

SMD Schottky Barrier Diode

CDBF42/43-HF

$I_o = 200 \text{ mA}$
 $V_R = 30 \text{ Volts}$
 RoHS Device
 Halogen Free

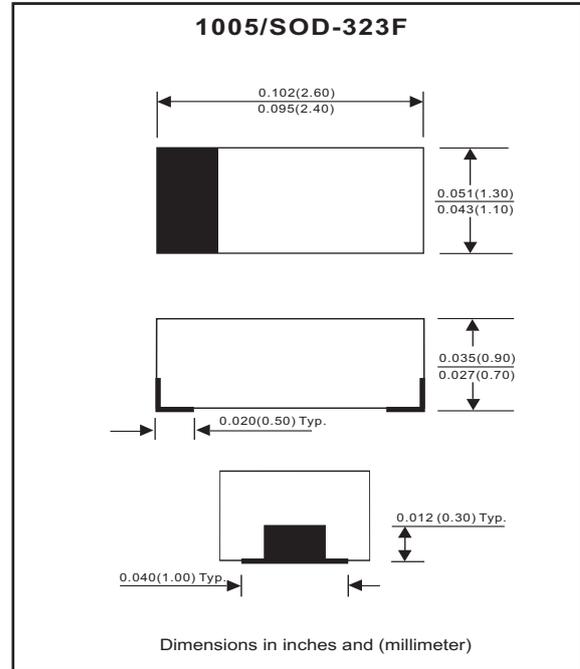


Features

- 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:
 CDBF42-HF : BD
 CDBF43-HF : BE
- Mounting position: Any
- Weight: 0.006 gram(approx.).



Maximum Rating (at TA=25°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 | °C/W |
| Storage temperature | | T_{STG} | -55 | | +125 | °C |
| Junction temperature | | T_j | | | +125 | °C |

Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-------------------------------|--|----------|-----|-----|----------------------------------|------|
| Forward voltage | CDBF42/43-HF CDBF42-HF CDBF42-HF CDBF43-HF CDBF43-HF | V_F | | | 1 0.4 0.65 0.33 0.45 | V |
| Reverse current | $V_R = 25V$ | I_R | | | 0.5 | uA |
| Capacitance between terminals | f = 1 MHz, and 1 VDC reverse voltage | C_T | | | 10 | pF |
| Reverse recovery time | $I_F=I_R=10mA, I_{rr}=0.1 \times I_R, R_L=100 \text{ ohm}$ | T_{rr} | | | 5 | nS |

REV:A

RATING AND CHARACTERISTIC CURVES (CDBF42/43-HF)

Fig. 1 - Forward characteristics

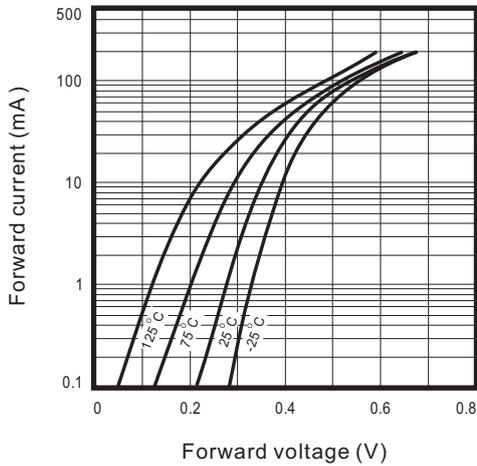


Fig. 2 - Reverse characteristics

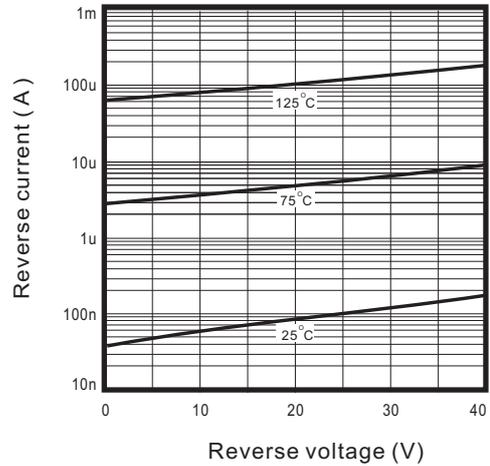


Fig.3 - Capacitance between terminals characteristics

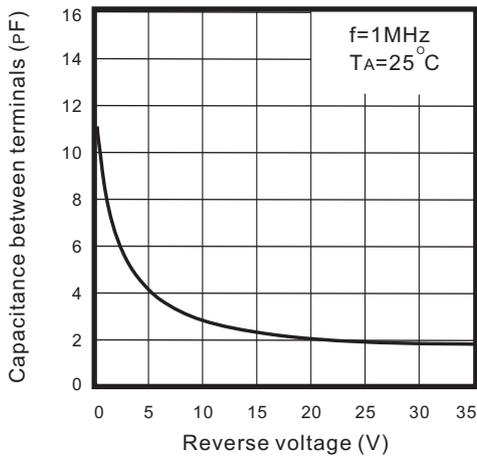
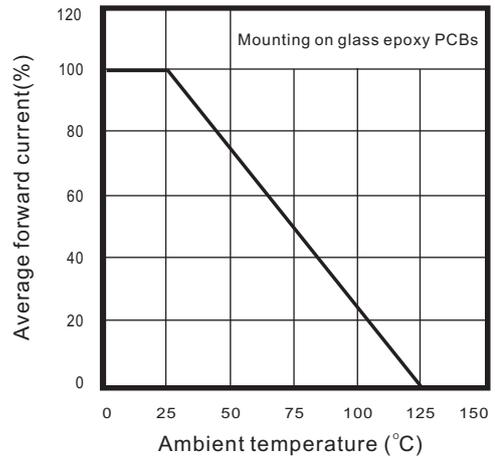
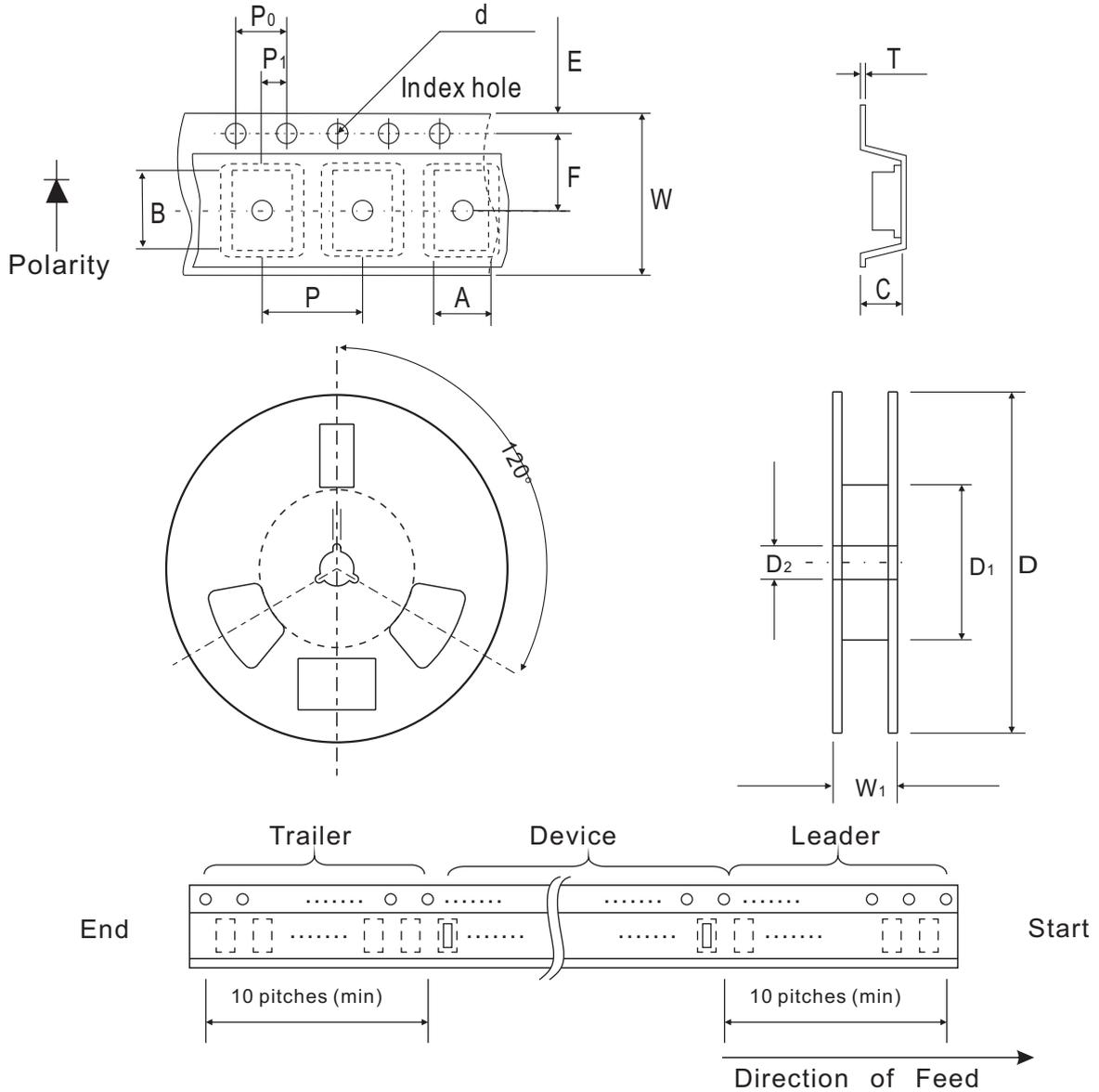


Fig.4 - Current derating curve



Reel Taping Specification



| 1005 (SOD-323F) | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|--------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| | (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 (SOD-323F) | SYMBOL | E | F | P | P ₀ | P ₁ | T | W | W ₁ |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| | (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

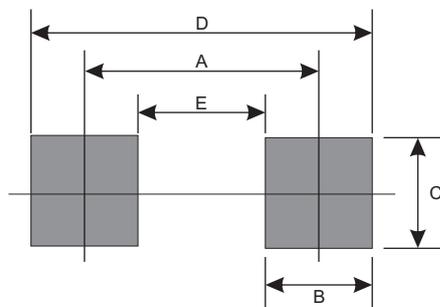
| Park Number | Marking Code |
|-------------|--------------|
| CDBF42-HF | BD |
| CDBF43-HF | BE |



xx = Product type marking code

Suggested PAD Layout

| SIZE | 1005/SOD-323F | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 2.10 | 0.083 |
| B | 1.20 | 0.047 |
| C | 1.20 | 0.047 |
| D | 3.30 | 0.130 |
| E | 0.90 | 0.035 |



Standard Package

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