

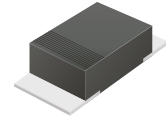
## CDBMT220-HF Thru. CDBMT2100-HF

Reverse Voltage: 20 to 100 Volts

Forward Current: 2.0 Amp

RoHS Device

Halogen Free

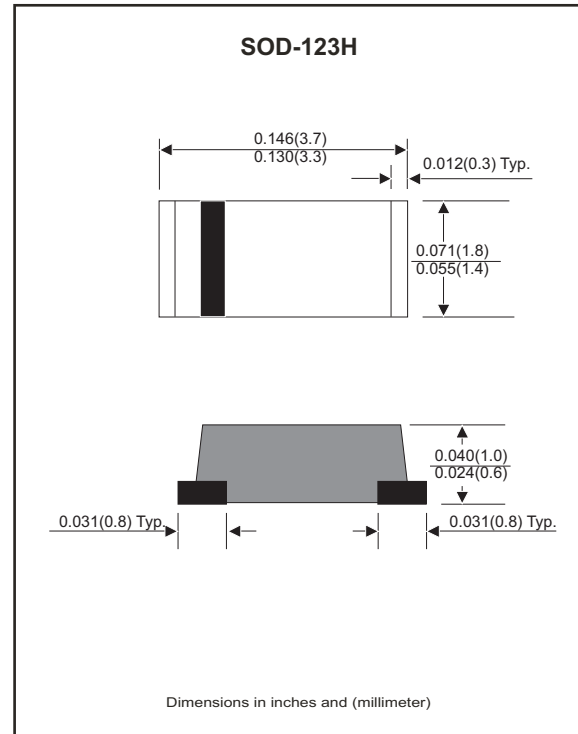


### Features

- 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 220-HF | CDBMT 230-HF | CDBMT 240-HF | CDBMT 250-HF | CDBMT 260-HF | CDBMT 280-HF | CDBMT 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 @ I <sub>F</sub> =2.0A                                                   | V <sub>F</sub>   | 0.50         |              |              | 0.70         |              | 0.85         |               | V    |      |
| Max. Forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I <sub>FSM</sub> | 50           |              |              |              |              |              |               |      | A    |
| Max.Reverse current                                                                              | I <sub>R</sub>   | 0.5          |              |              |              |              |              |               | mA   |      |
|                                                                                                  |                  | 10           |              |              |              |              |              |               |      |      |
| Typ. Thermal resistance (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

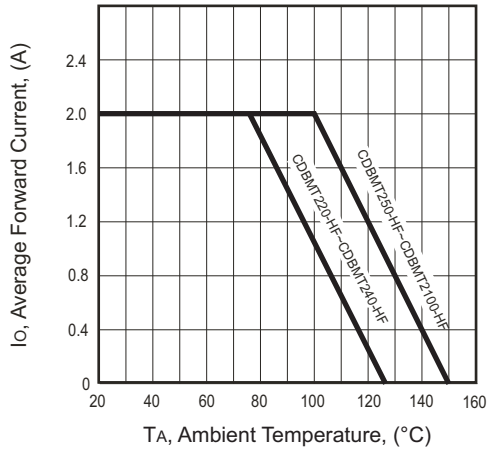


Fig.2 - Typical Forward Characteristics

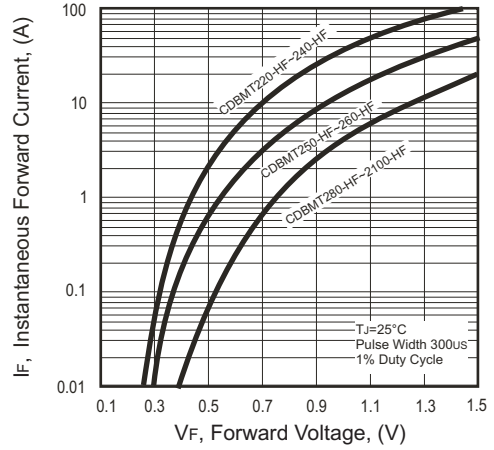


Fig.3 - Maximum Non-repetitive Forward Surge Current

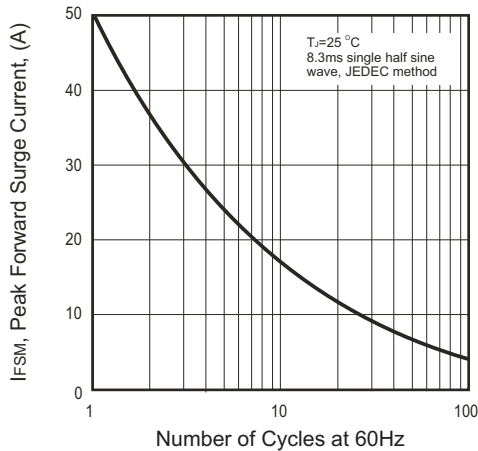


Fig.4 - Typical Junction Capacitance

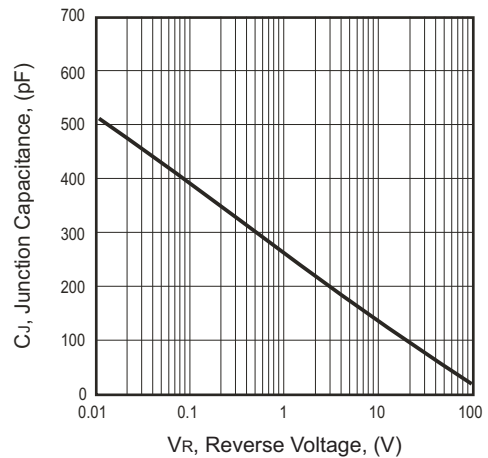
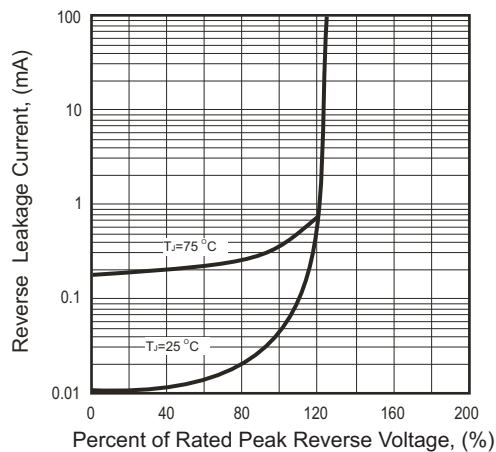
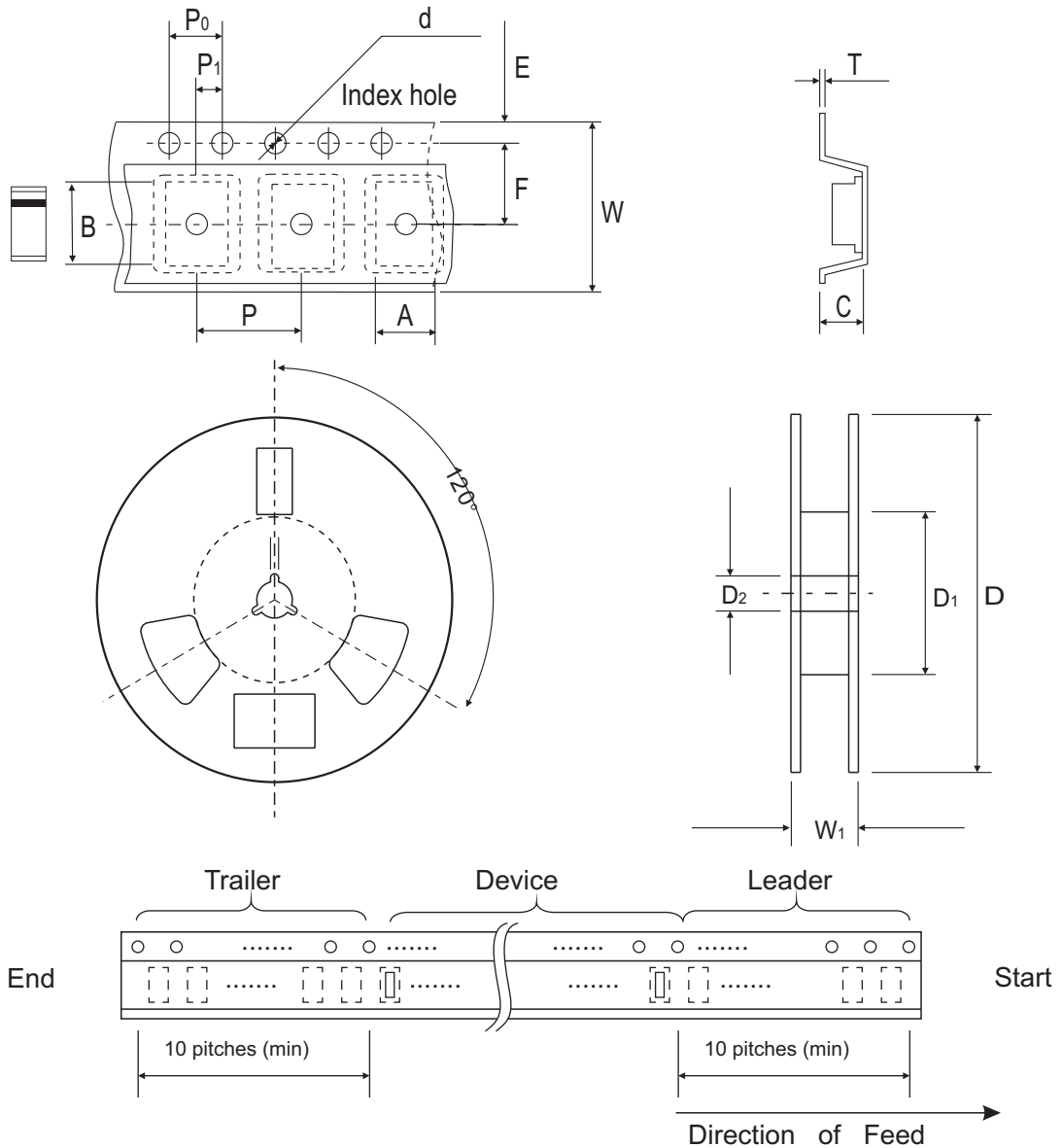


Fig.5 - Typical Reverse Characteristics





## Reel Taping Specification



| SOD-123H | SYMBOL | A             | B             | C             | d             | D            | D <sub>1</sub> | D <sub>2</sub> |
|----------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
|          | (mm)   | 2.00 ± 0.10   | 3.85 ± 0.10   | 1.10 ± 0.10   | 1.50 ± 0.10   | 178 ± 2.00   | 62.0 MIN.      | 13.0 ± 0.50    |
|          | (inch) | 0.079 ± 0.004 | 0.152 ± 0.004 | 0.043 ± 0.004 | 0.059 ± 0.004 | 7.00 ± 0.079 | 2.440 MIN.     | 0.512 ± 0.020  |

| SOD-123H | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | T             | W             | W <sub>1</sub> |
|----------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
|          | (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   | 11.40 ± 1.0    |
|          | (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 ± 0.012 | 0.449 ± 0.039  |

## Pinning information

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

## Marking Code

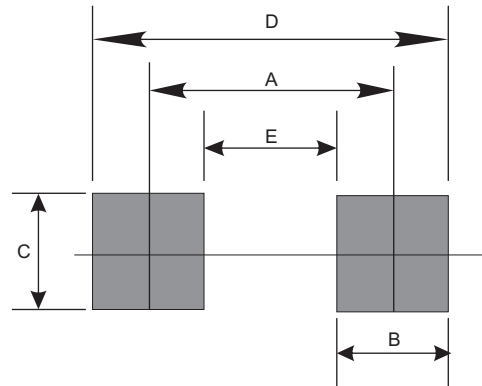
| Part Number  | Marking Code |
|--------------|--------------|
| CDBMT220-HF  | 22           |
| CDBMT230-HF  | 23           |
| CDBMT240-HF  | 24           |
| CDBMT250-HF  | 25           |
| CDBMT260-HF  | 26           |
| CDBMT280-HF  | 28           |
| CDBMT2100-HF | 20           |



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 Package

| Case Type | REEL PACK (T/R) |          |             |                  |            |
|-----------|-----------------|----------|-------------|------------------|------------|
|           | REEL (EA)       | BOX (EA) | CARTON (EA) | Reel Size (inch) | Type Mat'l |
| SOD-123H  | 3000            | 30000    | 240000      | 7                | Plastic    |