

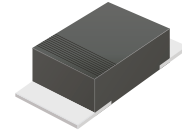
## CDBM140-HF Thru. CDBM1200-HF

Reverse Voltage: 40 to 150 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

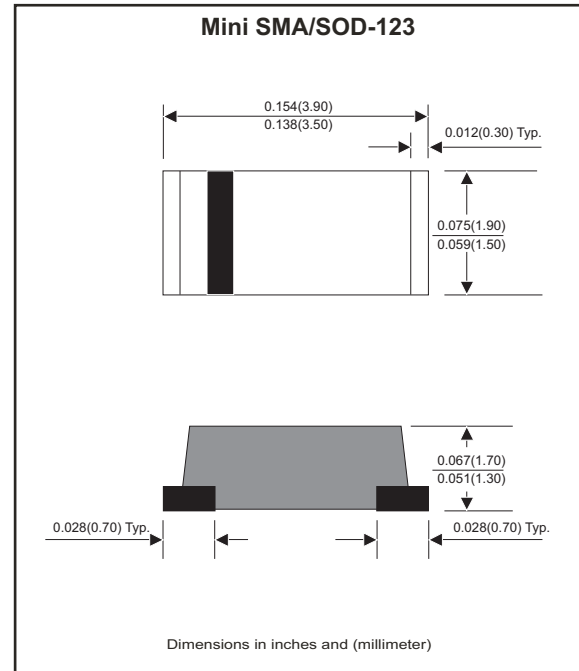


### Features

- 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<br>140-HF | CDBM<br>160-HF | CDBM<br>1100-HF | CDBM<br>1150-HF | CDBM<br>1200-HF | Unit |
|-----------------------------------------------------------------------------------------------------|------------------|----------------|----------------|-----------------|-----------------|-----------------|------|
| Repetitive peak reverse voltage                                                                     | V <sub>RRM</sub> | 40             | 60             | 100             | 150             | 200             | V    |
| Maximum RMS voltage                                                                                 | V <sub>RMS</sub> | 28             | 42             | 70              | 105             | 140             | V    |
| Continuous reverse voltage                                                                          | V <sub>R</sub>   | 40             | 60             | 100             | 150             | 200             | V    |
| Maximum forward voltage @I <sub>F</sub> =1.0A                                                       | V <sub>F</sub>   | 0.50           | 0.70           | 0.85            | 0.90            | 0.92            | V    |
| Forward rectified current                                                                           | I <sub>O</sub>   | 1.0            |                |                 |                 |                 | A    |
| Forward surge current, 8.3ms half sine wave superimposed on rated load (JEDEC method)               | I <sub>FSM</sub> | 30             |                |                 |                 |                 | A    |
| Reverse current on V <sub>R</sub> =V <sub>RRM</sub> @T <sub>A</sub> =25°C<br>@T <sub>A</sub> =100°C | I <sub>R</sub>   | 0.5<br>10      |                |                 |                 |                 | mA   |
| Typ. diode junction capacitance (Note 1)                                                            | C <sub>J</sub>   | 120            |                |                 |                 |                 | pF   |
| Operating junction temperature                                                                      | T <sub>J</sub>   | -55 to +125    | -55 to +150    |                 |                 |                 | °C   |
| Storage temperature                                                                                 | T <sub>STG</sub> | -65 to +175    |                |                 |                 |                 | °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

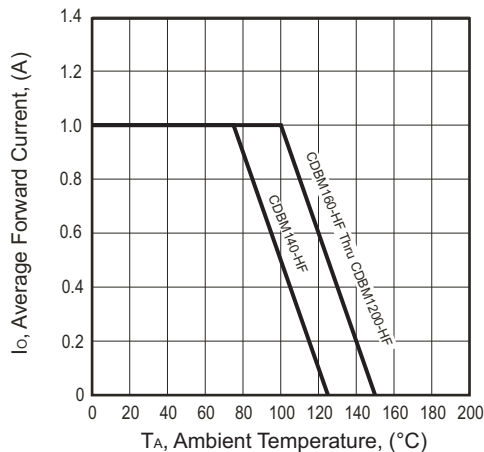


Fig.2 Forward Characteristics

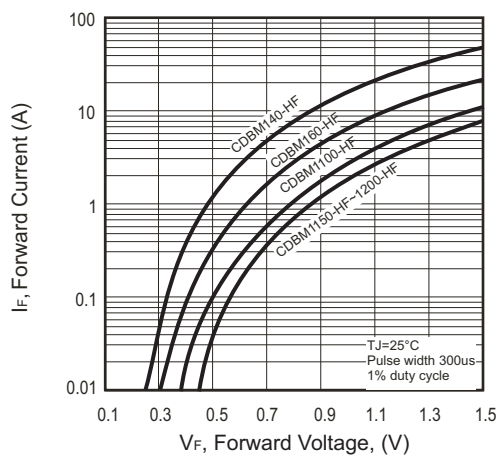


Fig.3- Non-repetitive Forward Surge Current

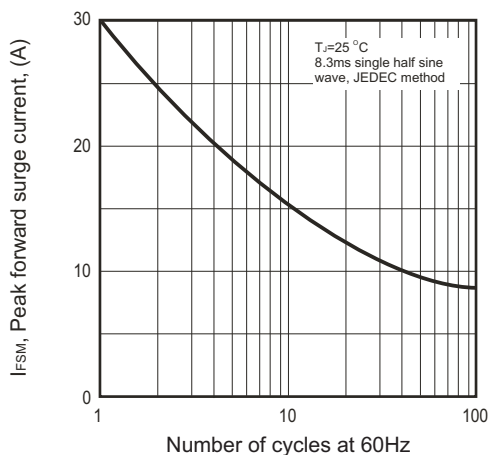


Fig.4- Junction Capacitance

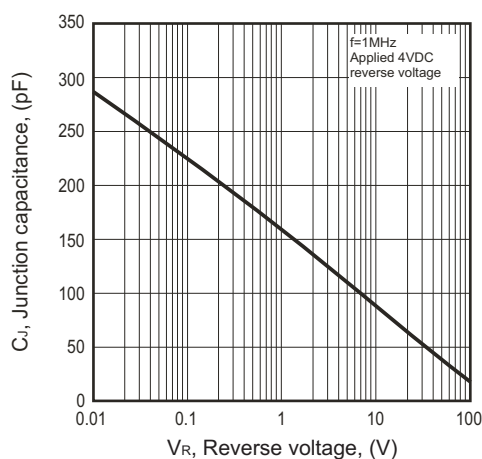
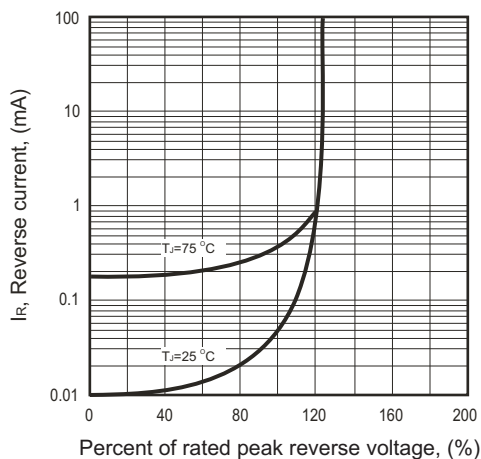
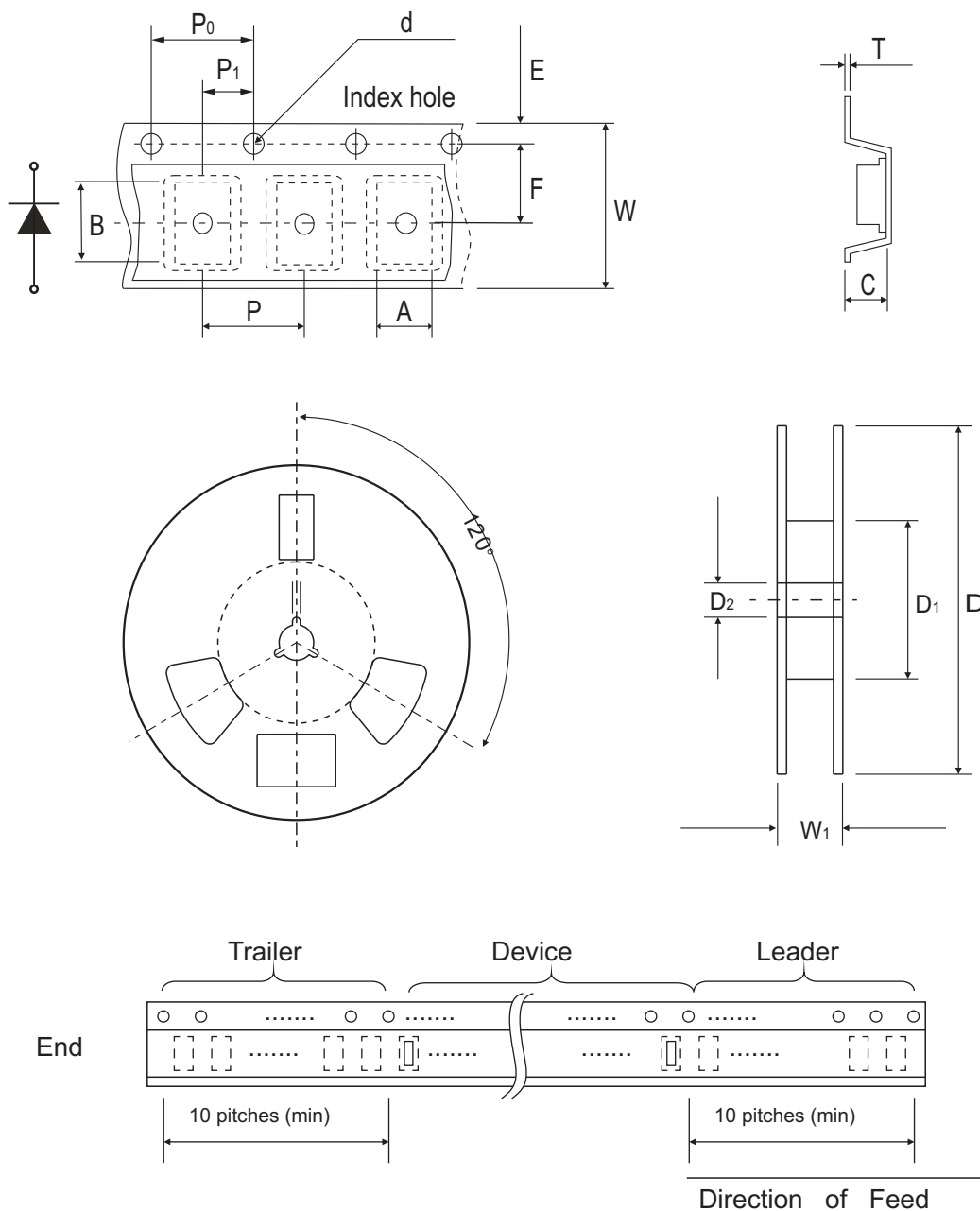


Fig.5-Reverse Characteristics



## Reel Taping Specification

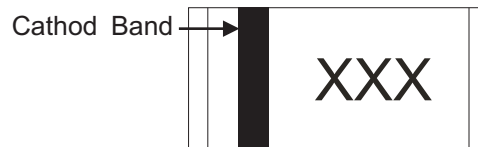


|                  | SYMBOL | A                | B                | C                | d                 | D                | D1         | D2                |
|------------------|--------|------------------|------------------|------------------|-------------------|------------------|------------|-------------------|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

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

## Marking Code

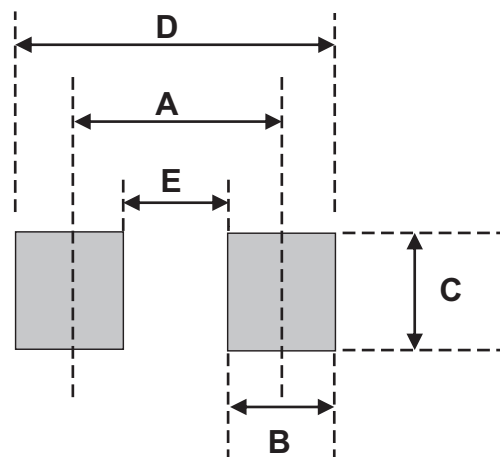
| Part Number | Marking Code |
|-------------|--------------|
| CDBM140-HF  | 14           |
| CDBM160-HF  | 16           |
| CDBM1100-HF | 10           |
| CDBM1150-HF | 115          |
| CDBM1200-HF | 120          |



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<br>( pcs ) | Reel Size<br>(inch) |
| Mini-SMA<br>/SOD-123 | 2,500           | 7                   |