

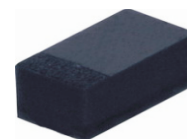
## CDSUR4448-HF

$I_o = 125 \text{ mA}$

$V_R = 80 \text{ Volts}$

RoHS Device

Halogen Free



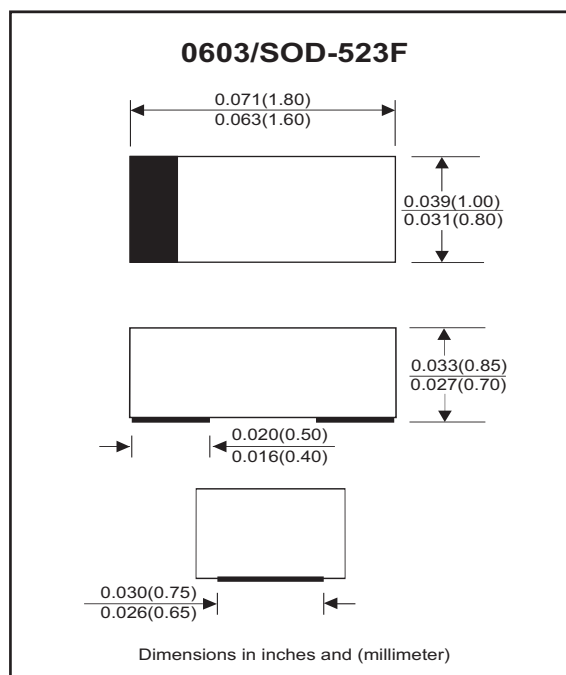
### Features

- Fast Switching Speed
- Designed for mounting on small surface.
- Extremely thin/leadless package.

### Mechanical data

- Case: 0603/SOD-523F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.
- Weight: 0.003 grams(approx.).

### Circuit diagram



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

| Parameter                         | Conditions                                 | Symbol    | Min | Typ | Max    | Unit             |
|-----------------------------------|--------------------------------------------|-----------|-----|-----|--------|------------------|
| Repetitive peak reverse voltage   |                                            | $V_{RRM}$ |     |     | 100    | V                |
| Reverse voltage                   |                                            | $V_R$     |     |     | 80     | V                |
| Average forward rectified current |                                            | $I_o$     |     |     | 125    | mA               |
| Forward current, surge peak       | $t = 1 \text{ us}$<br>$t = 8.3 \text{ ms}$ | $I_{FSM}$ |     |     | 2<br>1 | A                |
| Power dissipation                 |                                            | $P_D$     |     |     | 200    | mW               |
| Operating temperature range       |                                            | $T_j$     | -40 |     | +125   | $^\circ\text{C}$ |
| Storage temperature range         |                                            | $T_{STG}$ | -40 |     | +125   | $^\circ\text{C}$ |

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

| Parameter                     | Conditions                                                                        | Symbol   | Min  | Typ | Max       | Unit |
|-------------------------------|-----------------------------------------------------------------------------------|----------|------|-----|-----------|------|
| Forward voltage               | $I_F = 5 \text{ mA}$<br>$I_F = 100 \text{ mA}$                                    | $V_F$    | 0.62 |     | 0.72<br>1 | V    |
| Reverse current               | $V_R = 20 \text{ V}$<br>$V_R = 80 \text{ V}$                                      | $I_R$    |      |     | 25<br>100 | nA   |
| Capacitance between terminals | $f = 1 \text{ MHz}$ , and 0.5 VDC reverse voltage                                 | $C_T$    |      |     | 9         | pF   |
| Reverse recovery time         | $I_F = I_R = 10 \text{ mA}$ , $I_{rr} = 0.1 \times I_R$ , $R_L = 100 \text{ ohm}$ | $T_{rr}$ |      |     | 9         | nS   |

RATING AND CHARACTERISTIC CURVES (CDSUR4448-HF)

Fig.1 - Forward Characteristics

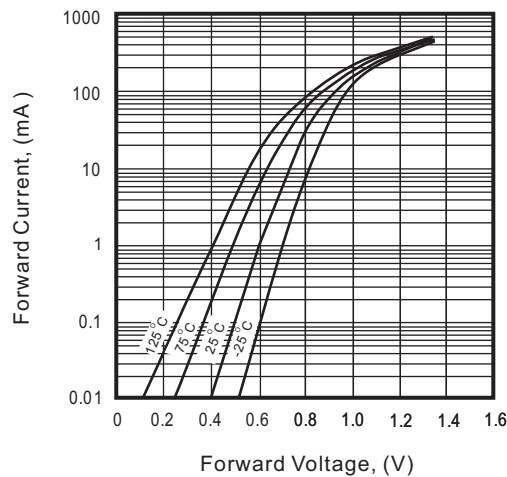


Fig.2 - Reverse Characteristics

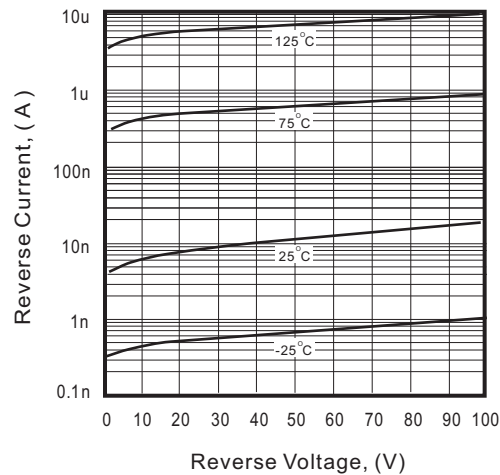


Fig.3 - Capacitance Between Terminals Characteristics

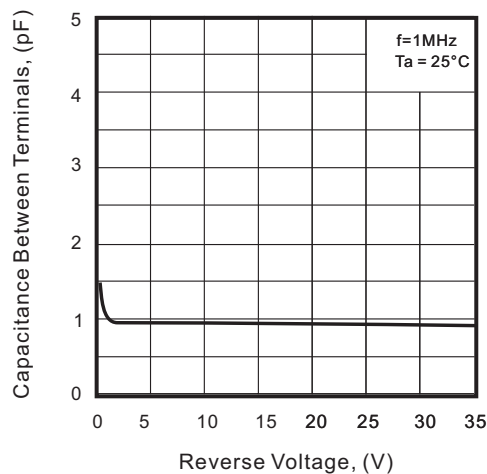
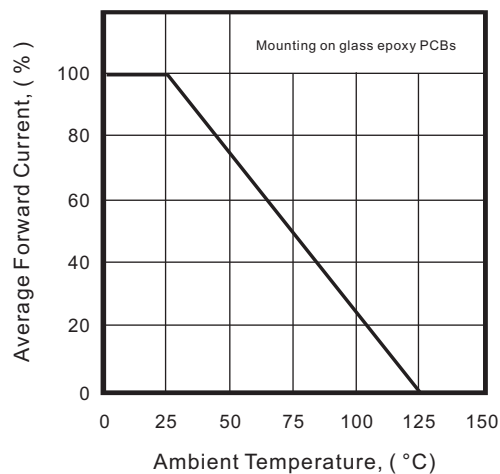
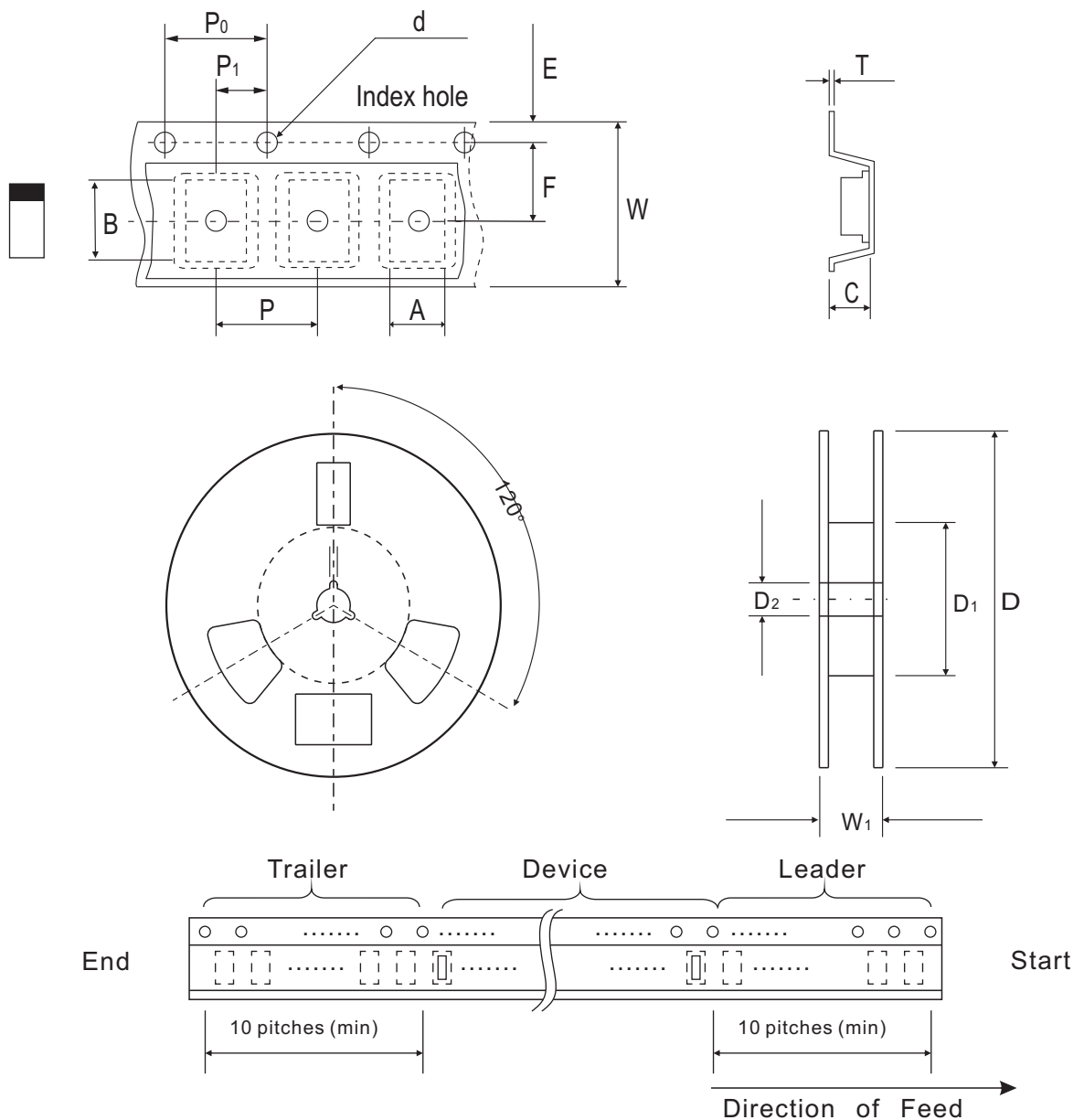


Fig.4 - Current Derating Curve



## Reel Taping Specification



| 0603<br>(SOD-523F) | SYMBOL | A             | B             | C             | d             | D            | D <sub>1</sub> | D <sub>2</sub> |
|--------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
|                    | (mm)   | 1.00 ± 0.10   | 1.85 ± 0.10   | 1.00 ± 0.10   | 1.55 ± 0.05   | 178 ± 1      | 60.0 MIN.      | 13.0 ± 0.20    |
|                    | (inch) | 0.039 ± 0.004 | 0.073 ± 0.004 | 0.039 ± 0.004 | 0.061 ± 0.002 | 7.008 ± 0.04 | 2.362 MIN.     | 0.512 ± 0.008  |

| 0603<br>(SOD-523F) | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | T             | W             | W <sub>1</sub> |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
|                    | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 4.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.05    | 0.23 ± 0.05   | 8.00 ± 0.20   | 13.5 MAX.      |
|                    | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.004  | 0.009 ± 0.002 | 0.315 ± 0.008 | 0.531 MAX.     |

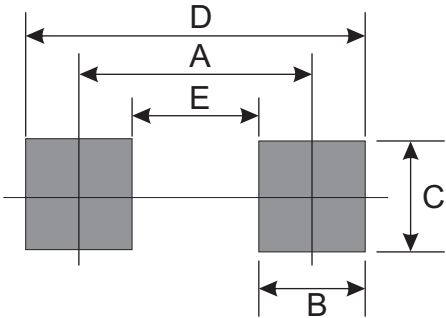
Marking Code

| Part Number  | Marking Code |
|--------------|--------------|
| CDSUR4448-HF | S5           |



Suggested PAD Layout

| SIZE | 0603/SOD-523F |        |
|------|---------------|--------|
|      | (mm)          | (inch) |
| A    | 1.25          | 0.049  |
| B    | 0.60          | 0.024  |
| C    | 1.00          | 0.039  |
| D    | 1.85          | 0.073  |
| E    | 0.65          | 0.026  |



Standard Packaging

| Case Type     | Qty Per Reel | Reel Size |
|---------------|--------------|-----------|
|               | (Pcs)        | (inch)    |
| 0603/SOD-523F | 4,000        | 7         |