

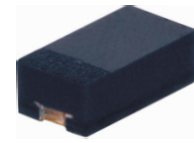
## CDBU0140R-HF

$I_o = 100 \text{ mA}$

$V_R = 40 \text{ Volts}$

RoHS Device

Halogen Free



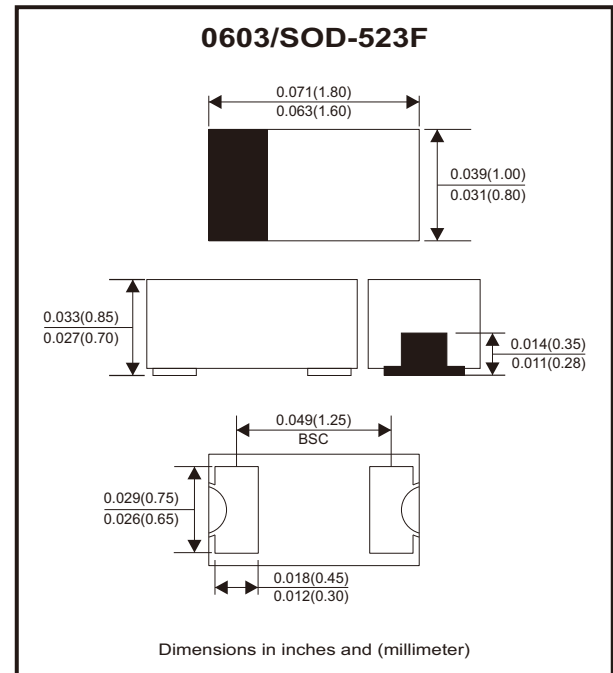
### Features

- Low reverse current.
- 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.
- 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 rectified current |                                                                       | $I_o$     |     |     | 100  | mA               |
| Forward current, surge peak       | 8.3 ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ |     |     | 1    | A                |
| Power dissipation                 |                                                                       | $P_D$     |     |     | 150  | mW               |
| Storage temperature               |                                                                       | $T_{STG}$ | -40 |     | +125 | $^\circ\text{C}$ |
| Junction temperature              |                                                                       | $T_j$     |     |     | +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               | $I_F = 10 \text{ mA}$                            | $V_F$  |     |     | 0.45 | V             |
| Reverse current               | $V_R = 10 \text{ V}$                             | $I_R$  |     |     | 1    | $\mu\text{A}$ |
| Capacitance between terminals | $f = 1 \text{ MHz}$ , and 10 VDC reverse voltage | $C_T$  |     | 6   |      | pF            |

Rating and Characteristic Curves (CDBU0140R-HF)

Fig.1 - Forward Characteristics

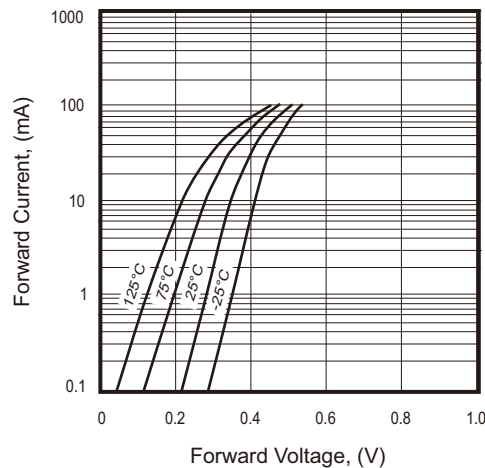


Fig.2 - Reverse Characteristics

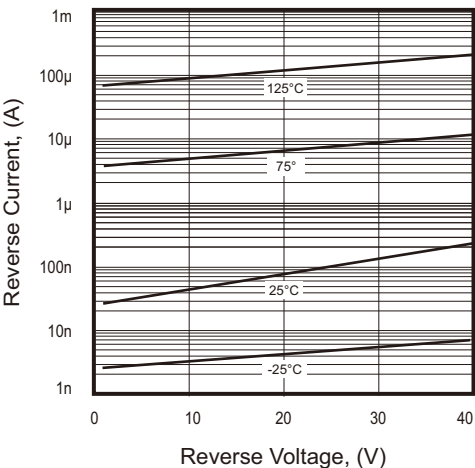


Fig.3 - Capacitance Between  
Terminals Characteristics

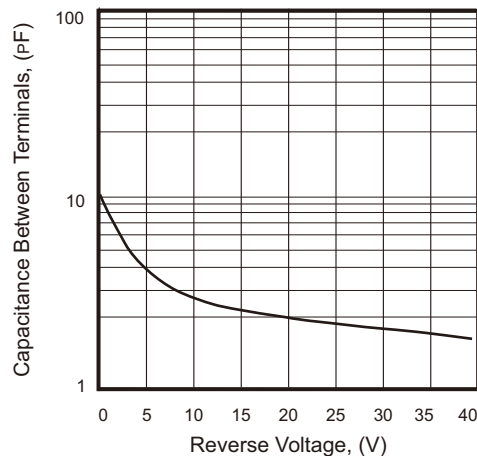
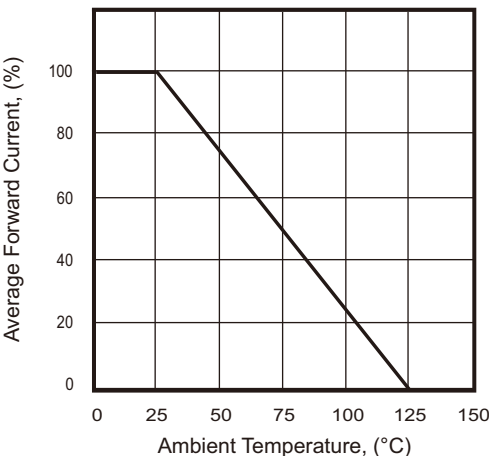
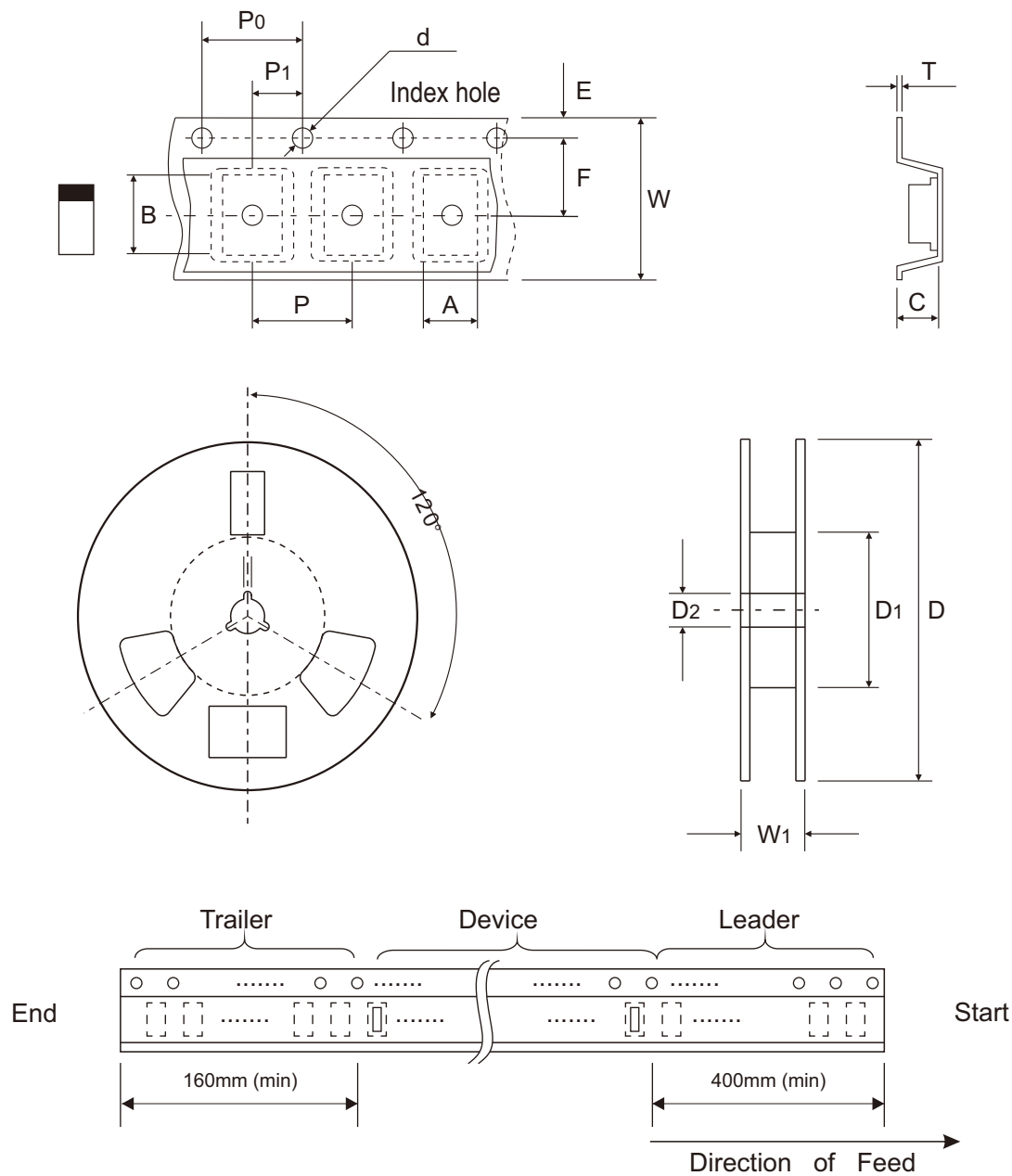


Fig.4 - Current Derating Curve



Reel Taping Specification



| 0603<br>(SOD-523F) | SYMBOL | A                 | B                 | C                 | d                       | D                 | D1                | D2                |
|--------------------|--------|-------------------|-------------------|-------------------|-------------------------|-------------------|-------------------|-------------------|
|                    | (mm)   | $1.16 \pm 0.10$   | $1.90 \pm 0.10$   | $0.95 \pm 0.10$   | $1.50 + 0.10 - 0.00$    | $178.00 \pm 1.00$ | $60.00 \pm 0.50$  | $13.50 \pm 0.20$  |
|                    | (inch) | $0.046 \pm 0.004$ | $0.075 \pm 0.004$ | $0.037 \pm 0.004$ | $0.059 + 0.004 - 0.000$ | $7.008 \pm 0.039$ | $2.362 \pm 0.020$ | $0.531 \pm 0.008$ |

| 0603<br>(SOD-523F) | SYMBOL | E                 | F                 | P                 | P0                | P1                | T                 | W                 | W1                      |
|--------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|
|                    | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $0.22 \pm 0.03$   | $8.00 \pm 0.20$   | $12.00 + 0.50 - 0.00$   |
|                    | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.009 \pm 0.001$ | $0.315 \pm 0.008$ | $0.472 + 0.020 - 0.000$ |

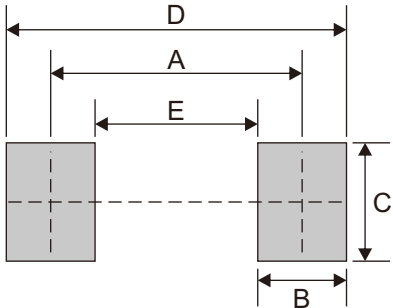
Marking Code

| Park Number  | Marking Code |
|--------------|--------------|
| CDBU0140R-HF | B9           |



Suggested P.C.B. 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     | REEL PACK  |                  |
|---------------|------------|------------------|
|               | REEL (pcs) | Reel Size (inch) |
| 0603/SOD-523F | 4,000      | 7                |