



# THE DATASHEET OF CDBM140-HF



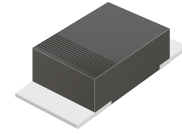
## CDBM140-HF Thru. CDBM1200-HF

Reverse Voltage: 40 to 150 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

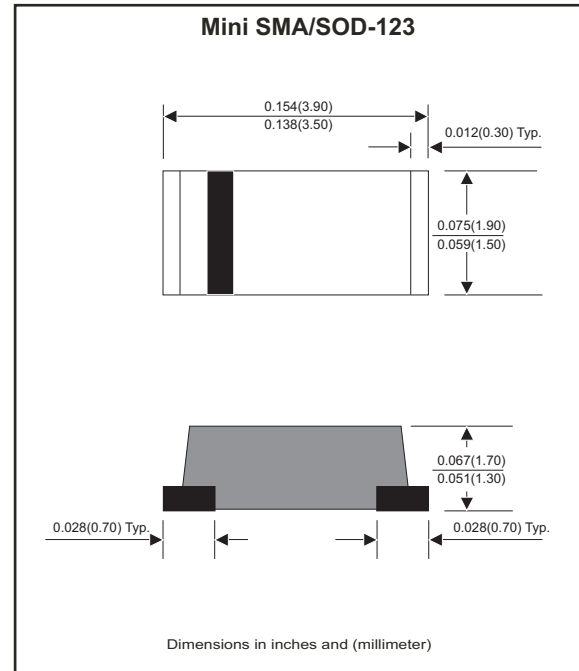


### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Tiny plastic SMD package.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for over voltage protection.
- 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: Molded plastic, JEDEC Mini SMA/SOD-123.
- Terminals: Solde plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any
- Weight:0.018 gram(approx.).



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

| Parameter   | Symbol    | CDBM 140-HF | CDBM 160-HF | CDBM 1100-HF | CDBM 1150-HF | CDBM 1200-HF | Unit       |
|---|-----------|-------------|-------------|--------------|--------------|--------------|------------|
| Repetitive peak reverse voltage   | $V_{RRM}$ | 40          | 60          | 100          | 150          | 200          | V          |
| Maximum RMS voltage   | $V_{RMS}$ | 28          | 42          | 70           | 105          | 140          | V          |
| Continuous reverse voltage  | $V_R$     | 40          | 60          | 100          | 150          | 200          | V          |
| Maximum forward voltage @ $I_F=1.0A$  | $V_F$     | 0.50        | 0.70        | 0.85         | 0.90         | 0.92         | 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          |
| Reverse current on $V_R=V_{RRM}$ @ $T_A=25^\circ C$<br>@ $T_A=100^\circ C$            | $I_R$     | 0.5<br>10   |             |              |              |              | mA         |
| 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.

## Rating and Characteristic Curves (CDBM140-HF Thru. CDBM1200-HF)

Fig.1- Current Derating Curve

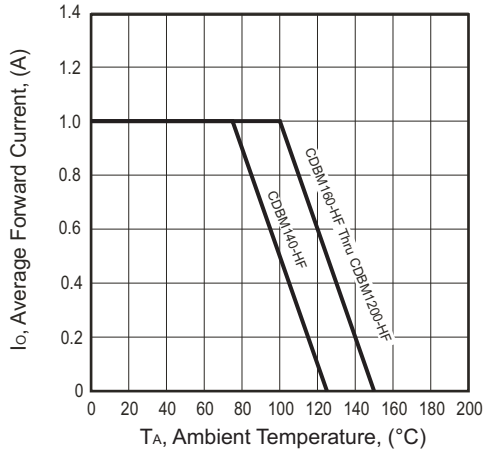


Fig.2 Forward Characteristics

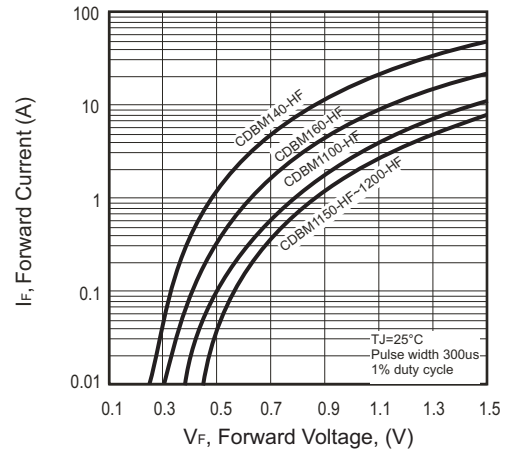


Fig.3- Non-repetitive Forward Surge Current

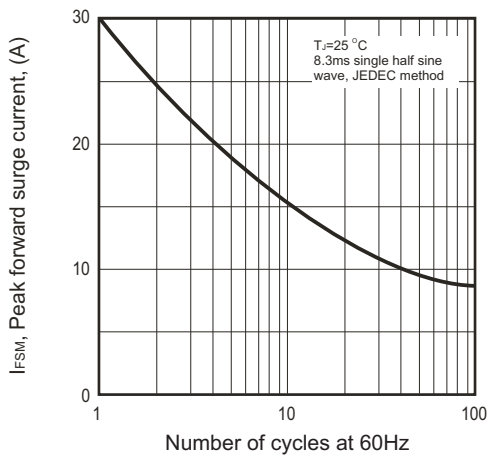


Fig.4- Junction Capacitance

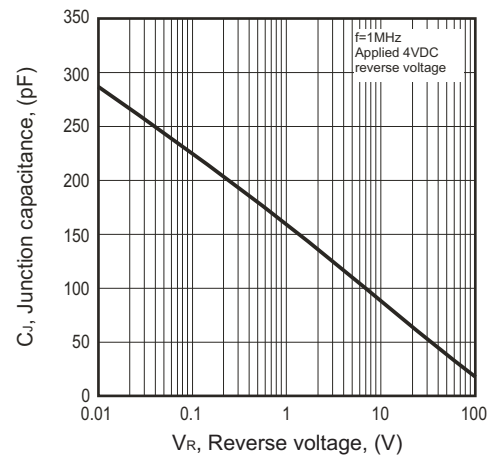
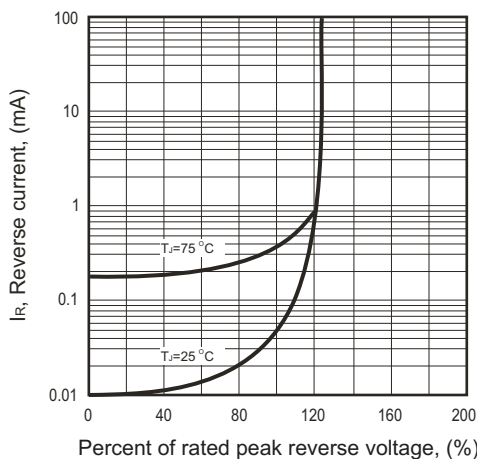
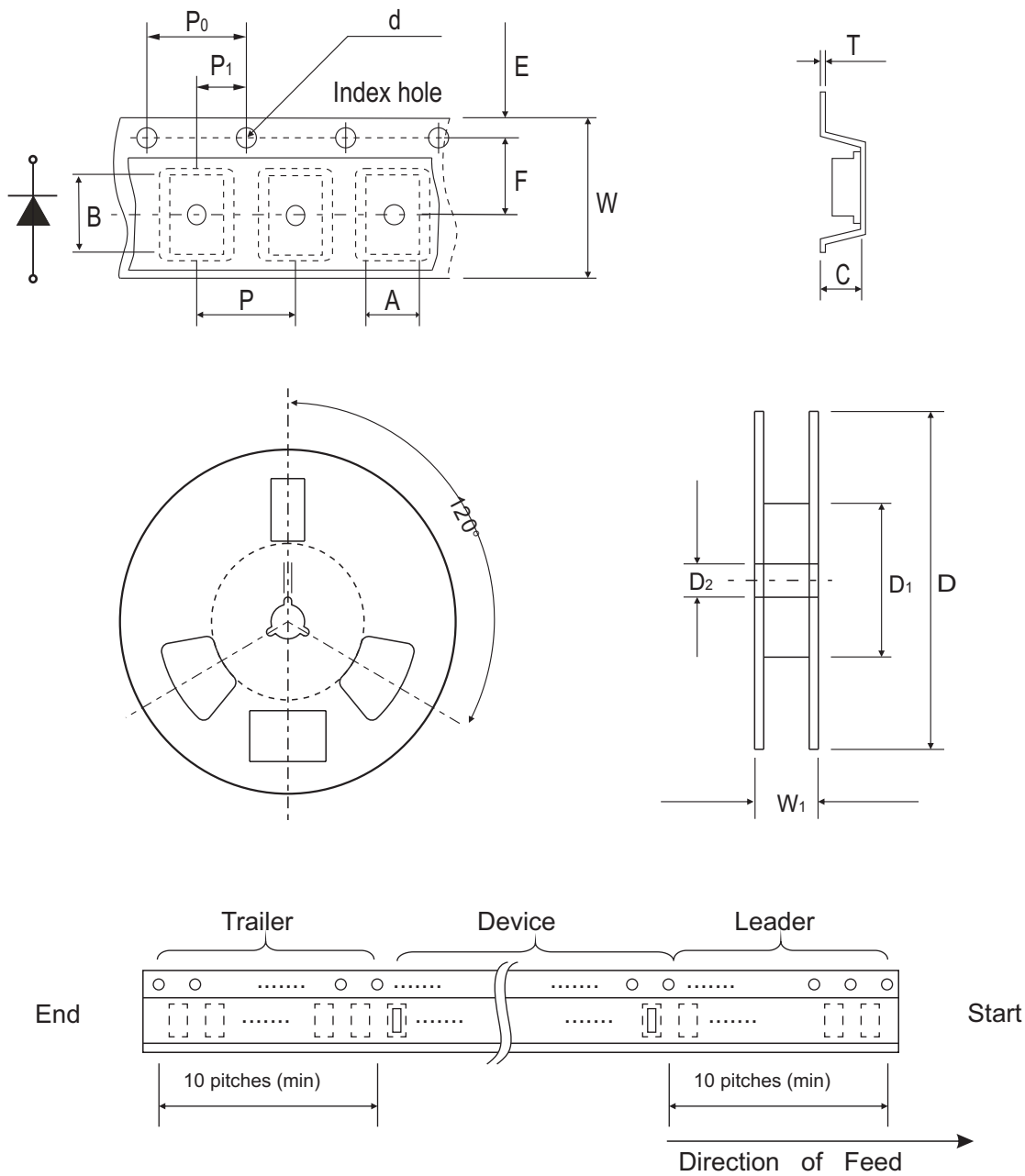


Fig.5-Reverse Characteristics



## Reel Taping Specification

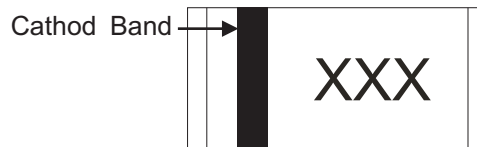


| Mini-SMA/SOD-123 | SYMBOL | A            | B            | C            | d             | D            | D1         | D2            |
|------------------|--------|--------------|--------------|--------------|---------------|--------------|------------|---------------|
|                  | (mm)   | 1.90 ± 0.10  | 3.90 ± 0.10  | 1.68 ± 0.10  | 1.50 ± 0.10   | 178 ± 2.00   | 62.0 MIN.  | 13.0 ± 0.50   |
|                  | (inch) | 0.075 ± 0.04 | 0.153 ± 0.04 | 0.066 ± 0.04 | 0.059 ± 0.004 | 7.00 ± 0.079 | 2.440 MIN. | 0.512 ± 0.020 |

| Mini-SMA/SOD-123 | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1            |
|------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                  | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.10   | 4.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.10   | 0.23 ± 0.10   | 8.00 ± 0.30   | 14.4 ± 0.10   |
|                  | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.009 ± 0.004 | 0.315 ± 0.011 | 0.567 ± 0.004 |

## Marking Code

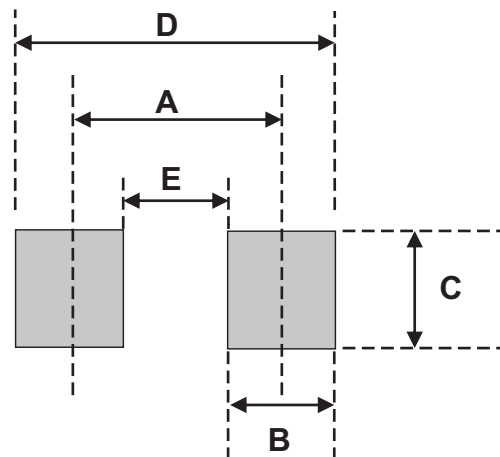
| Part Number | Marking Code |
|-------------|--------------|
| CDBM140-HF  | 14           |
| CDBM160-HF  | 16           |
| CDBM1100-HF | 10           |
| CDBM1150-HF | 115          |
| CDBM1200-HF | 120          |



xx/xxx = Product type marking code

## Suggested PAD Layout

| SIZE | Mini-SMA/SOD-123 |        |
|------|------------------|--------|
|      | (mm)             | (inch) |
| A    | 3.30             | 0.130  |
| B    | 1.40             | 0.055  |
| C    | 1.90             | 0.075  |
| D    | 4.70             | 0.185  |
| E    | 1.90             | 0.075  |





## Standard Packaging

| Case Type         | REEL PACK    |                  |
|-------------------|--------------|------------------|
|                   | REEL ( pcs ) | Reel Size (inch) |
| Mini-SMA /SOD-123 | 2,500        | 7                |

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