

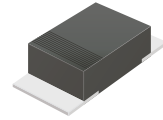
## CDBFN140-HF Thru CDBFN160-HF

**Voltage: 40 to 60 Volts**

**Current: 1.0 Amp**

**RoHS Device**

**Halogen free**

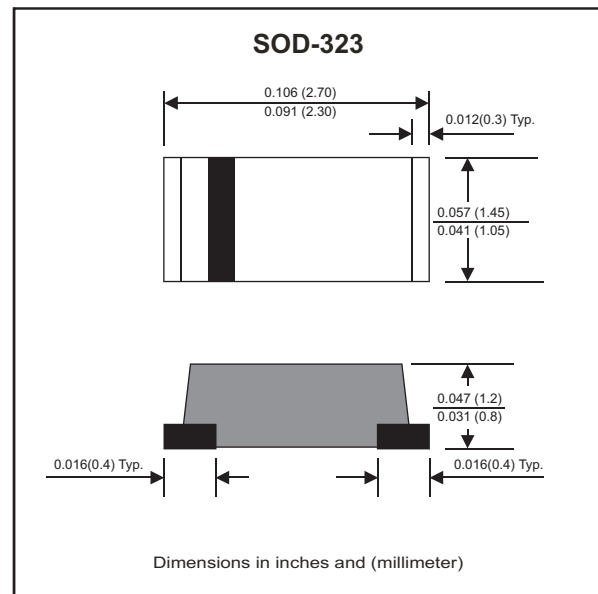


### Features

- Batch process design, excellent power dissipation offers better reverse leakage current.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guard ring for overvoltage protection.
- Very tiny plastic SMD package.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### Mechanical data

- Case: JEDEC SOD-323, Molded plastic
- Terminals: Solde plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any
- Weight: 0.008 grams (approx.).



### Circuit Diagram



### Maximum Ratings (at TA=25°C unless otherwise noted)

| Parameter                                                                             | Symbol                            | CDBFN 140-HF | CDBFN 160-HF | Unit         |
|---------------------------------------------------------------------------------------|-----------------------------------|--------------|--------------|--------------|
| Repetitive peak reverse voltage                                                       | $V_{RRM}$                         | 40           | 60           | V            |
| Maximum RMS voltage                                                                   | $V_{RMS}$                         | 28           | 42           | V            |
| Continuous reverse voltage                                                            | $V_R$                             | 40           | 60           | V            |
| Maximum forward voltage @ $I_F=1.0A$                                                  | $V_F$                             | 0.55         | 0.70         | V            |
| Forward rectified current                                                             | $I_O$                             | 1.0          |              | A            |
| Forward surge current, 8.3ms half sine wave superimposed on rated load (JEDEC method) | $I_{FSM}$                         | 30           |              | A            |
| Maximum Reverse current                                                               | $V_R=V_{RRM}$ @ $T_J=25^\circ C$  | $I_R$        | 0.5          | mA           |
|                                                                                       | $V_R=V_{RRM}$ @ $T_J=100^\circ C$ |              | 10           |              |
| Typ. Thermal resistance, junction to ambient air                                      | $R_{\theta JA}$                   | 90           |              | $^\circ C/W$ |
| Typ. Diode junction capacitance (Note 1)                                              | $C_J$                             | 120          |              | pF           |
| Operating junction temperature                                                        | $T_J$                             | -55 to +125  | -55 to +150  | $^\circ C$   |
| Storage temperature                                                                   | $T_{STG}$                         | -65 to +175  |              | $^\circ C$   |

Note 1:  $f=1MHz$  and applied 4V DC reverse voltage.

Company reserves the right to improve product design , functions and reliability without notice.

REV:D

## Ratings and Characteristic Curves(CDBFN140-HF Thru CDBFN160-HF)

Fig.1- Typical Forward Current Derating Curve

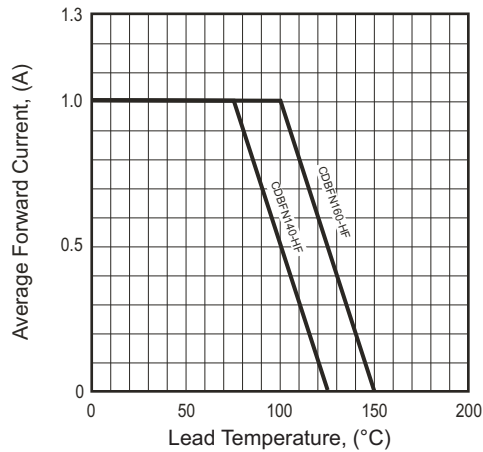


Fig.2- Typical Forward Characteristics

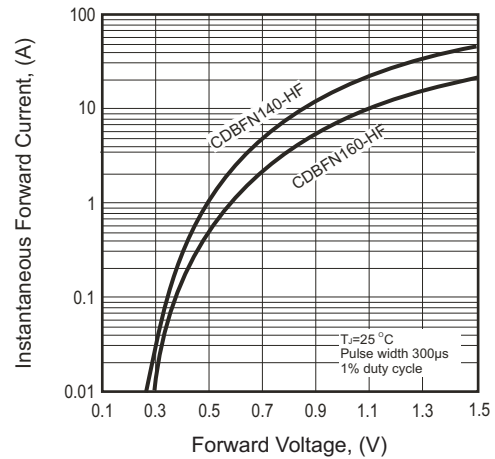


Fig.3 - Maximum Non-repetitive Forward Surge Current

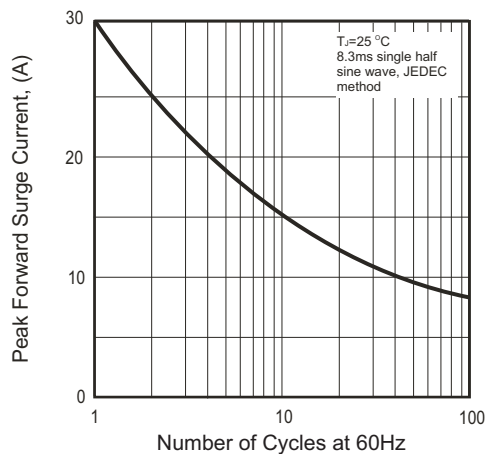


Fig.4 - Typical Junction Capacitance

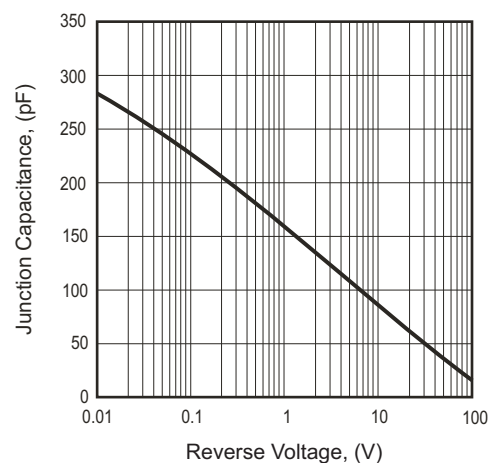
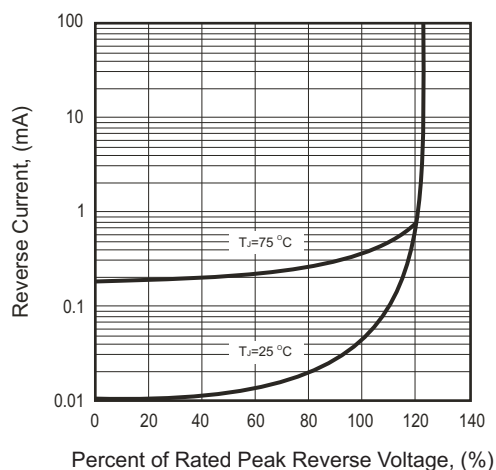


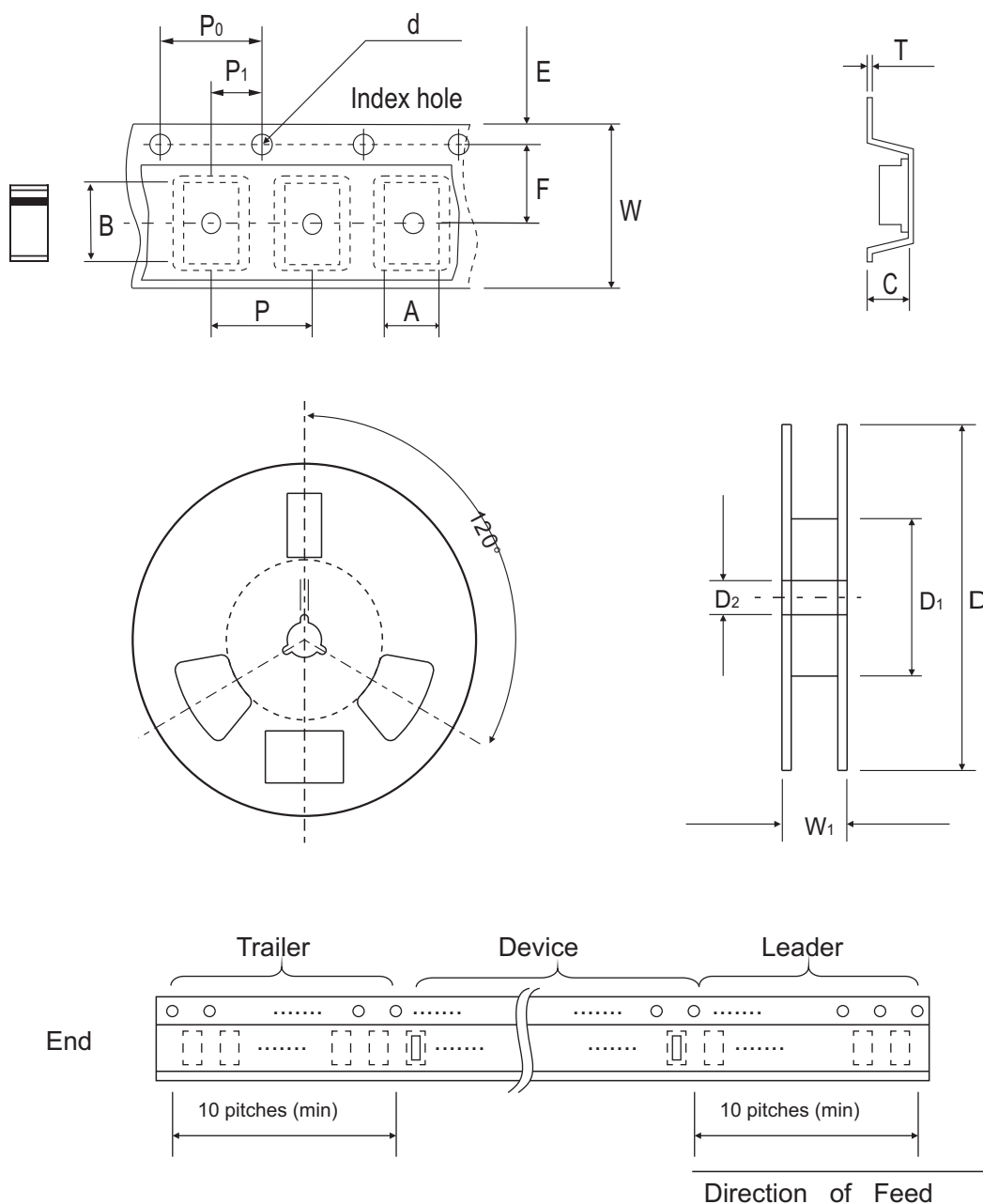
Fig.5- Typical Reverse Characteristics



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REV:D

## Reel Taping Specification



| SOD-323 | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1         | D2                |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|-------------------|
|         | (mm)   | $1.47 \pm 0.10$   | $2.95 \pm 0.10$   | $1.15 \pm 0.10$   | $1.50 \pm 0.10$   | $178 \pm 2$       | 62.0 MIN.  | $13.00 \pm 0.50$  |
|         | (inch) | $0.058 \pm 0.004$ | $0.116 \pm 0.004$ | $0.045 \pm 0.004$ | $0.059 \pm 0.004$ | $7.008 \pm 0.079$ | 2.441 MIN. | $0.512 \pm 0.020$ |

| SOD-323 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                 | W1                |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|         | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $8.00 \pm 0.30$   | $11.4 \pm 1.00$   |
|         | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.315 \pm 0.012$ | $0.449 \pm 0.039$ |

## Marking Code

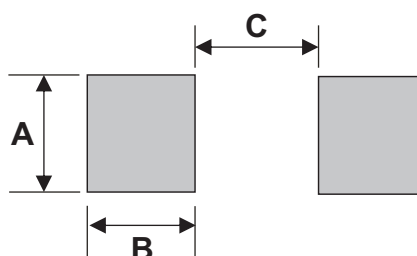
| Part Number | Marking Code |
|-------------|--------------|
| CDBFN140-HF | 14           |
| CDBFN160-HF | 16           |



XX=Product type marking code

## Suggested PAD Layout

| SIZE | SOD-323 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 1.50    | 0.059  |
| B    | 1.00    | 0.039  |
| C    | 1.30    | 0.051  |



## Standard Packaging

| Case Type | Qty per Reel | Reel Size |
|-----------|--------------|-----------|
|           | (Pcs)        | (inch)    |
| SOD-323   | 3,000        | 7         |

# Mouser Electronics

Authorized Distributor

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