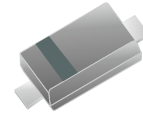


# 1SS389-G

**Reverse Voltage: 10 V**
**Forward Current: 100 mA**
**RoHS Device**


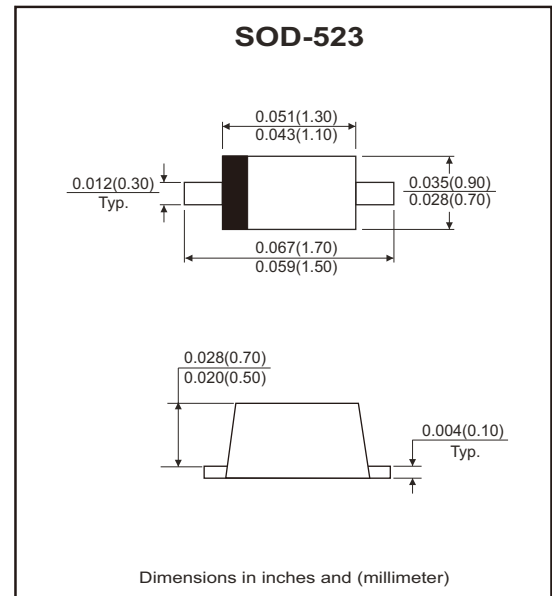
## Features

- High speed switching.
- Small surface mounting type.
- Low forward voltage.

## Mechanical data

- Case: SOD-523 standard package, Molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026
- Mounting position: Any
- Weight: 0.012 grams(approx.)

## Circuit Diagram



## Maximum Ratings (at $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

| Parameter                                 | Conditions                                                           | Symbol    | Value       | Unit               |
|-------------------------------------------|----------------------------------------------------------------------|-----------|-------------|--------------------|
| Peak reverse voltage                      |                                                                      | $V_{RM}$  | 15          | V                  |
| DC reverse voltage                        |                                                                      | $V_R$     | 10          | V                  |
| Maximum (peak) forward current            |                                                                      | $I_{FM}$  | 200         | mA                 |
| Continuous forward current                |                                                                      | $I_F$     | 100         | mA                 |
| Non-repetitive peak forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ | 1           | A                  |
| Total power dissipation                   |                                                                      | $P_{tot}$ | 150         | mW                 |
| Operating temperature range               |                                                                      | $T_{op}$  | -40 to +100 | $^{\circ}\text{C}$ |
| Junction temperature range                |                                                                      | $T_J$     | -40 to +125 | $^{\circ}\text{C}$ |
| Storage temperature range                 |                                                                      | $T_{STG}$ | -55 to +125 | $^{\circ}\text{C}$ |

## Electrical Characteristics (at $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

| Parameter                 | Conditions                          | Symbol      | Min. | Typ. | Max. | Unit          |
|---------------------------|-------------------------------------|-------------|------|------|------|---------------|
| Reverse breakdown voltage | $I_R = 50\mu\text{A}$               | $V_{(BR)R}$ | 10   |      |      | V             |
| Forward voltage           | $I_F = 1\text{mA}$                  | $V_F$       |      | 0.18 |      | V             |
|                           | $I_F = 5\text{mA}$                  |             |      | 0.23 | 0.30 |               |
|                           | $I_F = 100\text{mA}$                |             |      | 0.35 | 0.50 |               |
| Reverse current           | $V_R = 10\text{V}$                  | $I_R$       |      |      | 20   | $\mu\text{A}$ |
| Diode capacitance         | $V_R = 0\text{V}$ , $f=1\text{MHz}$ | $C_d$       |      | 20   | 40   | pF            |

Company reserves the right to improve product design , functions and reliability without notice.

REV:A

## RATING AND TYPICAL CHARACTERISTIC CURVES (1SS389-G)

Fig.1 - Power Derating Curve

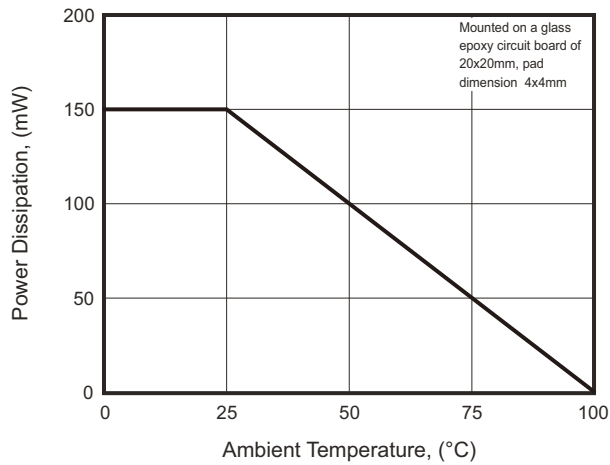


Fig.2 - Forward Characteristics

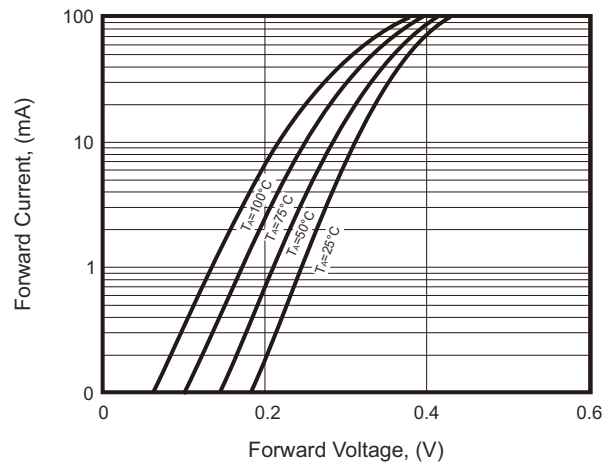


Fig.3 - Reverse Characteristics

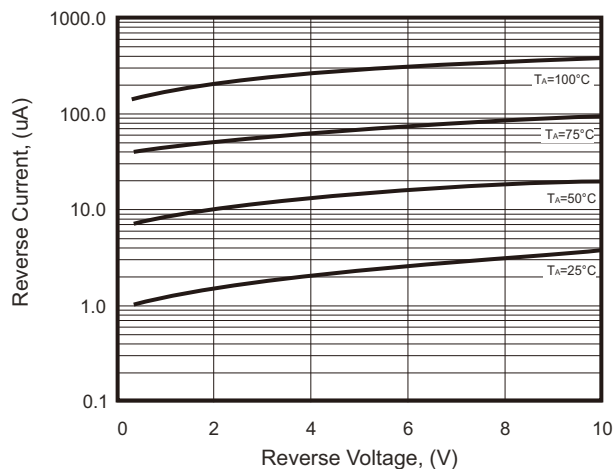
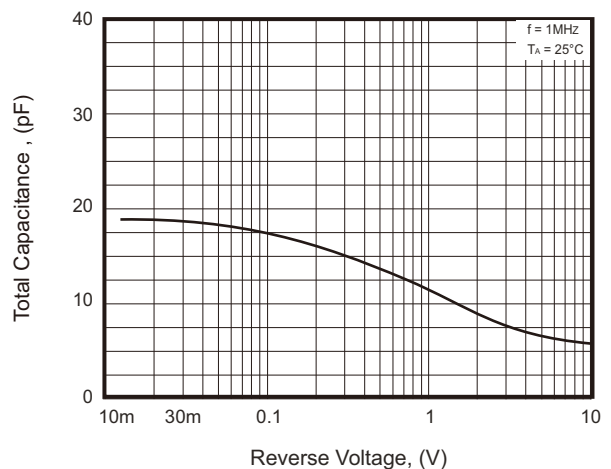
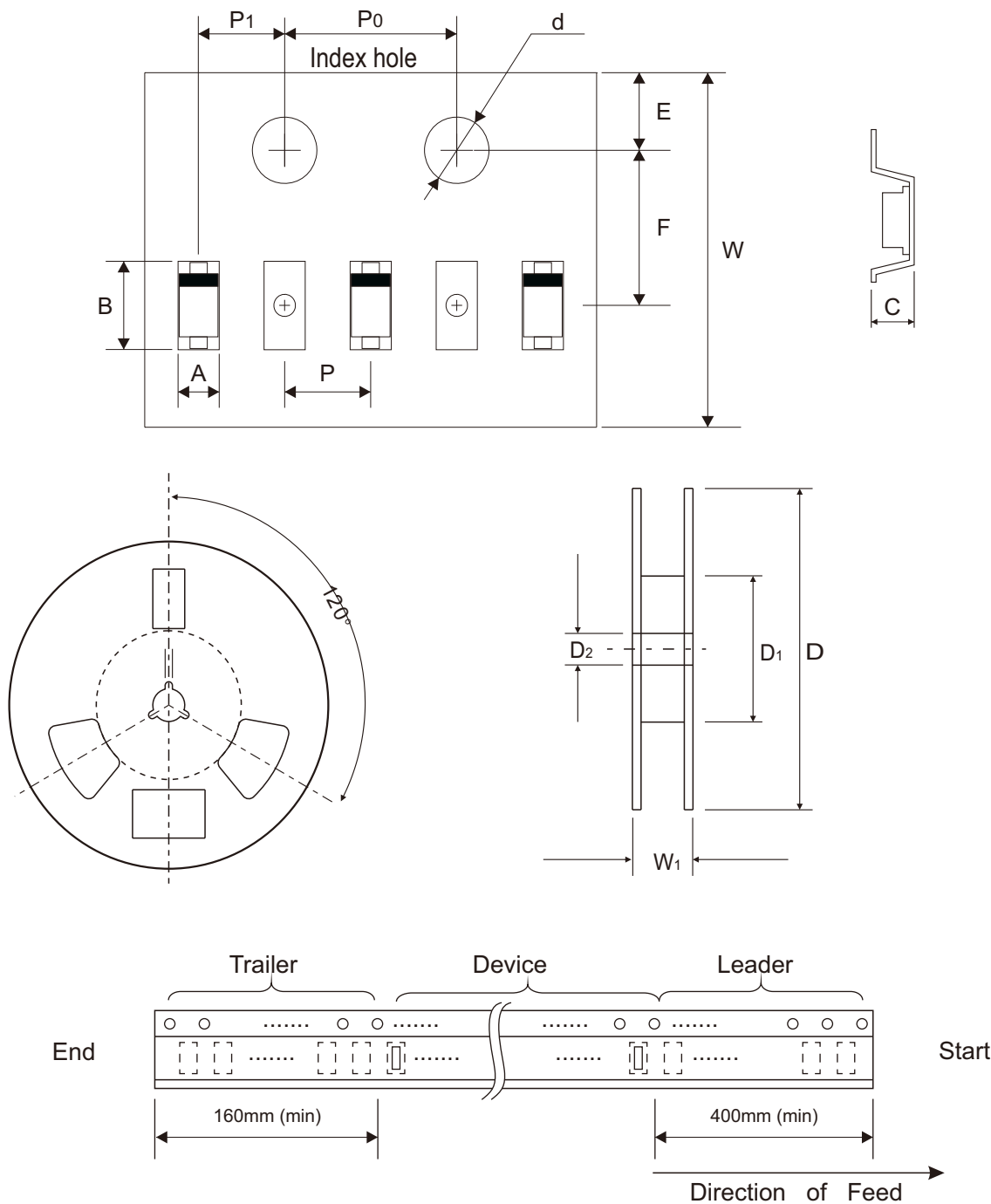


Fig.4 - Capacitance between terminals



## Reel Taping Specification



| SOD-523 | SYMBOL | A                 | B                 | C                 | d                    | D                 | D1                          | D2                |
|---------|--------|-------------------|-------------------|-------------------|----------------------|-------------------|-----------------------------|-------------------|
|         | (mm)   | $0.95 \pm 0.05$   | $1.94 \pm 0.05$   | $0.73 \pm 0.05$   | $\Phi 1.50 \pm 0.10$ | $178.00 \pm 1.00$ | $54.00 \pm 0.50$            | $13.00 \pm 0.50$  |
|         | (inch) | $0.037 \pm 0.002$ | $0.076 \pm 0.002$ | $0.029 \pm 0.002$ | $0.059 \pm 0.004$    | $7.008 \pm 0.039$ | $2.126 \pm 0.020$           | $0.512 \pm 0.020$ |
| SOD-523 | SYMBOL | E                 | F                 | P                 | P0                   | P1                | W                           | W1                |
|         | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $2.00 \pm 0.05$   | $4.00 \pm 0.10$      | $2.00 \pm 0.05$   | $8.00 \pm 0.30 / - 0.10$    | $12.30 \pm 1.00$  |
|         | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.079 \pm 0.002$ | $0.158 \pm 0.004$    | $0.079 \pm 0.002$ | $0.315 \pm 0.012 / - 0.004$ | $0.484 \pm 0.039$ |

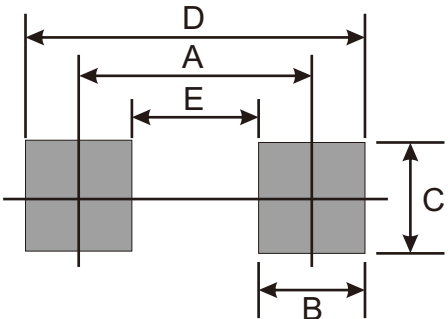
## Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| 1SS389-G    | S4           |



## Suggested PAD Layout

| SIZE | SOD-523 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 1.40    | 0.055  |
| B    | 0.40    | 0.016  |
| C    | 0.40    | 0.016  |
| D    | 1.80    | 0.071  |
| E    | 1.00    | 0.039  |



## Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOD-523   | 3,000           | 7                   |