

# SMD Schottky Barrier Diode

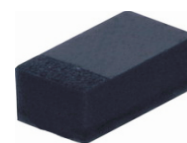
## CDBFR42/43-HF

$I_o = 200 \text{ mA}$

$V_R = 30 \text{ Volts}$

RoHS Device

Halogen Free

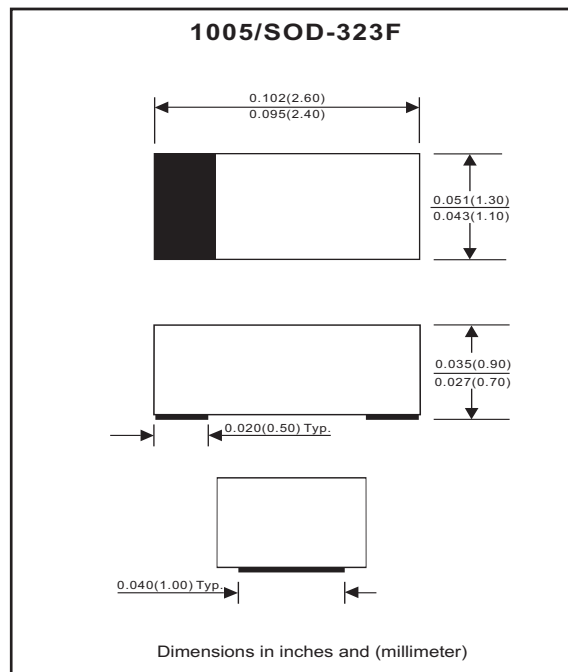


### Features

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

### Mechanical data

- Case: 1005/SOD-323F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking code:  
CDBFR42-HF : BD  
CDBFR43-HF : BE
- Mounting position: Any
- Weight: 0.006 gram(approx.).



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

| Parameter                                  | Conditions                                                            | Symbol          | Min | Typ | Max  | Unit               |
|--------------------------------------------|-----------------------------------------------------------------------|-----------------|-----|-----|------|--------------------|
| Peak reverse voltage                       |                                                                       | $V_{RM}$        |     |     | 30   | V                  |
| Reverse voltage                            |                                                                       | $V_R$           |     |     | 30   | V                  |
| RMS reverse voltage                        |                                                                       | $V_{R(RMS)}$    |     |     | 21   | V                  |
| Average forward rectified current          |                                                                       | $I_o$           |     |     | 200  | mA                 |
| Repetitive peak forward current            |                                                                       | $I_{FRM}$       |     |     | 0.5  | A                  |
| Forward current,surge peak                 | 8.3 ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       |     |     | 4    | A                  |
| Power Dissipation                          |                                                                       | $P_D$           |     |     | 200  | mW                 |
| Thermal resistance junction to ambient air |                                                                       | $R_{\theta JA}$ |     |     | 500  | $^\circ\text{C/W}$ |
| Storage temperature                        |                                                                       | $T_{STG}$       | -55 |     | +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 CDBFR42/43-HF<br>CDBFR42-HF<br>CDBFR42-HF<br>CDBFR43-HF<br>CDBFR43-HF | $I_F = 200\text{mA}$<br>$I_F = 10\text{mA}$<br>$I_F = 50\text{mA}$<br>$I_F = 2\text{mA}$<br>$I_F = 15\text{mA}$ | $V_F$    |     |     | 1<br>0.4<br>0.65<br>0.33<br>0.45 | V             |
| Reverse current                                                                       | $V_R = 25\text{V}$                                                                                              | $I_R$    |     |     | 0.5                              | $\mu\text{A}$ |
| Capacitance between terminals                                                         | $f = 1 \text{ MHz}$ , and 1 VDC reverse voltage                                                                 | $C_T$    |     |     | 10                               | pF            |
| Reverse recovery time                                                                 | $I_F=I_R=10\text{mA}$ , $I_{rr}=0.1 \times I_R$ , $R_L=100 \text{ ohm}$                                         | $T_{rr}$ |     |     | 5                                | nS            |

REV:A

## RATING AND CHARACTERISTIC CURVES (CDBFR42/43-HF)

Fig. 1 - Forward characteristics

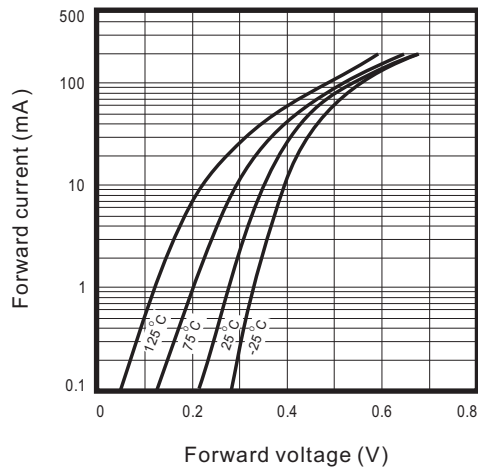


Fig. 2 - Reverse characteristics

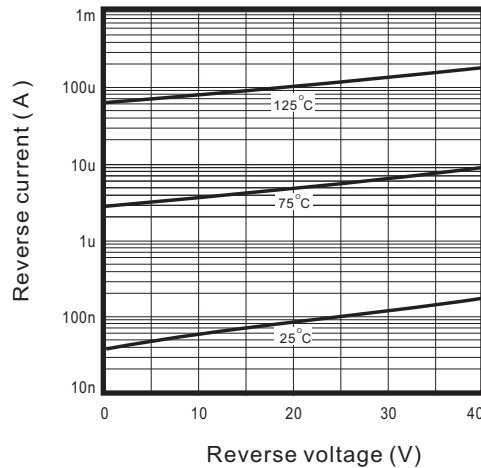


Fig.3 - Capacitance between terminals characteristics

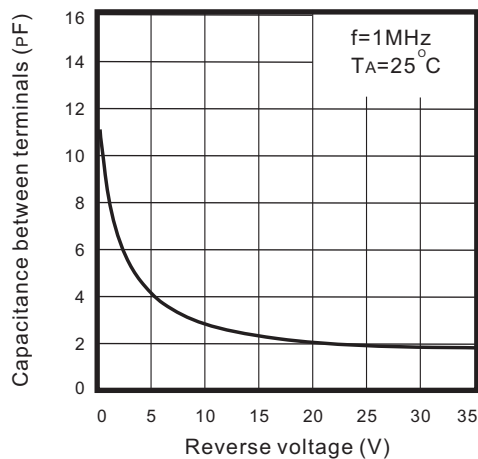
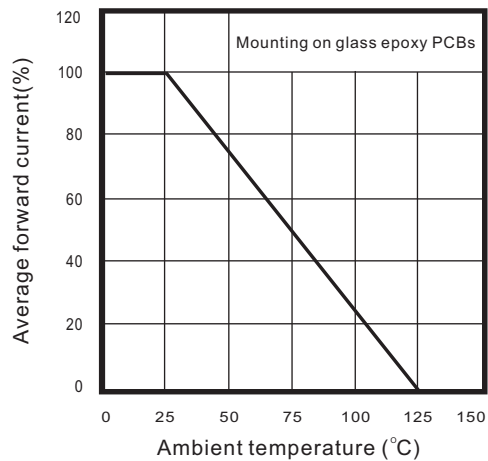
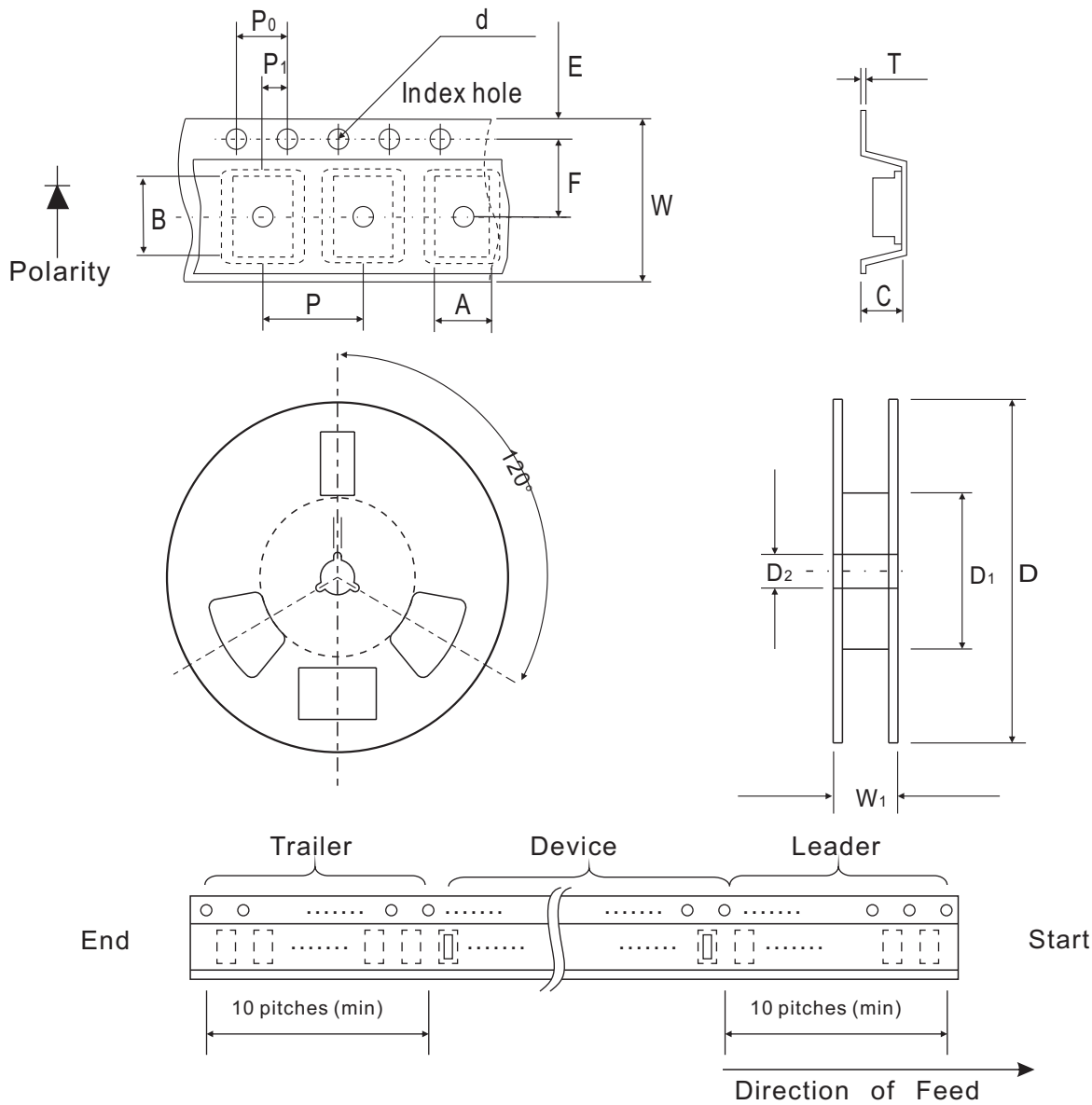


Fig.4 - Current derating curve



## Reel Taping Specification



|                    |        |               |               |               |               |              |                |                |
|--------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| 1005<br>(SOD-323F) | SYMBOL | A             | B             | C             | d             | D            | D <sub>1</sub> | D <sub>2</sub> |
|                    | (mm)   | 1.55 ± 0.10   | 2.65 ± 0.10   | 1.05 ± 0.10   | 1.55 ± 0.05   | 178 ± 1      | 60.0 MIN.      | 13.0 ± 0.20    |
|                    | (inch) | 0.061 ± 0.004 | 0.104 ± 0.004 | 0.041 ± 0.004 | 0.061 ± 0.002 | 7.008 ± 0.04 | 2.362 MIN.     | 0.512 ± 0.008  |

|                    |        |               |               |               |                |                |               |               |                |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| 1005<br>(SOD-323F) | 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

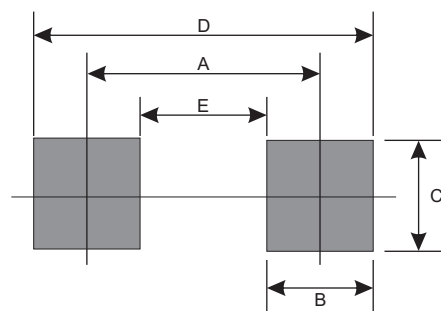
| Park Number | Marking Code |
|-------------|--------------|
| CDBFR42-HF  | BD           |
| CDBFR43-HF  | BE           |



xx = Product type marking code

## Suggested PAD Layout

| SIZE | 1005/SOD-323F |        |
|------|---------------|--------|
|      | (mm)          | (inch) |
| A    | 2.00          | 0.079  |
| B    | 0.70          | 0.028  |
| C    | 1.30          | 0.051  |
| D    | 2.70          | 0.106  |
| E    | 1.30          | 0.051  |



## Standard Package

| Case Type     | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
|               | (Pcs)        | (inch)    |
| 1005/SOD-323F | 4000         | 7         |