

# SMD Schottky Barrier Diode

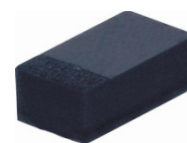
## CDBFR0140L-HF

$I_o = 100 \text{ mA}$

$V_R = 40 \text{ Volts}$

RoHS Device

Halogen Free

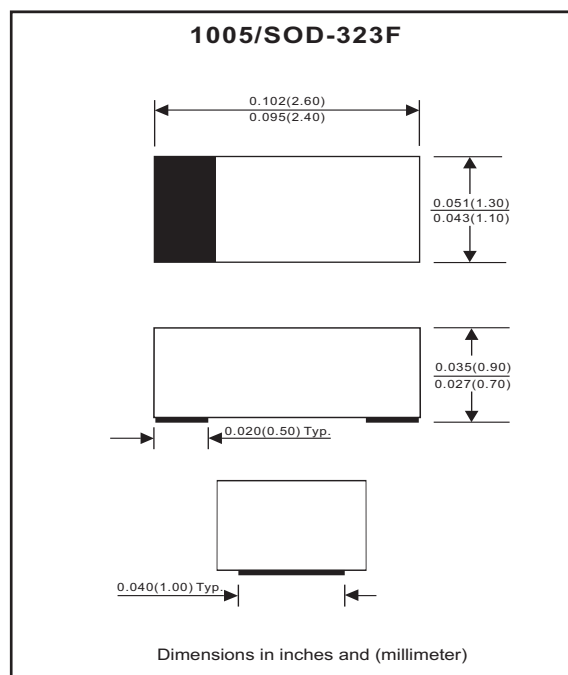


### Features

- 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 & B8
- 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             |
|-----------------------------------|-----------------------------------------------------------------------|-----------|-----|-----|------|------------------|
| 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                |
| 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               | $I_F = 100\text{mA}$<br>$I_F = 10\text{mA}$      | $V_F$  |     |     | 0.55<br>0.34 | V             |
| Reverse current               | $V_R = 10\text{V}$                               | $I_R$  |     |     | 30           | $\mu\text{A}$ |
| Capacitance between terminals | $f = 1 \text{ MHz}$ , and 10 VDC reverse voltage | $C_T$  |     | 6   |              | pF            |

RATING AND CHARACTERISTIC CURVES (CDBFR0140L-HF)

Fig. 1 - Forward characteristics

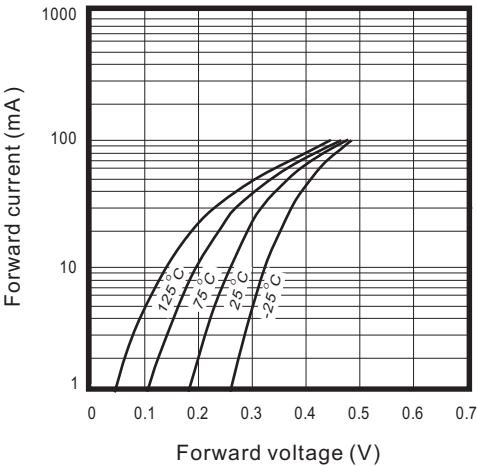


Fig. 2 - Reverse characteristics

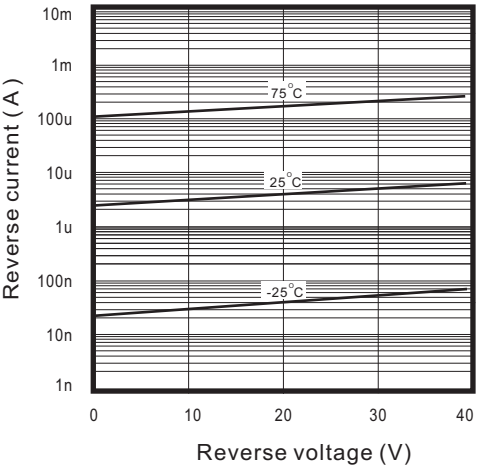


Fig. 3 - Capacitance between terminals characteristics

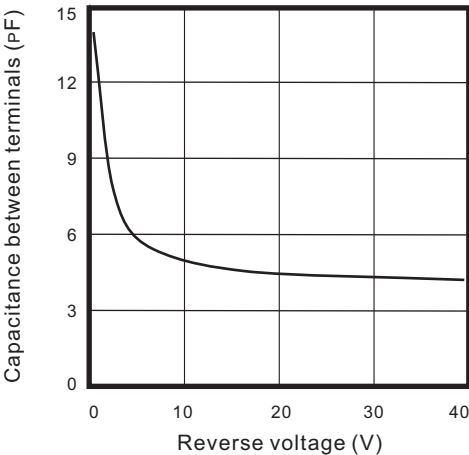
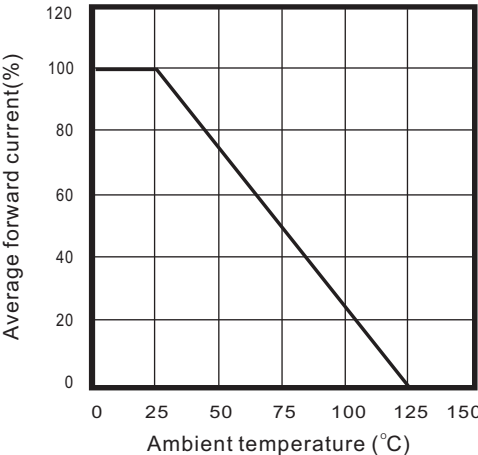
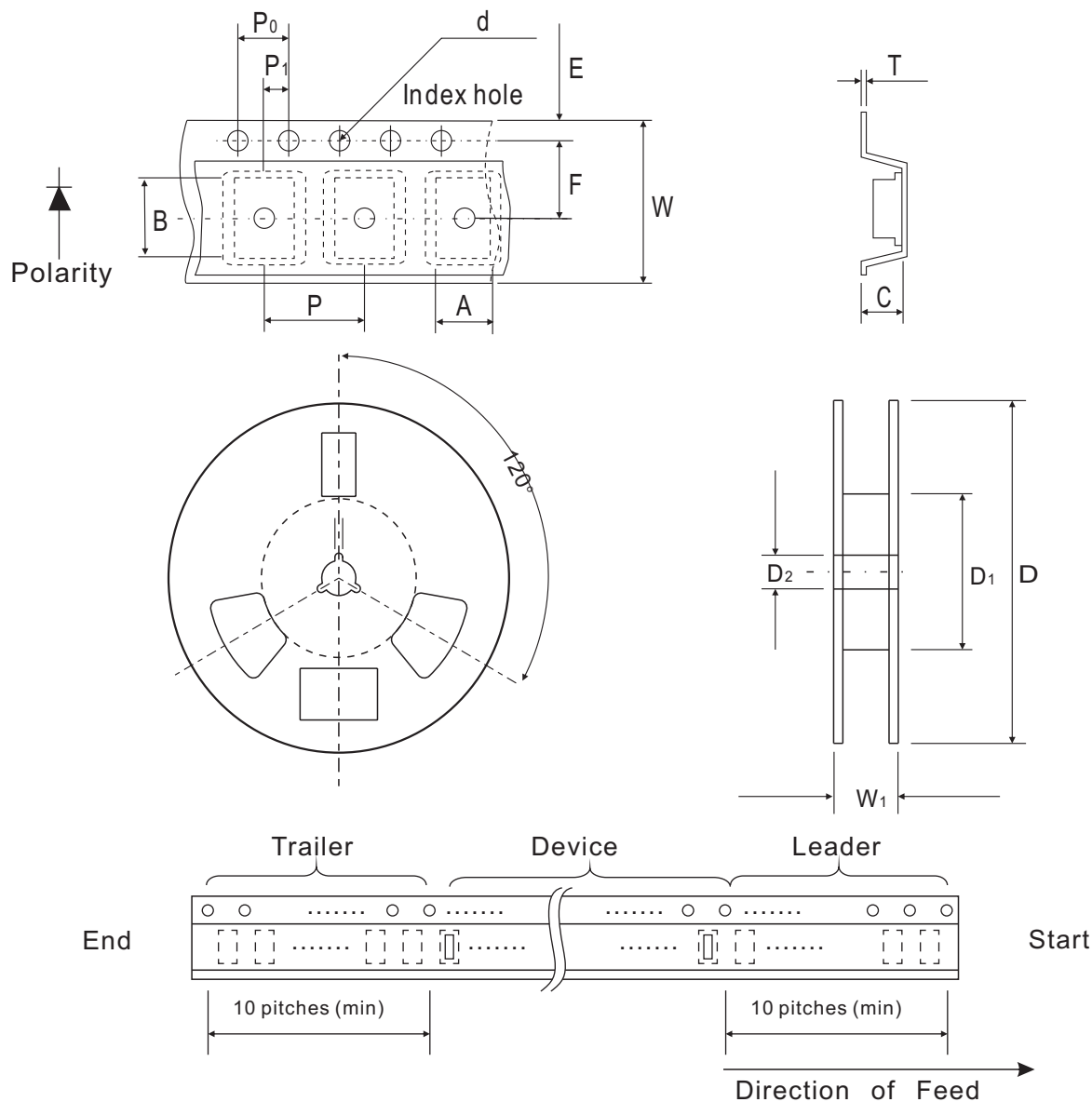


Fig.4 - Current derating curve



## Reel Taping Specification



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

| 1005<br>(SOD-323F) | SYMBOL | E                 | F                 | P                 | P <sub>0</sub>    | P <sub>1</sub>    | T                 | W                 | W <sub>1</sub> |
|--------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
|                    | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $0.23 \pm 0.05$   | $8.00 \pm 0.20$   | 13.5 MAX.      |
|                    | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.009 \pm 0.002$ | $0.315 \pm 0.008$ | 0.531 MAX.     |

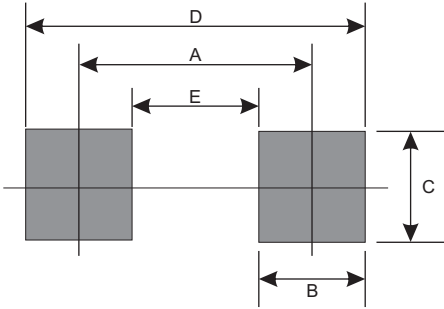
Marking Code

| Park Number   | Marking Code |
|---------------|--------------|
| CDBFR0140L-HF | B8           |



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         |