

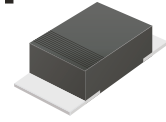
## CDBMHT120-HF Thru. CDBMHT1150-HF

Reverse Voltage: 20 to 150 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

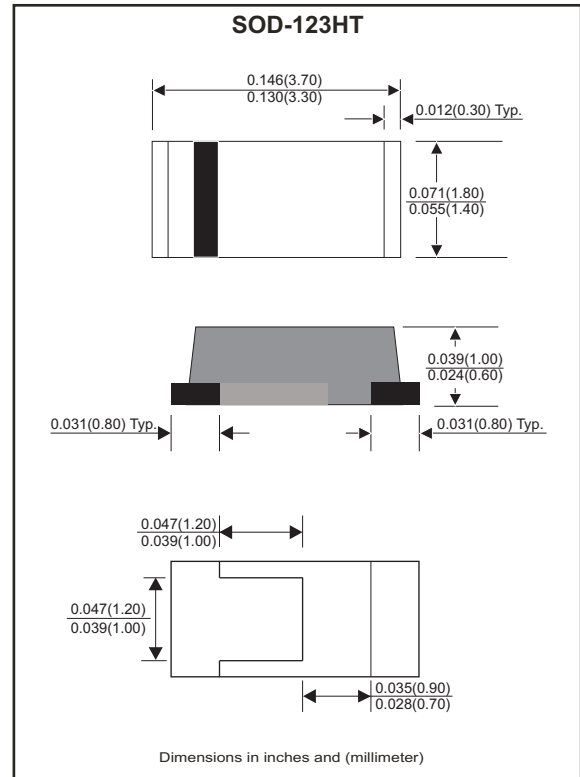


### Features

- 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.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Heat sink bottom.
- Lead-free parts meet environmental standards of MIL-STD-19500/228

### Mechanical data

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



### Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter   | Symbol                                    | CDBMH T120-HF | CDBMH T130-HF | CDBMH T140-HF | CDBMH T150-HF | CDBMH T160-HF | CDBMH T180-HF | CDBMH T1100-HF | CDBMH T1150-HF | Unit               |
|---|---|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|--------------------|
| Repetitive peak reverse voltage   | $V_{RRM}$                                 | 20            | 30            | 40            | 50            | 60            | 80            | 100            | 150            | V                  |
| Continuous reverse voltage  | $V_R$                                     | 20            | 30            | 40            | 50            | 60            | 80            | 100            | 150            | V                  |
| RMS voltage   | $V_{RMS}$                                 | 14            | 21            | 28            | 35            | 42            | 56            | 70             | 105            | V                  |
| Max. Forward rectified current  | $I_o$                                     | 1.0           |               |               |               |               |               |                |                | A                  |
| Maximum forward voltage at $I_F=1.0A$   | $V_F$                                     | 0.50          |               |               | 0.70          |               | 0.85          |                | 0.92           | V                  |
| Max. Forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$                                 | 25            |               |               |               |               |               |                |                | A                  |
| Max.Reverse current   | $V_R=V_{RRM} \quad T_J=25^\circ\text{C}$  | $I_R$         |               |               |               |               |               |                |                | mA                 |
|   | $V_R=V_{RRM} \quad T_J=100^\circ\text{C}$ | $I_R$         |               |               |               |               |               |                |                |                    |
| Typ. Thermal resistance   | $R_{\theta JC}$                           | 30            |               |               |               |               |               |                |                | $^\circ\text{C/W}$ |
| Typ. Diode Junction capacitance (Note 1)  | $C_J$                                     | 120           |               |               |               |               |               |                |                | pF                 |
| Operating temperature   | $T_J$                                     | -55 to +125   |               |               |               | -55 to +150   |               |                |                | $^\circ\text{C}$   |
| Storage temperature range   | $T_{STG}$                                 | -65 to +175   |               |               |               |               |               |                |                | $^\circ\text{C}$   |

Note : 1.  $F=1\text{MHz}$  and applied 4V DC reverse voltage

REV:A

## Rating and Characteristic Curves (CDBMHT120-HF Thru. CDBMHT1150-HF)

Fig.1- Typical Forward Current Derating Curve

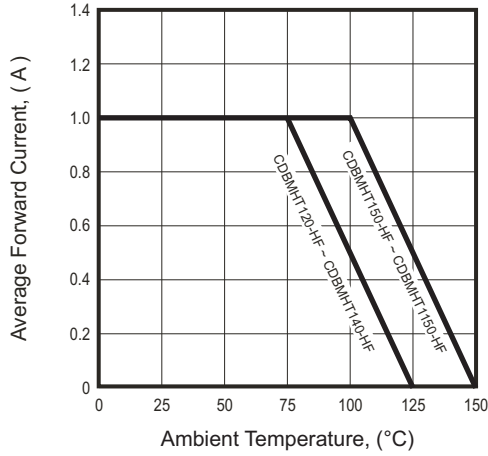


Fig.2- Typical Forward Characteristics

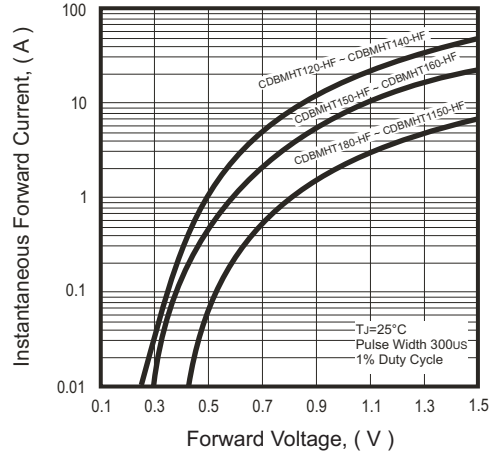


Fig.3- Maximum Non-repetitive Forward Surge Current

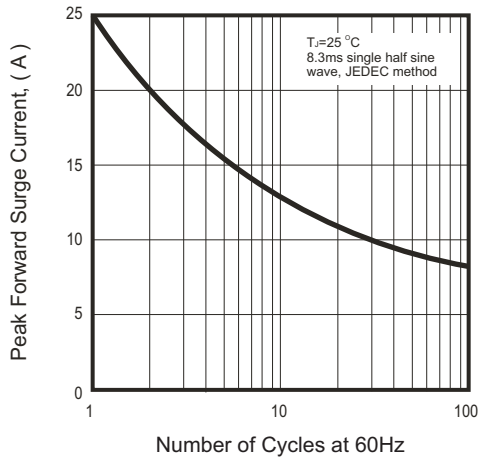


Fig.4- Typical Junction Capacitance

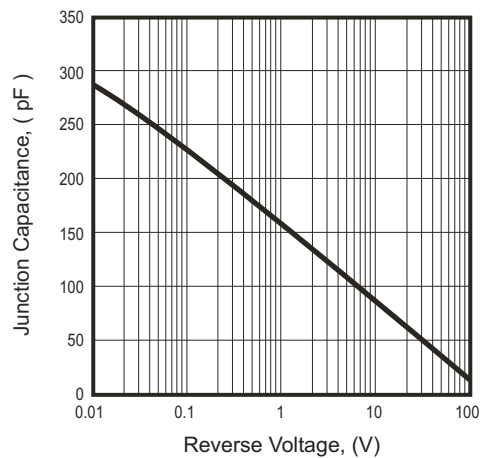
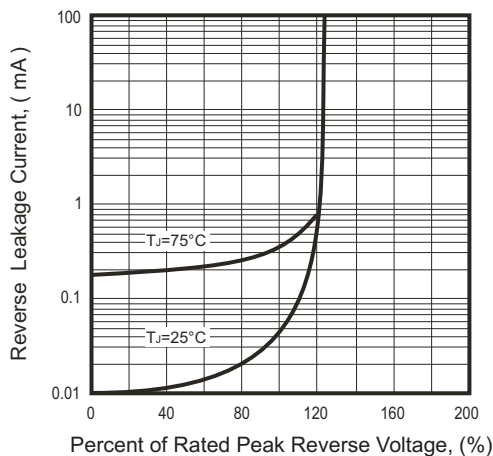
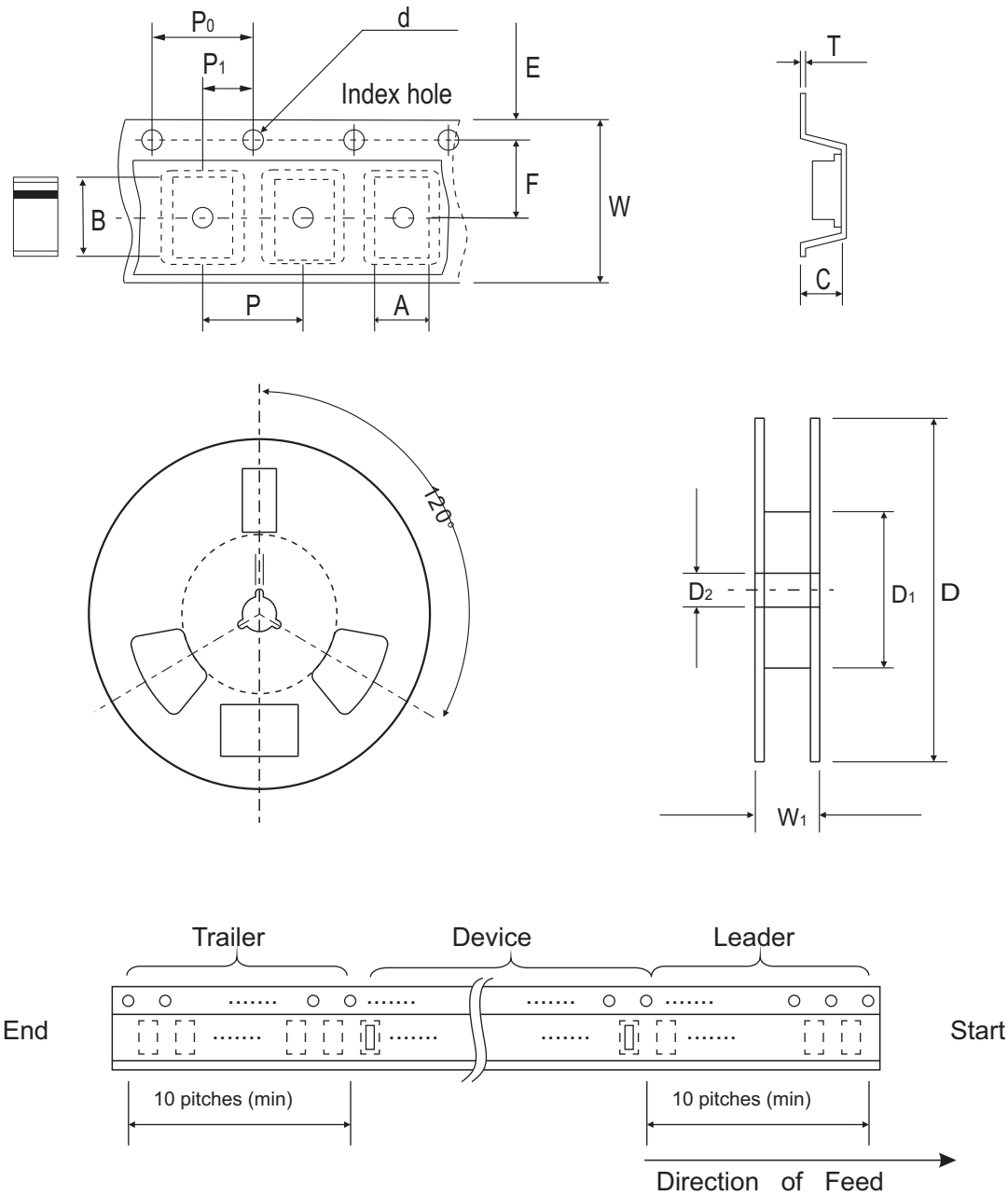


Fig.5- Reverse Characteristics



## Reel Taping Specification



| Mini-SMA<br>(SOD-123HT) | SYMBOL | A             | B             | C             | d             | D             | D1          | D2            |
|-------------------------|--------|---------------|---------------|---------------|---------------|---------------|-------------|---------------|
|                         | (mm)   | 2.00 ± 0.10   | 3.85 ± 0.10   | 1.10 ± 0.10   | 1.50 ± 0.10   | 178.00 ± 2.00 | 62.00 (min) | 13.00 ± 0.50  |
|                         | (inch) | 0.079 ± 0.004 | 0.152 ± 0.004 | 0.043 ± 0.004 | 0.059 ± 0.004 | 7.007 ± 0.079 | 2.441 (min) | 0.512 ± 0.020 |

| Mini-SMA<br>(SOD-123HT) | 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   | 11.40 ± 1.00  |
|                         | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.009 ± 0.04 | 0.315 ± 0.012 | 0.449 ± 0.039 |

## Pinning information

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

## Marking Code

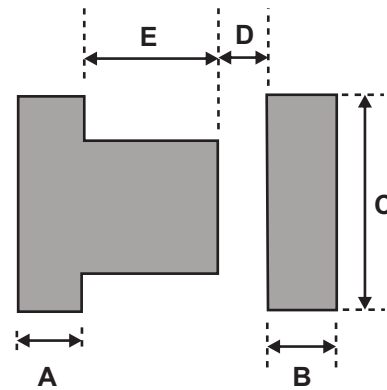
| Part Number   | Marking Code |
|---------------|--------------|
| CDBMHT120-HF  | 12           |
| CDBMHT130-HF  | 13           |
| CDBMHT140-HF  | 14           |
| CDBMHT150-HF  | 15           |
| CDBMHT160-HF  | 16           |
| CDBMHT180-HF  | 18           |
| CDBMHT1100-HF | 10           |
| CDBMHT1150-HF | 115          |



xx / xxx = Product type marking code

## Suggested PAD Layout

| SIZE | Mini-SMA/SOD-123HT |        |
|------|--------------------|--------|
|      | (mm)               | (inch) |
| A    | 0.80               | 0.031  |
| B    | 0.80               | 0.031  |
| C    | 1.90               | 0.075  |
| D    | 0.90               | 0.035  |
| E    | 1.20               | 0.047  |



## Standard Packaging

| Case Type | REEL PACK    |                  |
|-----------|--------------|------------------|
|           | REEL ( pcs ) | Reel Size (inch) |
| SOD-123HT | 3,000        | 7                |