

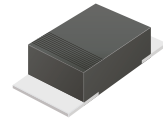
# CDBM140LR-HF

**Reverse Voltage: 40 Volts**

**Forward Current: 1.0 Amp**

**RoHS Device**

**Halogen free**

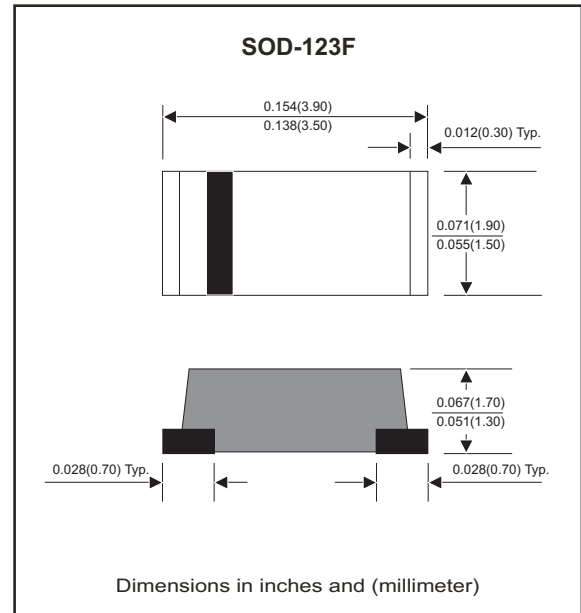


## Features

- Low forward voltage drop.
- Low reverse leakage current.
- High current capability, Low forward voltage drop .
- High surge capability .
- Guard ring for over voltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.

## Mechanical data

- Case: SOD-123F, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end.
- Weight: 0.010 grams(Approx.)



## Circuit Diagram



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

| Parameter                              | Conditions | Symbol | Min | Typ | Max  | Unit |
|----------------------------------------|------------|--------|-----|-----|------|------|
| Maximum Recurrent peak reverse voltage |            | VRRM   |     |     | 40   | V    |
| Maximum RMS Voltage                    |            | VRMS   |     |     | 28   | V    |
| DC Blocking voltage                    |            | VDC    |     |     | 40   | V    |
| Operating temperature                  |            | TJ     | -50 |     | +125 | °C   |

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

| Parameter                  | Conditions                                                          | Symbol | Min | Typ | Max  | Unit |
|----------------------------|---------------------------------------------------------------------|--------|-----|-----|------|------|
| Average forward current    |                                                                     | Io     |     |     | 1    | A    |
| Forward current,surge peak | 8.3ms single half sine-wave superimposed on rate load(JEDEC method) | IFSM   |     |     | 30   | A    |
| Forward voltage            | IF = 1 A                                                            | VF     |     | 0.4 | 0.45 | V    |
| Reverse current            | VR = 30 V , TA= 25°C                                                | IR     |     |     | 200  | uA   |
| Thermal resistance         | Junction to ambient                                                 | RθJA   |     | 98  |      | °C/W |
| Diode Junction capacitance | f=1MHz and applied 4V DC reverse voltage                            | CJ     |     | 200 |      | pF   |
| Storage temperature        |                                                                     | TSTG   | -50 |     | +150 | °C   |

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

REV:A

## RATING AND CHARACTERISTIC CURVES (CDBM140LR-HF)

Fig.1 - Typical Forward Current Derating Curve

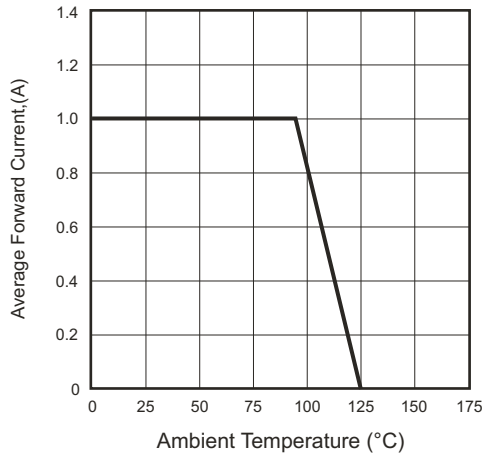


Fig.2 - Typical Forward Characteristics

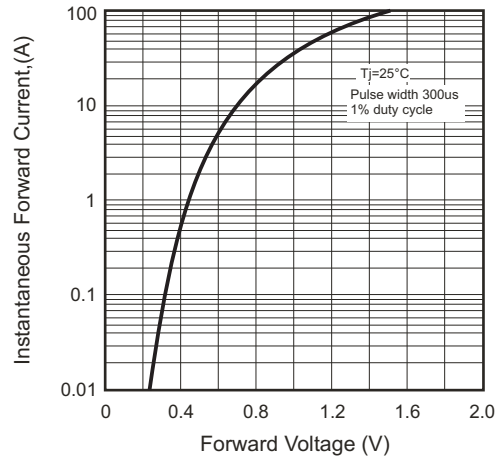


Fig.3 - Non-repetitive Forward Surge Current

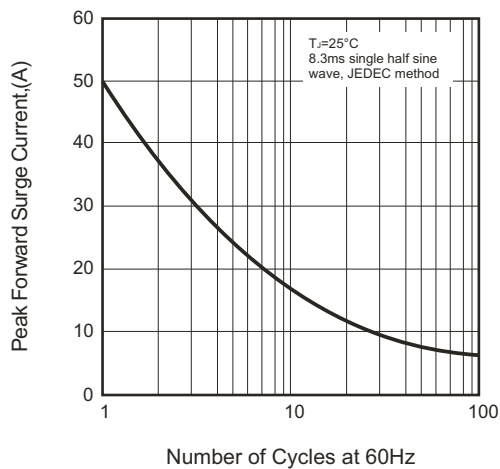


Fig.4 - Typical Reverse Characteristics

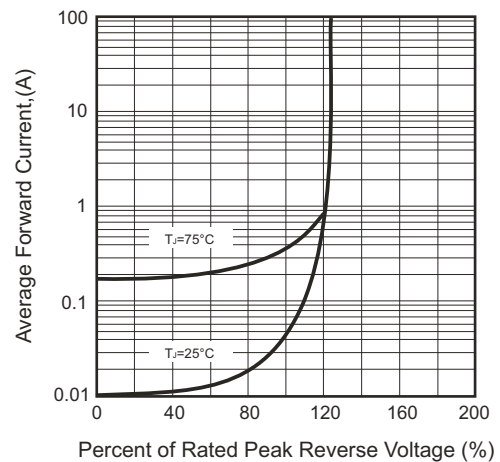
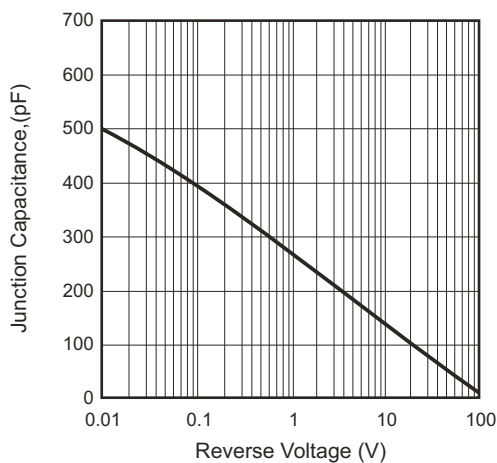
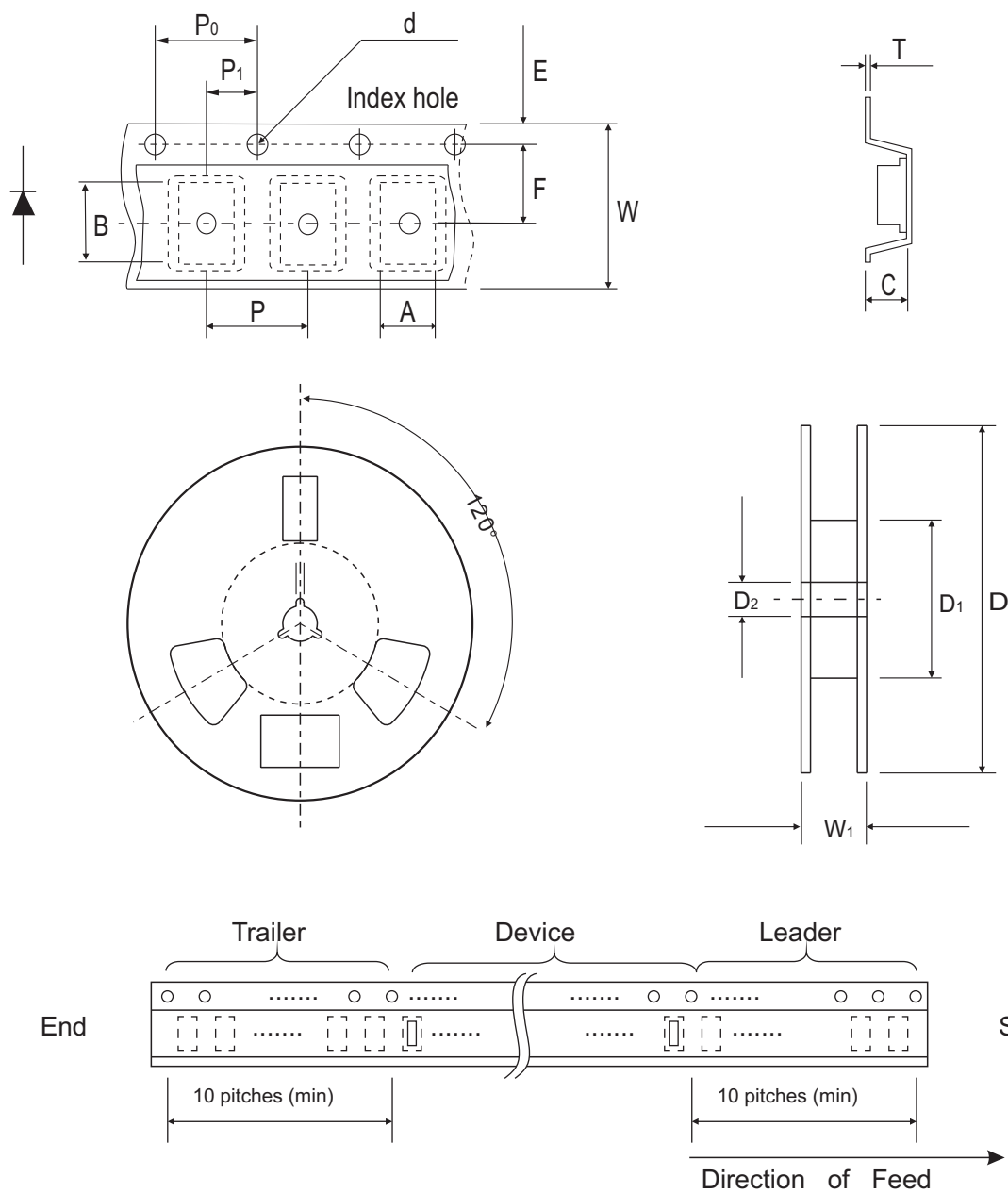


Fig.5 - Typical Junction Capacitance



## Reel Taping Specification



| SOD-123F | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1         | D2                |
|----------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|-------------------|
|          | (mm)   | $1.90 \pm 0.10$   | $3.90 \pm 0.10$   | $1.68 \pm 0.10$   | $1.50 \pm 0.10$   | $178.00 \pm 2.00$ | 62.00 MIN. | $13.0 \pm 0.50$   |
|          | (inch) | $0.075 \pm 0.004$ | $0.154 \pm 0.004$ | $0.066 \pm 0.004$ | $0.059 \pm 0.004$ | $7.008 \pm 0.079$ | 2.441 MIN. | $0.512 \pm 0.020$ |

| SOD-123F | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                 | W1                |
|----------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|          | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $8.00 \pm 0.30$   | $11.40 \pm 1.00$  |
|          | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.315 \pm 0.008$ | $0.449 \pm 0.039$ |

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## Marking Code

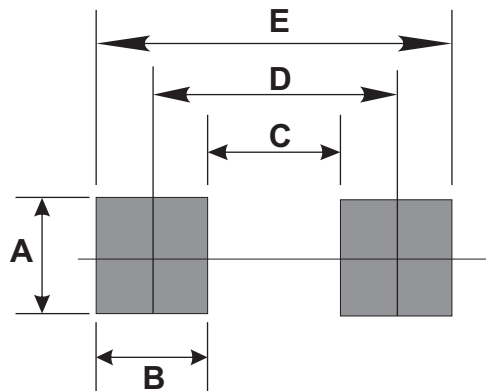
| Part Number  | Marking Code |
|--------------|--------------|
| CDBM140LR-HF | 24           |



xx = Product type marking code

## Suggested PAD Layout

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



## Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOD-123F  | 2,500           | 7                   |