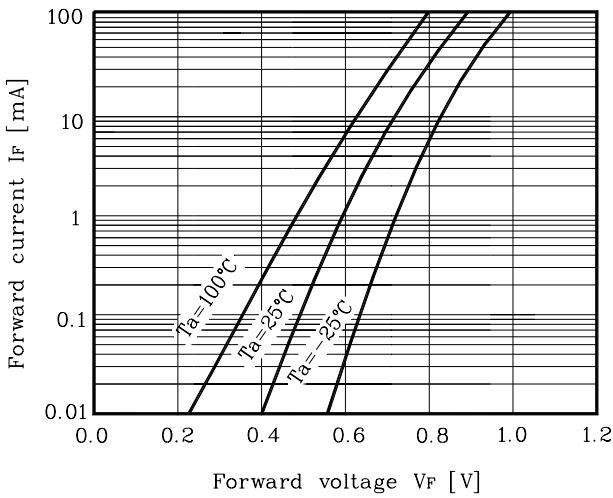


Fig. 2  $I_R-V_R$

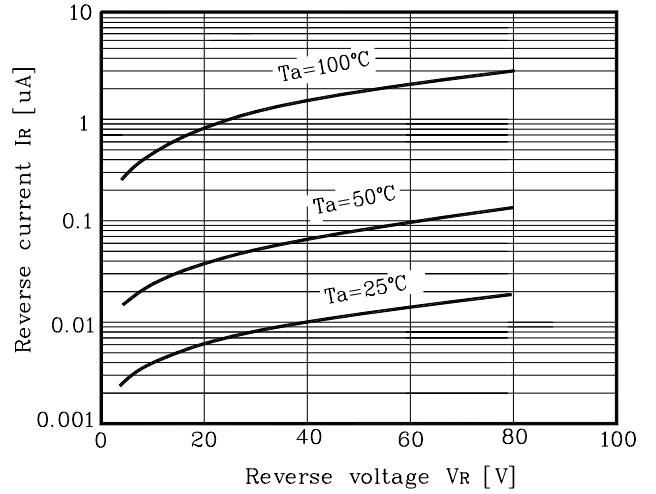


Fig. 3  $C_T-V_R$

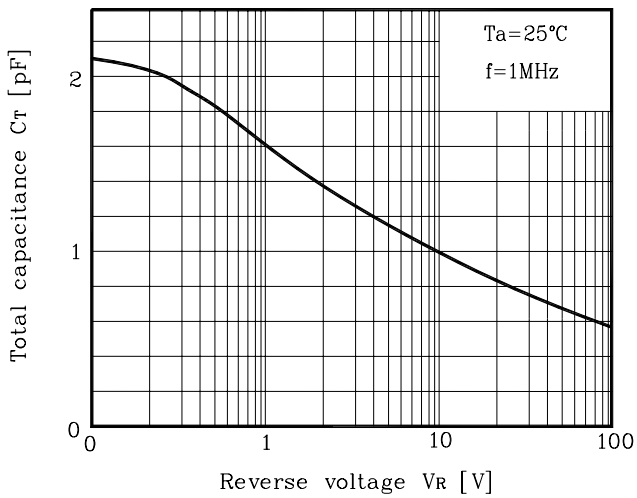


Fig. 4  $t_{rr}-I_F$

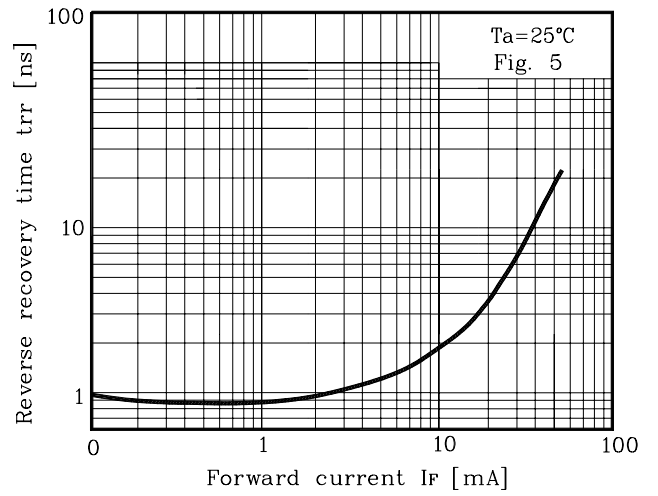


Fig. 5 Reverse recovery time( $t_{rr}$ ) test circuit

