

# SMD Schottky Barrier Diode

## CDBU0320/0330/0340-HF

$I_o = 350 \text{ mA}$

$V_R = 20 \text{ to } 40 \text{ Volts}$

RoHS Device

Halogen Free

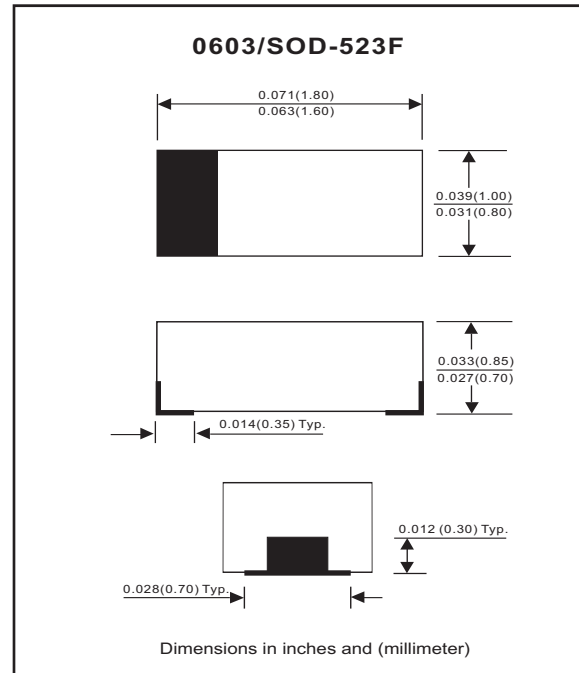


### Features

- Low forward voltage.
- 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.
- Marking code:
  - CDBU0320-HF : BH
  - CDBU0330-HF : BJ
  - CDBU0340-HF : BK
- Mounting position: Any
- Weight: 0.003 gram(approx.).



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

| Parameter                                                   | Symbol             | CDBU0320-HF | CDBU0330-HF | CDBU0340-HF | Unit                 |
|-------------------------------------------------------------|--------------------|-------------|-------------|-------------|----------------------|
| Repetitive Peak reverse voltage<br>Reverse voltage          | $V_{RRM}$<br>$V_R$ | 20          | 30          | 40          | V                    |
| RMS reverse voltage                                         | $V_{R(RMS)}$       | 14          | 21          | 28          | V                    |
| Average forward rectified current                           | $I_o$              | 350         |             |             | mA                   |
| Forward current, surge peak<br>8.3 ms single half sine-wave | $I_{FSM}$          | 1.5         |             |             | A                    |
| Power dissipation                                           | $P_D$              | 150         |             |             | mW                   |
| Thermal resistance junction<br>to ambient air               | $R_{\theta JA}$    | 667         |             |             | $^{\circ}\text{C/W}$ |
| Storage temperature                                         | $T_{STG}$          | -65 to +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          |
|--------------------------------------------------------------|-------------------------------------------------------------------------|----------|-----|-----|--------------|---------------|
| Reverse current<br>CDBU0320-HF<br>CDBU0330-HF<br>CDBU0340-HF | $V_R = 20\text{V}$<br>$V_R = 30\text{V}$<br>$V_R = 40\text{V}$          | $I_R$    |     |     | 5<br>5<br>5  | $\mu\text{A}$ |
| Forward voltage                                              | $I_F = 20\text{mA}$<br>$I_F = 200\text{mA}$                             | $V_F$    |     |     | 0.37<br>0.60 | V             |
| Capacitance between terminals                                | $f = 1 \text{ MHz}$ , and 0 VDC reverse voltage                         | $C_T$    |     | 50  |              | pF            |
| Reverse recovery time                                        | $I_F=I_R=10\text{mA}$ , $I_{rr}=0.1 \times I_R$ , $R_L=100 \text{ ohm}$ | $T_{rr}$ |     | 6.4 |              | nS            |

## RATING AND CHARACTERISTIC CURVES (CDBU0320/0330/0340-HF)

Fig. 1 - Forward characteristics

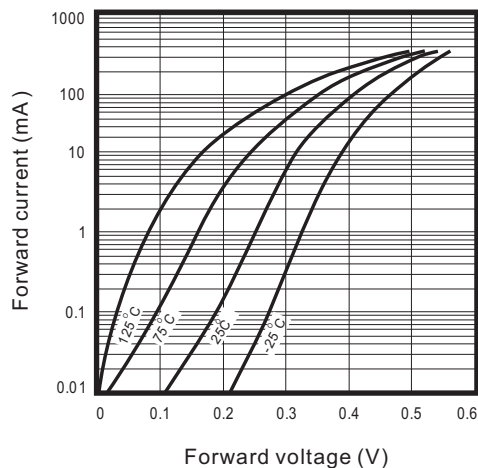


Fig. 2 - Reverse characteristics

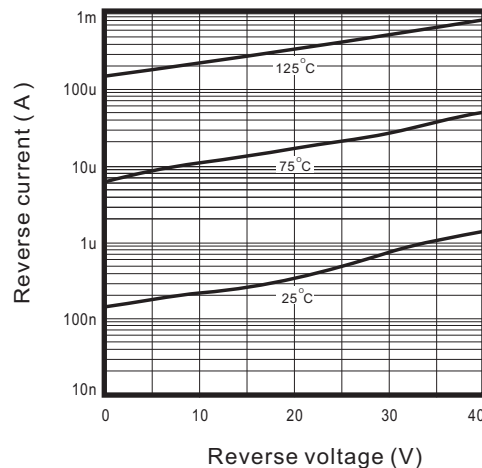


Fig.3 - Capacitance between terminals characteristics

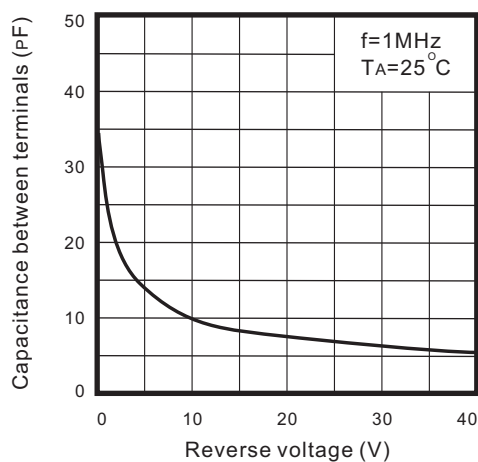
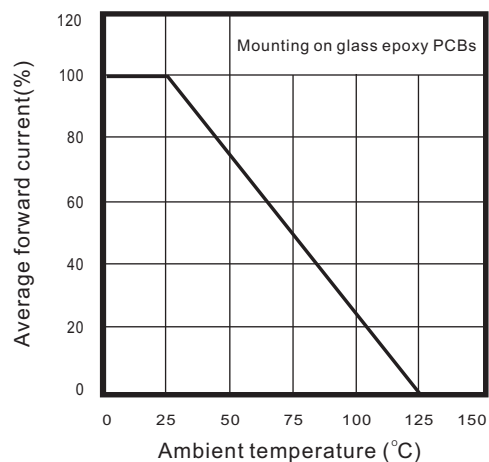
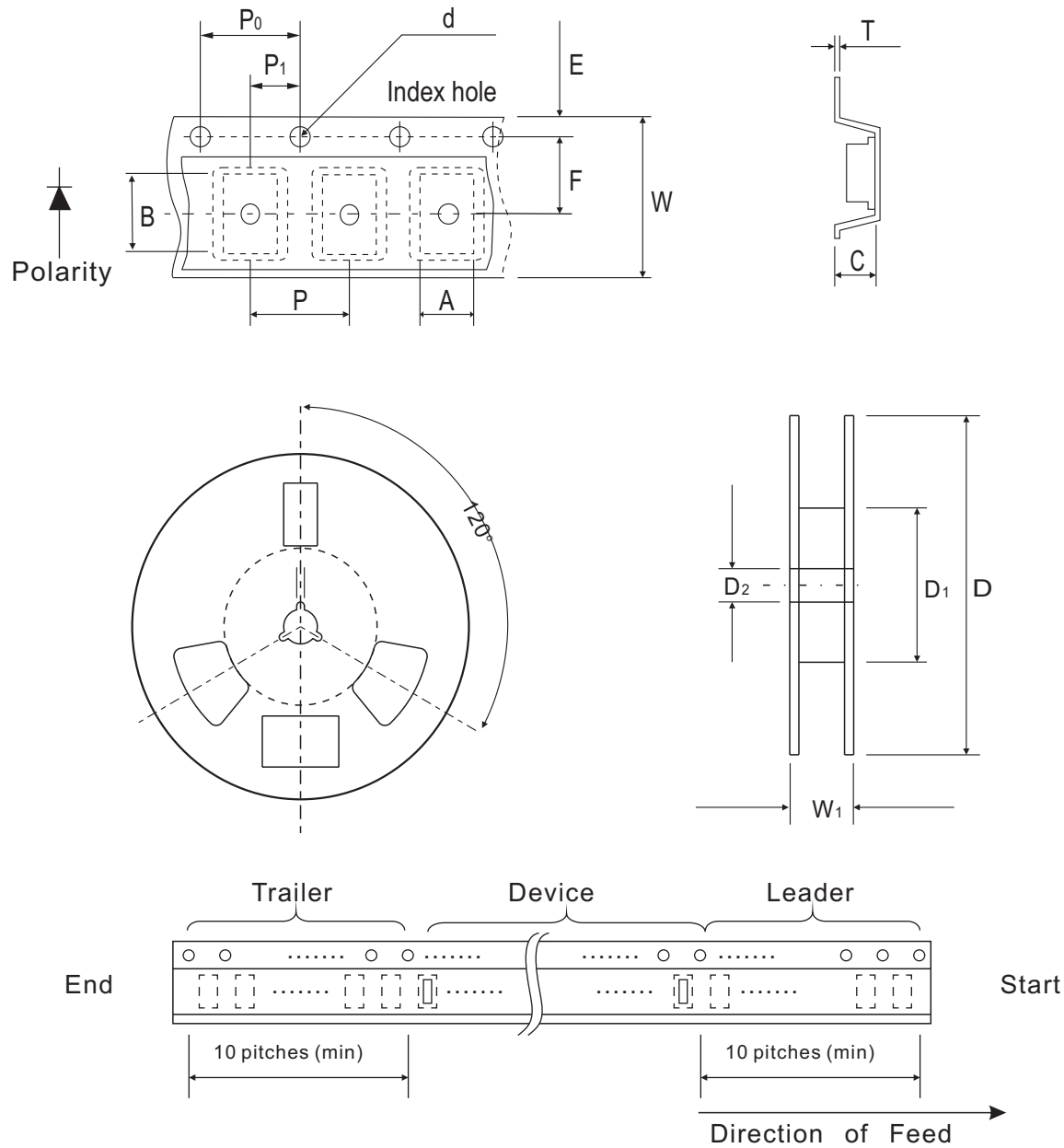


Fig.4 - Current derating curve



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

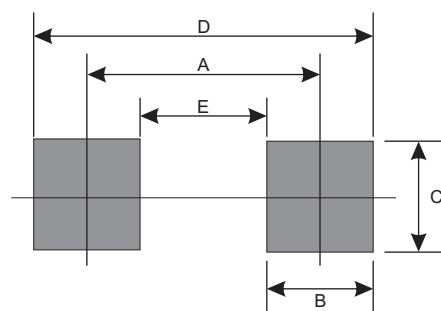
| Part Number | Marking Code |
|-------------|--------------|
| CDBU0320-HF | BH           |
| CDBU0330-HF | BJ           |
| CDBU0340-HF | BK           |



xx = Product type marking code

## 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 Package

| Case Type     | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
|               | (Pcs)        | (inch)    |
| 0603/SOD-523F | 4000         | 7         |