

## CDBU0240

**$I_o = 200 \text{ mA}$**   
 **$V_R = 40 \text{ Volts}$**   
**RoHS Device**



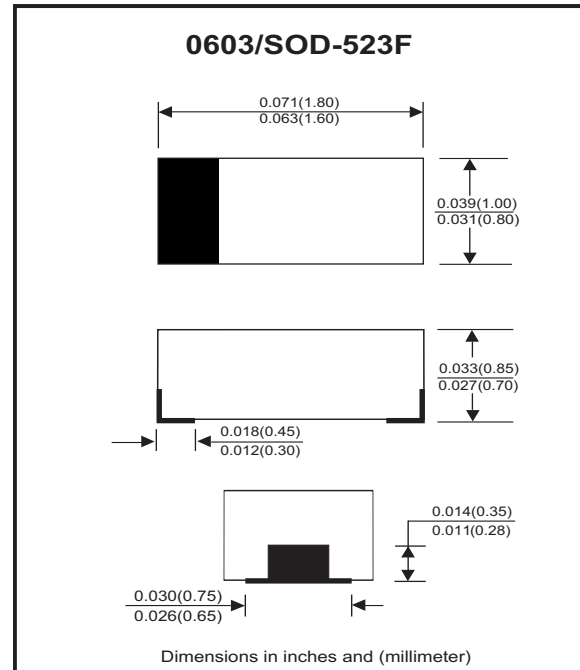
### Features

- Designed for mounting on small surface.
- Extremely thin/leadless package.
- Majority carrier conduction.

### 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 |   | $V_{RRM}$ |     |     | 45   | V                |
| Reverse voltage                 |   | $V_R$     |     |     | 40   | V                |
| Average forward current         |   | $I_o$     |     |     | 200  | mA               |
| Forward current, surge peak     | 8.3 ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ |     | 3   |      | A                |
| Power Dissipation               |   | $P_D$     |     |     | 150  | mW               |
| Junction temperature            |   | $T_j$     |     |     | +125 | $^\circ\text{C}$ |
| Storage temperature             |   | $T_{STG}$ | -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               | $I_F = 200 \text{ mA DC}$                      | $V_F$  |     | 0.45 | 0.55 | V             |
| Reverse current               | $V_R = 30\text{V}$                             | $I_R$  |     | 1    | 10   | $\mu\text{A}$ |
| Capacitance between terminals | $F = 1 \text{ MHz}$ and 10 VDC reverse voltage | $C_T$  |     | 9    |      | pF            |

## RATING AND CHARACTERISTIC CURVES (CDBU0240)

Fig. 1 - Forward characteristics

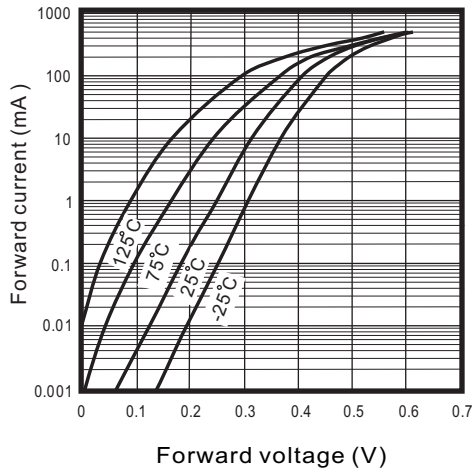


Fig. 2 - Reverse characteristics

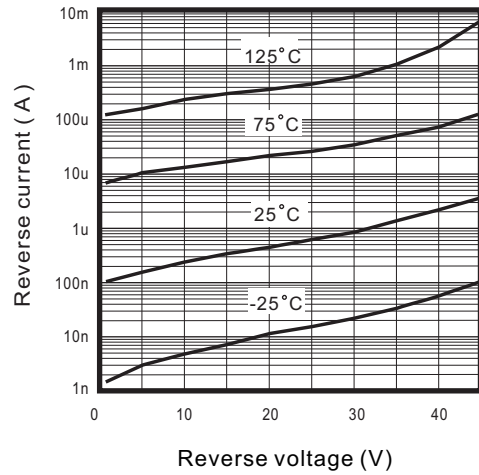


Fig. 3 - Capacitance between terminals characteristics

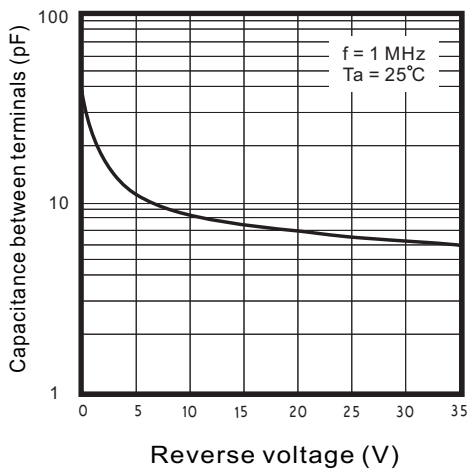
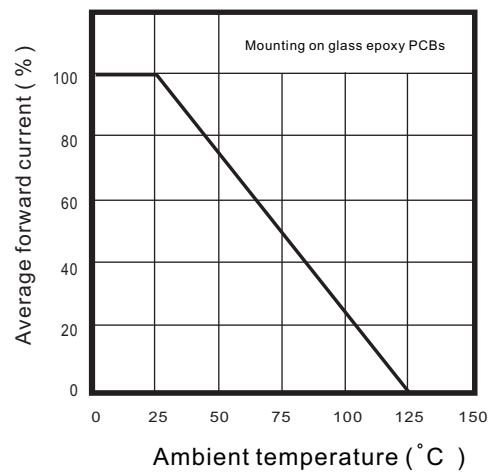
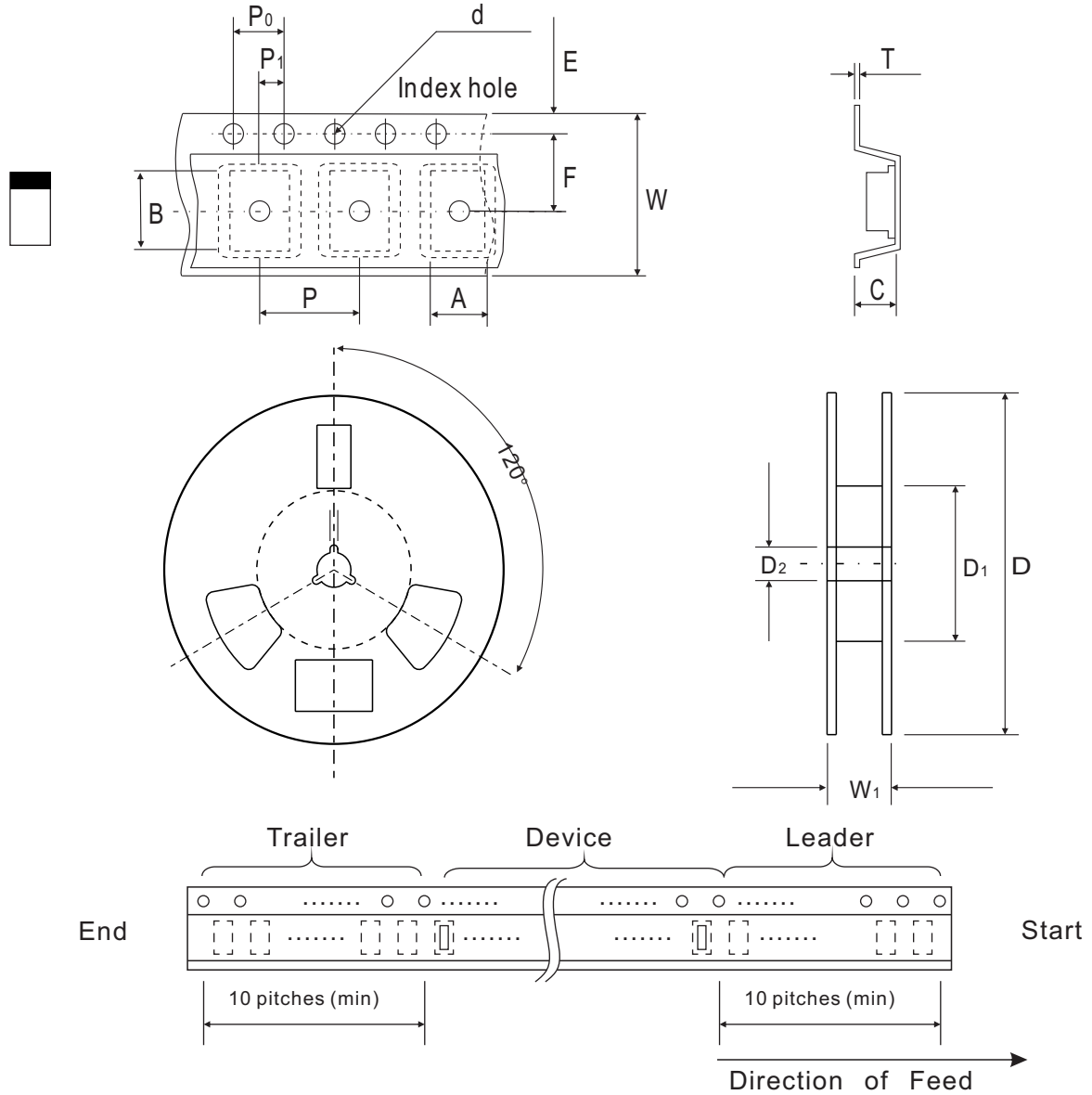


Fig. 4 - Current derating curve



## 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.     |

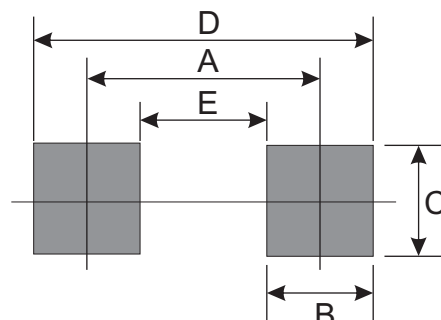
## Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| CDBU0240    | B7           |



## Suggested PAD Layout

| SIZE | 0603/SOD-523F |        |
|------|---------------|--------|
|      | (mm)          | (inch) |
| A    | 1.70          | 0.067  |
| B    | 0.60          | 0.024  |
| C    | 0.80          | 0.031  |
| D    | 2.30          | 0.091  |
| E    | 1.10          | 0.043  |



## Standard Packaging

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