

# SMD Schottky Barrier Diode

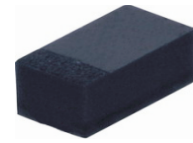
## CDBFR40-HF

$I_o = 200 \text{ mA}$

$V_R = 40 \text{ Volts}$

RoHS Device

Halogen Free

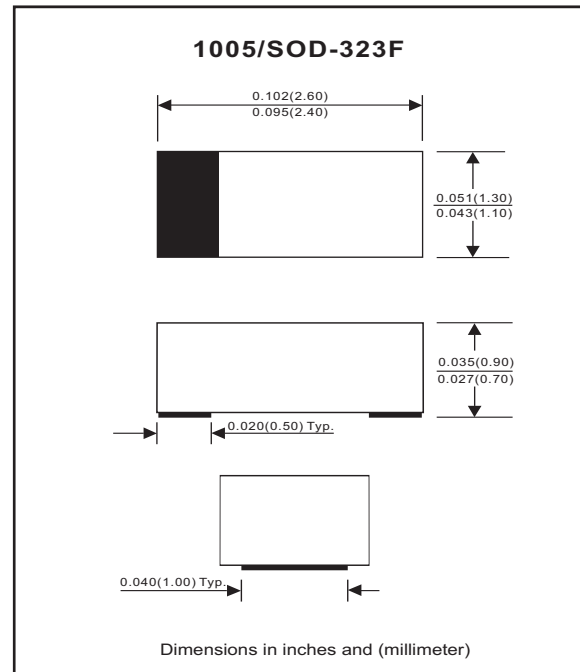


### Features

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

### Mechanical data

- Case: 1005/SOD-323F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking code: cathode band & BC
- 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              |                                                                      | $V_{RM}$     |     |     | 40   | V                |
| Reverse voltage                   |                                                                      | $V_R$        |     |     | 40   | V                |
| RMS reverse voltage               |                                                                      | $V_{R(RMS)}$ |     |     | 28   | V                |
| Average forward rectified current |                                                                      | $I_o$        |     |     | 200  | mA               |
| Forward current,surge peak        | 8.3 ms single half sine-wave superimposed on rate load(JEDEC method) | $I_{FSM}$    |     |     | 0.6  | A                |
| Power dissipation                 |                                                                      | $P_D$        |     |     | 200  | mW               |
| Storage temperature               |                                                                      | $T_{STG}$    | -65 |     | +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               | $I_F = 1\text{mA}$<br>$I_F = 40\text{mA}$                               | $V_F$    |     |     | 0.38<br>1 | V             |
| Reverse current               | $V_R = 30\text{V}$                                                      | $I_R$    |     |     | 0.2       | $\mu\text{A}$ |
| Capacitance between terminals | $f = 1 \text{ MHz}$ , and 0 VDC reverse voltage                         | $C_T$    |     |     | 5         | 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            |

## RATING AND CHARACTERISTIC CURVES (CDBFR40-HF)

Fig. 1 - Forward characteristics

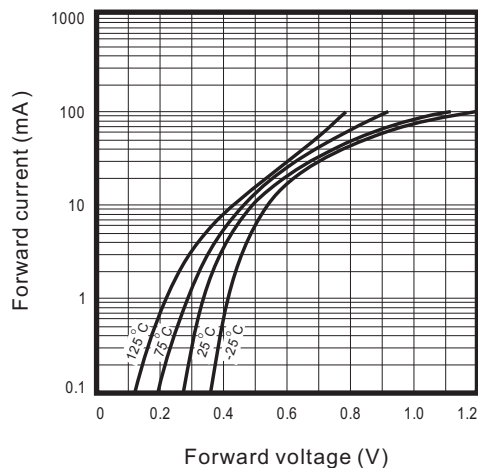


Fig. 2 - Reverse characteristics

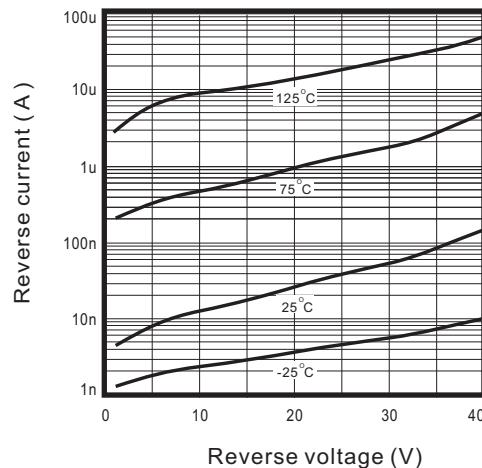


Fig.3 - Capacitance between terminals characteristics

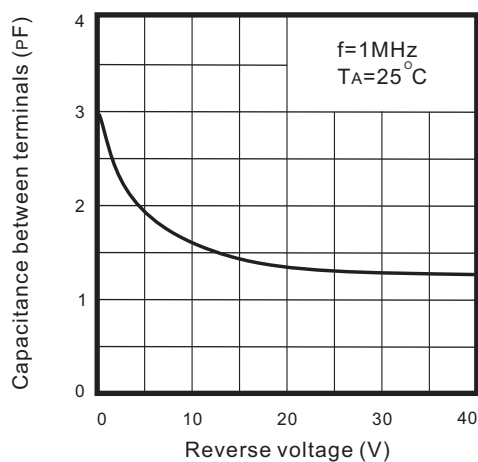


Fig.4 - Current derating curve



## 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 |
|-------------|--------------|
| CDBFR40-HF  | BC           |



## 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         |

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