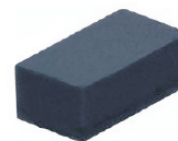


# CDBFR0320/0330/0340-HF

 $I_o = 350 \text{ mA}$ 
 $V_R = 20 \text{ to } 40 \text{ Volts}$ 

RoHS Device

Halogen Free



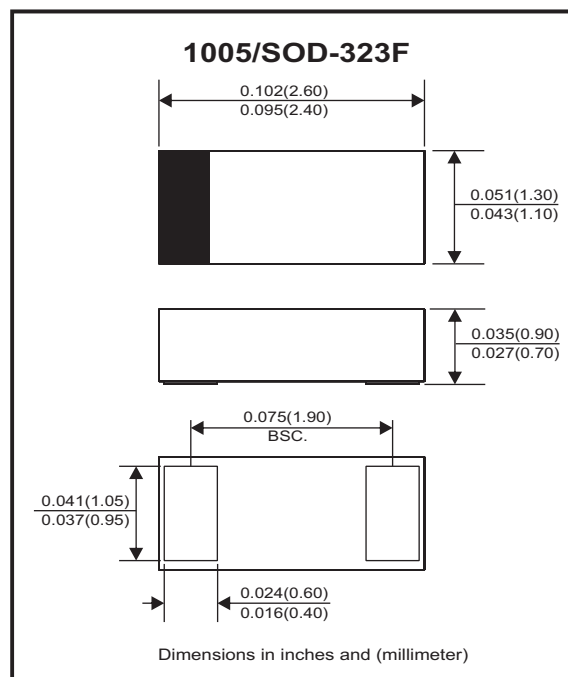
## Features

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

## Mechanical data

- Case: 1005/SOD-323F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026
- Polarity: Indicated by cathode band.
- Mounting position: Any
- Weight: 0.006 grams(approx.).

## Circuit Diagram



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

| Parameter                                                  | Symbol          | CDBFR0320-HF | CDBFR0330-HF | CDBFR0340-HF | Unit               |
|------------------------------------------------------------|-----------------|--------------|--------------|--------------|--------------------|
| Repetitive Peak reverse voltage                            | $V_{RRM}$       | 20           | 30           | 40           | V                  |
| Reverse voltage                                            | $V_R$           | 20           | 30           | 40           | V                  |
| RMS reverse voltage                                        | $V_{R(MS)}$     | 14           | 21           | 28           | V                  |
| Average forward rectified current                          | $I_o$           | 350          |              |              | mA                 |
| Peak forward surge current<br>8.3 ms single half sine-wave | $I_{FSM}$       | 1.5          |              |              | A                  |
| Power dissipation                                          | $P_D$           | 200          |              |              | mW                 |
| Thermal resistance junction to ambient air                 | $R_{\theta JA}$ | 500          |              |              | $^\circ\text{C/W}$ |
| Junction temperature                                       | $T_j$           | +125         |              |              | $^\circ\text{C}$   |
| Storage temperature range                                  | $T_{STG}$       | -65 to +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>CDBFR0320-HF<br>CDBFR0330-HF<br>CDBFR0340-HF | $V_R = 10\text{V}$<br>$V_R = 20\text{V}$<br>$V_R = 30\text{V}$ | $I_R$    |     |     | 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 0V DC reverse voltage                | $C_T$    |     | 50  |              | pF            |
| Reverse recovery time                                           | $I_F = I_R$ , $I_{rr} = 0.1 I_R$ , $R_L = 100 \text{ ohm}$     | $T_{rr}$ |     | 6.4 |              | nS            |

RATING AND CHARACTERISTIC CURVES (CDBFR0320/0330/0340-HF)

Fig. 1 - Forward Characteristics

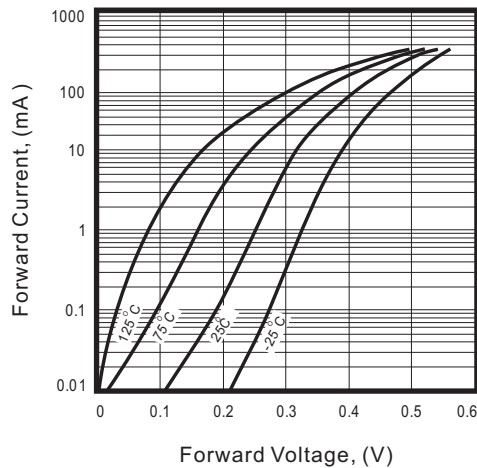


Fig. 2 - Reverse Characteristics

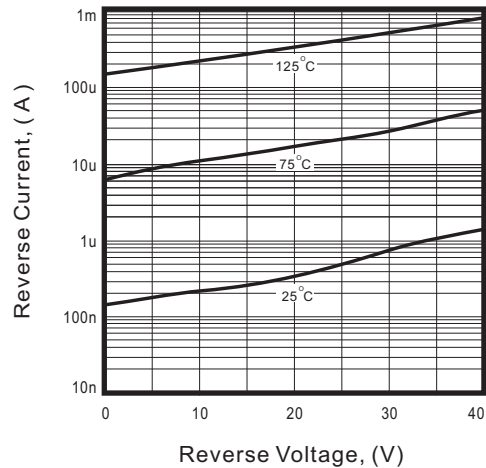


Fig.3 - Capacitance Between Terminals Characteristics

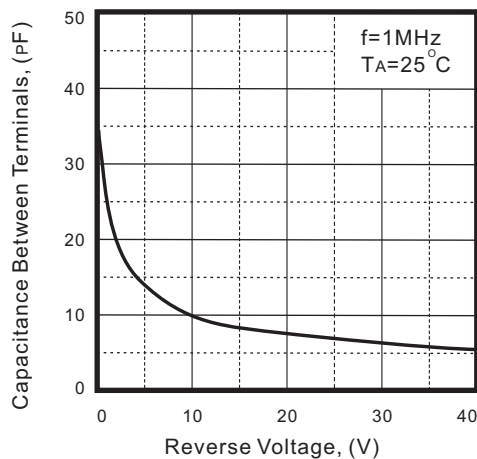
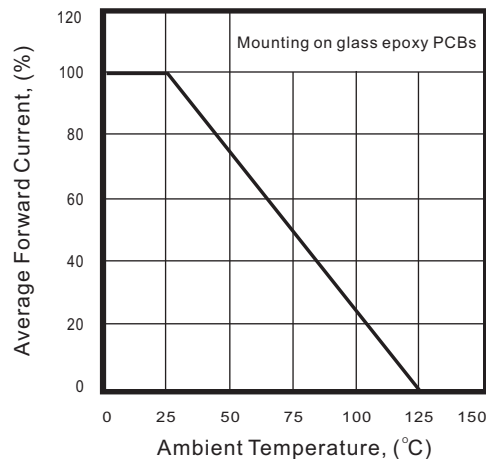
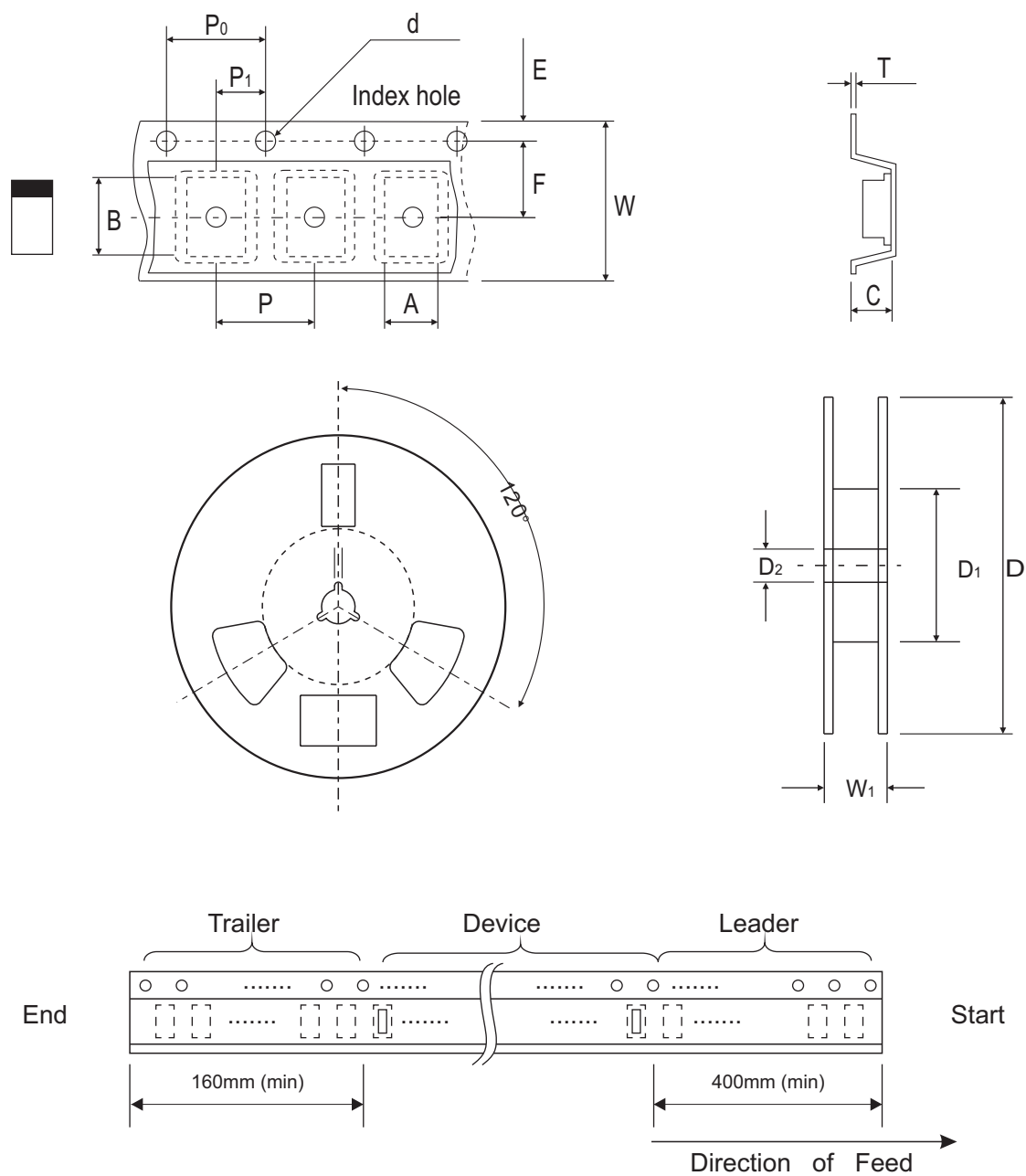


Fig.4 - Current Derating Curve



Reel Taping Specification



| 1005<br>(SOD-323F) | SYMBOL | A             | B             | C             | d                    | D             | D <sub>1</sub> | D <sub>2</sub> |
|--------------------|--------|---------------|---------------|---------------|----------------------|---------------|----------------|----------------|
|                    | (mm)   | 1.45 ± 0.05   | 2.80 ± 0.05   | 1.00 ± 0.05   | 1.50 + 0.10<br>- 0   | 178.00 ± 1.00 | 60.0 ± 0.50    | 13.50 ± 0.20   |
|                    | (inch) | 0.057 ± 0.002 | 0.110 ± 0.002 | 0.039 ± 0.002 | 0.059 + 0.004<br>- 0 | 7.008 ± 0.039 | 2.362 ± 0.020  | 0.531 ± 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 ± 0.10   | 12.00 + 0.50<br>- 0  |
|                    | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.002  | 0.009 ± 0.002 | 0.315 ± 0.004 | 0.472 + 0.020<br>- 0 |

## Marking Code

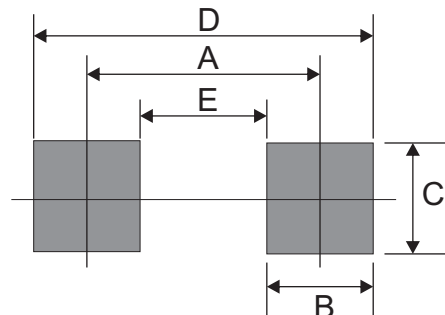
| Part Number  | Marking Code |
|--------------|--------------|
| CDBFR0320-HF | BH           |
| CDBFR0330-HF | BJ           |
| CDBFR0340-HF | BK           |



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 Packaging

| Case Type     | Qty Per Reel | Reel Size |
|---------------|--------------|-----------|
|               | (Pcs)        | (inch)    |
| 1005/SOD-323F | 4,000        | 7         |