

## SCHOTTKY DIODES

### Features

- ◆ High breakdown voltage
- ◆ Low turn-on voltage
- ◆ Guard ring construction for transient protection

### Marking



### Mechanical Data

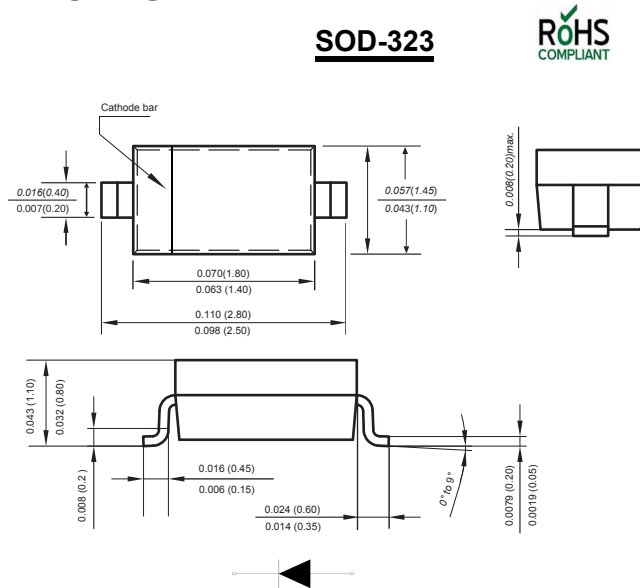
**Case :** SOD-323

**Terminals :** Solderable per MIL-STD-750, Method 2026

**Polarity :** Polarity symbol marking on body

**Mounting Position :** Any

**Weight :** 0.00019 ounce, 0.00548 grams



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

| PARAMETER                                                                          | SYMBOLS         | Limit       | UNITS |
|------------------------------------------------------------------------------------|-----------------|-------------|-------|
| Peak repetitive peak reverse voltage                                               | $V_{RRM}$       | 100         | VOLTS |
| Working peak reverse voltage                                                       | $V_{RWM}$       |             |       |
| Forward Continuous Current                                                         | $I_o$           | 150         | mA    |
| RRetpetitive peak forward current (Note 1)<br>@ $t_p < 1.0s$ , Duty Cycle $< 50\%$ | $I_{FRM}$       | 350         | mA    |
| Non-reptitive Peak Forward Surge Current@ $t = 8.3ms$                              | $I_{FSM}$       | 25          | A     |
| Power dissipation                                                                  | $P_d$           | 200         | mW    |
| Thermal resistance junction to ambient                                             | $R_{\theta JA}$ | 500         | °C/W  |
| Operating Junction Temperature Range                                               | $T_J$           | -55 to +150 | °C    |
| Storage temperature Range                                                          | $T_{STG}$       | -55 to +150 | C     |

### ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| PARAMETER                          | SYMBOLS | Min. | Typ. | Max. | Unit    | Conditions         |
|------------------------------------|---------|------|------|------|---------|--------------------|
| Reverse breakdovn voltage (Note 2) | $V_R$   | 100  |      |      | V       | $I_R=100\mu A$     |
| Forward voltage (Note 2)           | $V_F$   |      |      | 0.25 | V       | $I_{F1}=0.1mA$     |
|                                    | $V_F$   |      |      | 0.45 | V       | $I_{F2}=10mA$      |
|                                    | $V_F$   |      |      | 1.0  | V       | $I_{F3}=250mA$     |
|                                    | $I_R$   |      |      | 0.3  | $\mu A$ | $V_{R1}=1.5V$      |
| Reverse voltage leakage current    | $I_R$   |      |      | 0.5  | $\mu A$ | $V_{R2}=10V$       |
|                                    | $I_R$   |      |      | 1.0  | $\mu A$ | $V_{R3}=50V$       |
|                                    | $I_R$   |      |      | 2.0  | $\mu A$ | $V_{R4}=75V$       |
|                                    | $I_R$   |      |      |      |         |                    |
| Diode capacitance                  | $C_T$   |      |      | 20   | pF      | $V_R=0V, f=1.0MHz$ |
|                                    | $C_T$   |      |      | 12   | pF      | $V_R=1V, f=1.0MHz$ |

#### NOTES:

- ( 1 ) Part mounted on FR-4 board with recommended pad layout.  
( 2 ) Short duration pulse test used to minimize self-heating effect.

## Typical Characteristics

Fig.1 Power Derating Curve

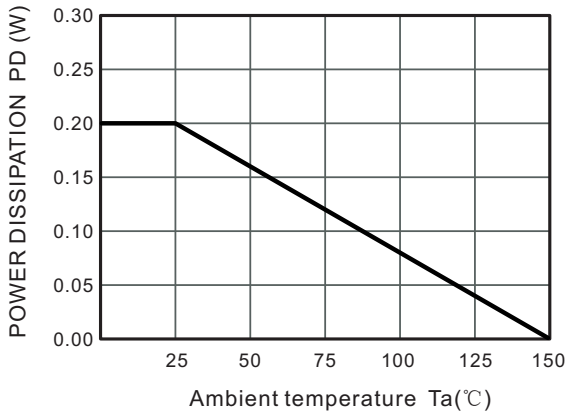


Fig.2 Typical Reverse Characteristics

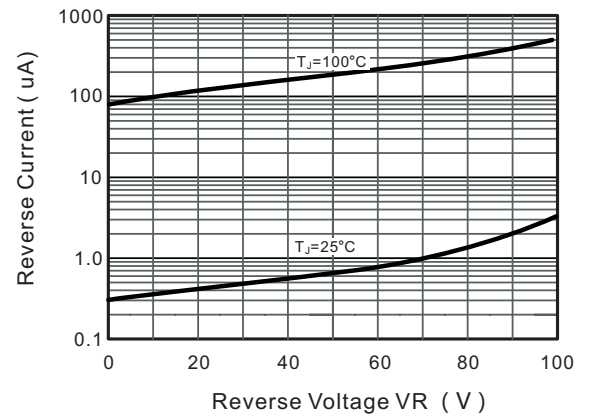


Fig.2 TYPICAL FORWARD VOLTAGE

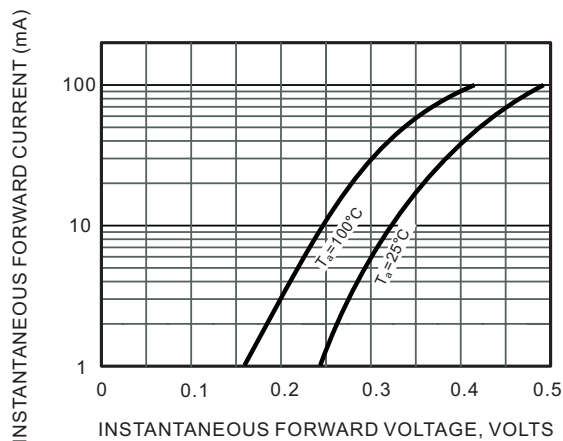


Fig.3 Typical Junction Capacitance

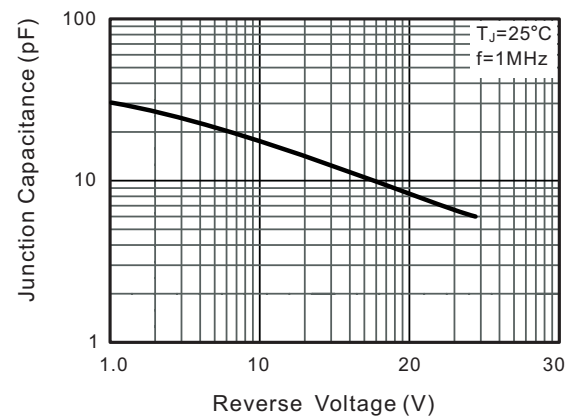


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

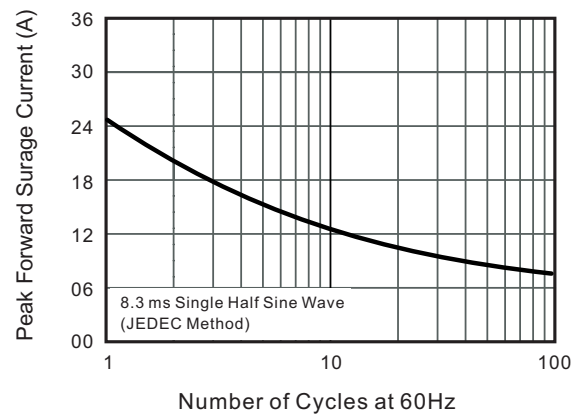
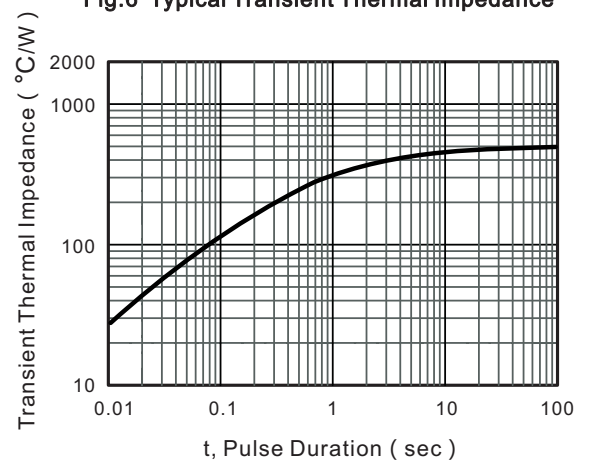
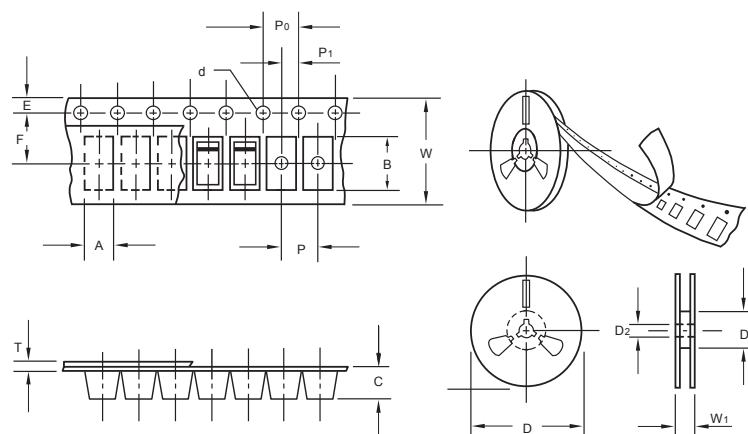


Fig.6 Typical Transient Thermal Impedance



The curve above is for reference only.

## Packing information



unit:mm

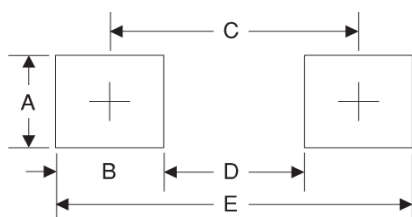
| Item                     | Symbol         | Tolerance | SOD-323 |
|--------------------------|----------------|-----------|---------|
| Carrier width            | A              | 0.1       | 2.1     |
| Carrier length           | B              | 0.1       | 4.0     |
| Carrier depth            | C              | 0.1       | 1.60    |
| Sprocket hole            | d              | 0.05      | 1.55    |
| 7" Reel outside diameter | D              | 2.0       | 178.00  |
| 7" Reel inner diameter   | D <sub>1</sub> | min       | 50.0    |
| Feed hole diameter       | D <sub>2</sub> | 0.5       | 13.00   |
| Sprocket hole position   | E              | 0.1       | 1.75    |
| Punch hole position      | F              | 0.1       | 3.50    |
| Punch hole pitch         | P              | 0.1       | 4.00    |
| Sprocket hole pitch      | P <sub>0</sub> | 0.1       | 4.00    |
| Embossment center        | P <sub>1</sub> | 0.1       | 2.00    |
| Overall tape thickness   | T              | 0.1       | 0.25    |
| Tape width               | W              | 0.3       | 8.15    |
| Reel width               | W <sub>1</sub> | 1.0       | 10.5    |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA, (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|---------------------------|
| SOD-323 | 7"        | 3,000      | 4.0                     | 45,000    | 210*208*203     | 178             | 430*430*235       | 180,000      |                           |

## Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 0.7       | 0.028       |
| B      | 0.7       | 0.028       |
| C      | 2.15      | 0.085       |
| D      | 1.8       | 0.071       |
| E      | 2.85      | 0.112       |