

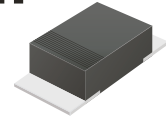
## CDBMT220-HF Thru. CDBMT2100-HF

Reverse Voltage: 20 to 100 Volts

Forward Current: 2.0 Amp

RoHS Device

Halogen Free

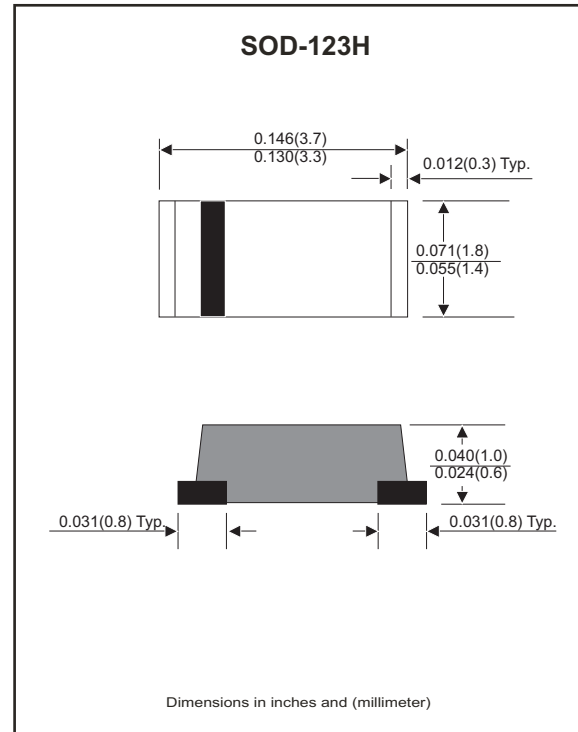


### Features

- Excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile package is 40% thinner than standards SOD-123.
- Low power loss,high efficiency.
- High current capability,low forward voltage drop.
- High surge capability.
- Guarding for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip,metal silicon junction.
- Lead-free part meets environmental standards of MIL-STD-19500/228

### Mechanical data

- Epoxy: UL94-V0 rated flame retardant.
- Case: Molded plastic, SOD-123H/MINI SMA
- Terminals: Solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position: any
- Weight: 0.011 grams approx.



### Maximum Ratings (at T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                                                              |                                                        | Symbol           | CDBMT<br>220-HF | CDBMT<br>230-HF | CDBMT<br>240-HF | CDBMT<br>250-HF | CDBMT<br>260-HF | CDBMT<br>280-HF | CDBMT<br>2100-HF | Unit |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------|
| Repetitive peak reverse voltage                                                                        |                                                        | V <sub>RRM</sub> | 20              | 30              | 40              | 50              | 60              | 80              | 100              | V    |
| Continuous reverse voltage                                                                             |                                                        | V <sub>R</sub>   | 20              | 30              | 40              | 50              | 60              | 80              | 100              | V    |
| RMS voltage                                                                                            |                                                        | V <sub>RMS</sub> | 14              | 21              | 28              | 35              | 42              | 56              | 70               | V    |
| Forward rectified current                                                                              |                                                        | I <sub>O</sub>   | 2.0             |                 |                 |                 |                 |                 |                  | A    |
| Maximum forward voltage<br>@ I <sub>F</sub> =2.0A                                                      |                                                        | V <sub>F</sub>   | 0.50            |                 |                 | 0.70            |                 | 0.85            |                  | V    |
| Max. Forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC method) |                                                        | I <sub>FSM</sub> | 50              |                 |                 |                 |                 |                 |                  | A    |
| Max.Reverse current                                                                                    | V <sub>R</sub> =V <sub>RRM</sub> T <sub>J</sub> =25°C  | I <sub>R</sub>   | 0.5             |                 |                 |                 |                 |                 |                  | mA   |
|                                                                                                        | V <sub>R</sub> =V <sub>RRM</sub> T <sub>J</sub> =100°C |                  | 10              |                 |                 |                 |                 |                 |                  |      |
| Typ. Thermal resistance<br>(Junction to ambient)                                                       |                                                        | R <sub>θJA</sub> | 85              |                 |                 |                 |                 |                 |                  | °C/W |
| Typ. Diode Junction capacitance (Note 1)                                                               |                                                        | C <sub>J</sub>   | 160             |                 |                 |                 |                 |                 |                  | pF   |
| Operating temperature                                                                                  |                                                        | T <sub>J</sub>   | -55 to +125     |                 |                 | -55 to +150     |                 |                 |                  | °C   |
| Storage temperature range                                                                              |                                                        | T <sub>STG</sub> | -65 to +175     |                 |                 |                 |                 |                 |                  | °C   |

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

## Rating and Characteristic Curves (CDBMT220-HF Thru. CDBMT2100-HF)

Fig.1- Typical Forward Current Derating Curve

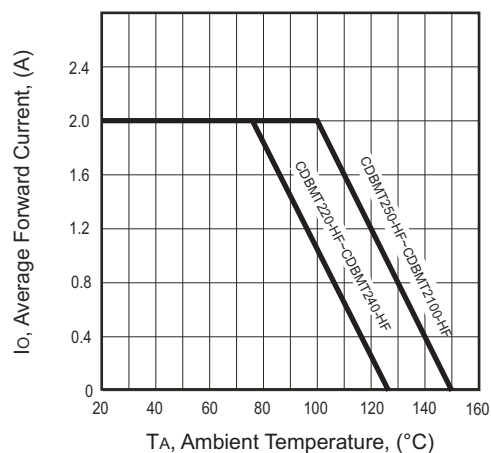


Fig.2 - Typical Forward Characteristics

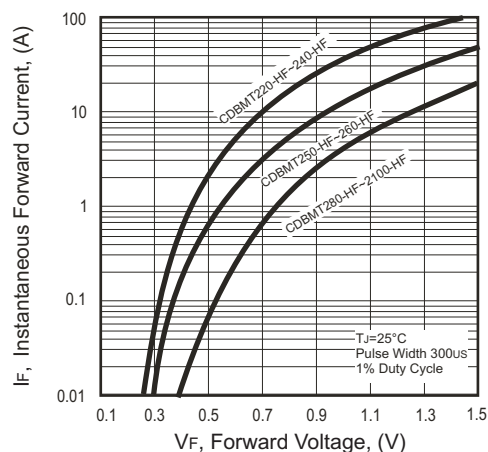


Fig.3 - Maximum Non-repetitive Forward Surge Current

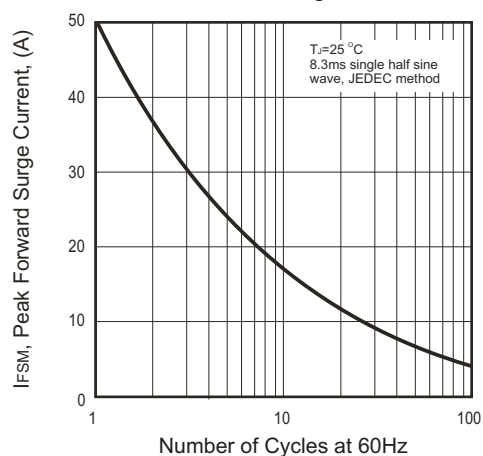


Fig.4 - Typical Junction Capacitance

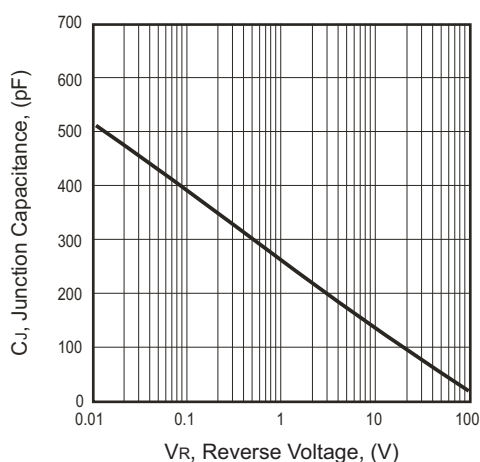
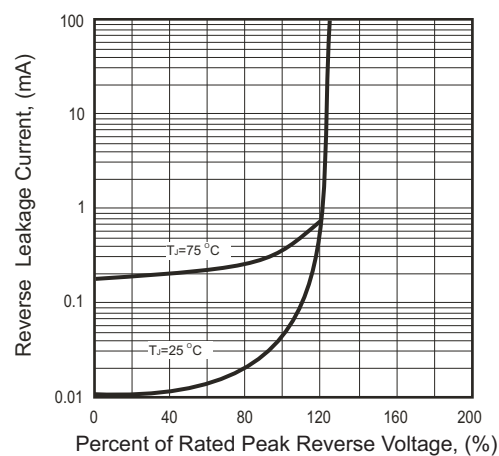
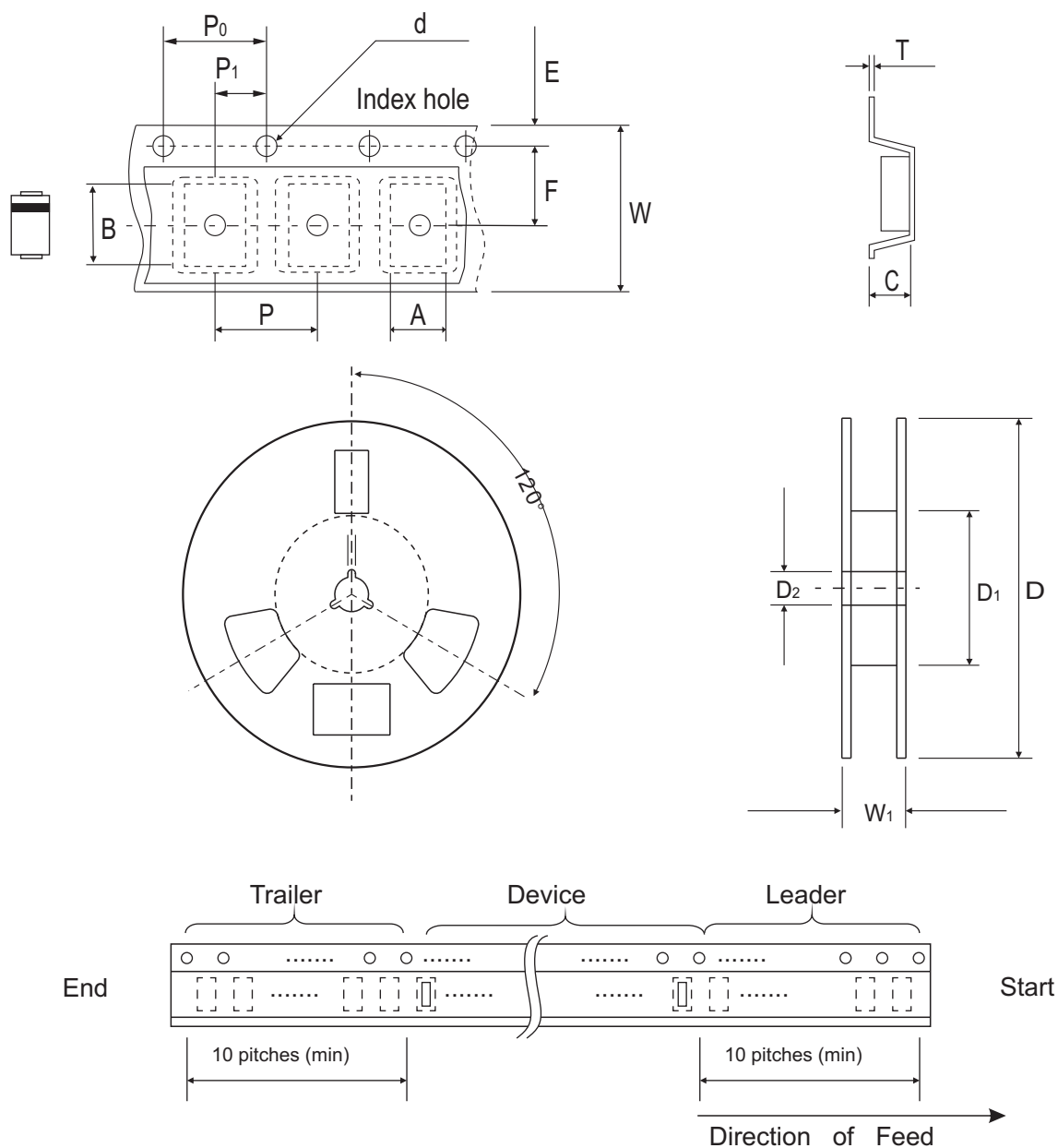


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification



| SOD-123H | SYMBOL | A                 | B                 | C                 | d                 | D                | D1         | D2                |
|----------|--------|-------------------|-------------------|-------------------|-------------------|------------------|------------|-------------------|
|          | (mm)   | $2.00 \pm 0.10$   | $3.85 \pm 0.10$   | $1.10 \pm 0.10$   | $1.50 \pm 0.10$   | $178 \pm 2.00$   | 62.0 MIN.  | $13.0 \pm 0.50$   |
|          | (inch) | $0.079 \pm 0.004$ | $0.152 \pm 0.004$ | $0.043 \pm 0.004$ | $0.059 \pm 0.004$ | $7.00 \pm 0.079$ | 2.440 MIN. | $0.512 \pm 0.020$ |

| SOD-123H | SYMBOL | E                 | F                 | P                 | P0                | P1                | T                 | W                 | W1                |
|----------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|          | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $0.23 \pm 0.10$   | $8.00 \pm 0.30$   | $11.40 \pm 1.0$   |
|          | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.009 \pm 0.004$ | $0.315 \pm 0.012$ | $0.449 \pm 0.039$ |

## Pinning information

| Pin                                        | Simplified outline                                                                | Symbol                                                                             |
|--------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>PIN 1 Cathode</b><br><b>PIN 2 Anode</b> |  |  |

## Marking Code

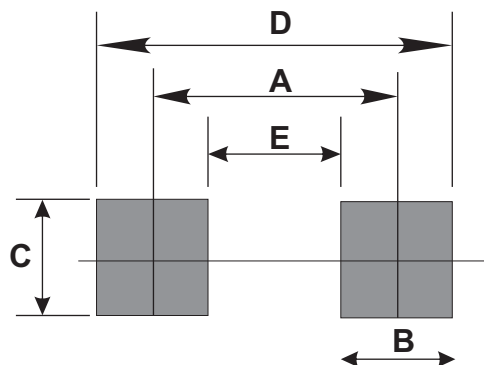
| Part Number  | Marking Code |
|--------------|--------------|
| CDBMT220-HF  | 22           |
| CDBMT230-HF  | 23           |
| CDBMT240-HF  | 24           |
| CDBMT250-HF  | 25           |
| CDBMT260-HF  | 26           |
| CDBMT280-HF  | 28           |
| CDBMT2100-HF | 20           |



xx / xxx = Product type marking code

## Suggested PAD Layout

| SIZE | SOD-123H |        |
|------|----------|--------|
|      | (mm)     | (inch) |
| A    | 3.00     | 0.118  |
| B    | 1.30     | 0.051  |
| C    | 1.80     | 0.071  |
| D    | 4.30     | 0.169  |
| E    | 1.70     | 0.067  |



## Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOD-123H  | 3,000           | 7                   |