



**THE DATASHEET OF
CDBMHT130-HF**



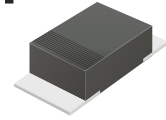
CDBMHT120-HF Thru. CDBMHT1150-HF

Reverse Voltage: 20 to 150 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

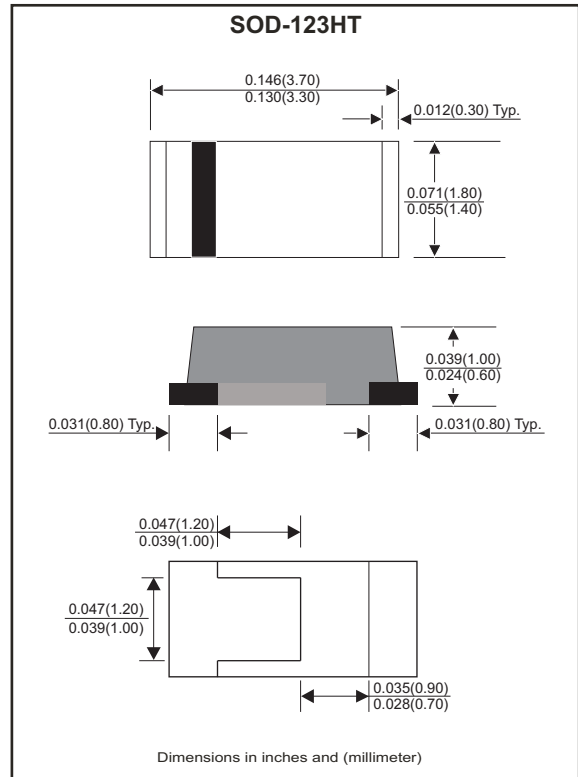


Features

- 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 | $V_R=V_{RRM}$ $T_J=25^\circ\text{C}$ | I_R | | | | | | | | mA |
| | $V_R=V_{RRM}$ $T_J=100^\circ\text{C}$ | 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=1MHz and applied 4V DC reverse voltage

REV:A

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

Fig.1- Typical Forward Current Derating Curve

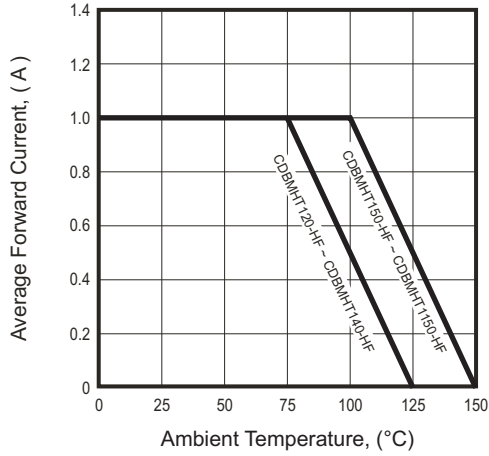


Fig.2- Typical Forward Characteristics

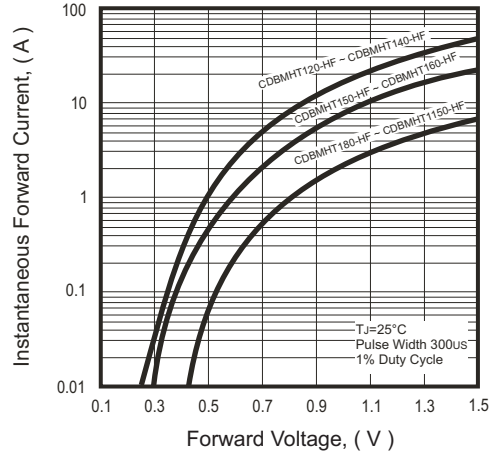


Fig.3- Maximum Non-repetitive Forward Surge Current

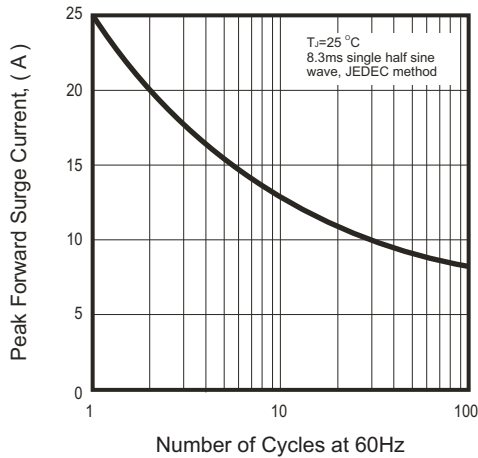


Fig.4- Typical Junction Capacitance

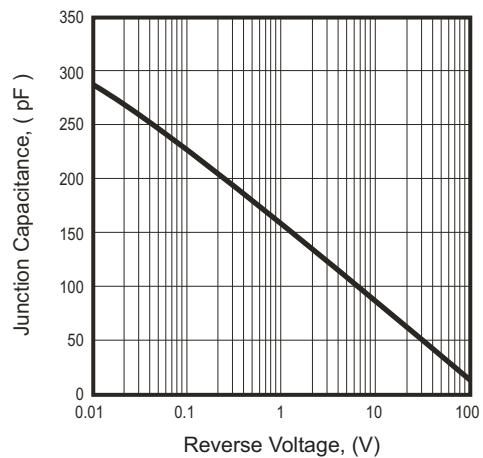
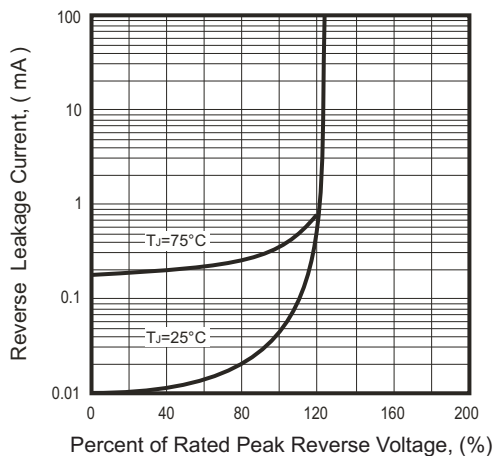
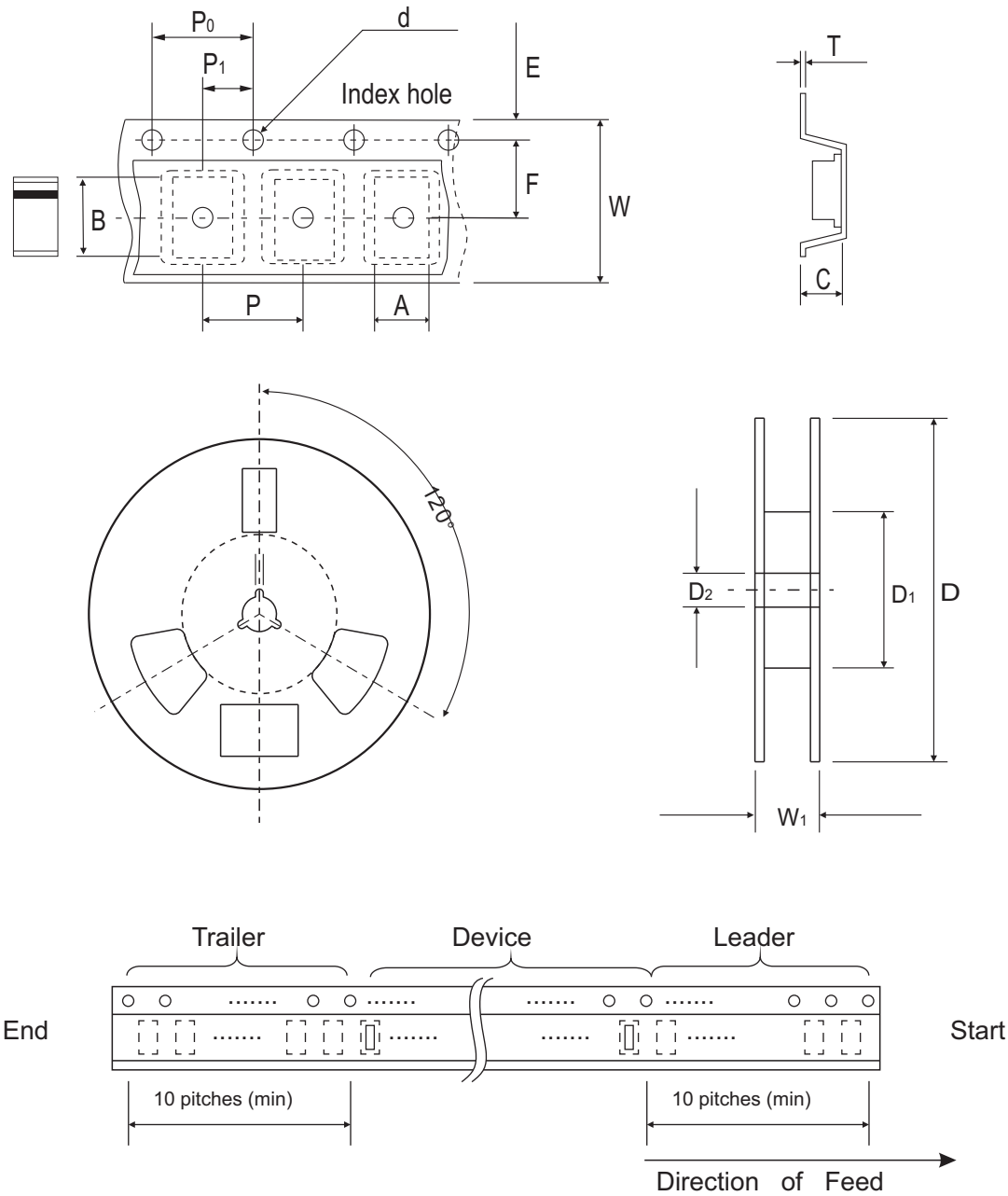


Fig.5- Reverse Characteristics



Reel Taping Specification



| Mini-SMA (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 (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 PIN 2 Anode | | |

Marking Code

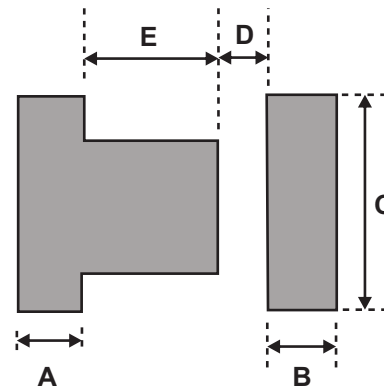
| Part Number | Marking Code |
|---------------|--------------|
| CDBMHT120-HF | 12 |
| CDBMHT130-HF | 13 |
| CDBMHT140-HF | 14 |
| CDBMHT150-HF | 15 |
| CDBMHT160-HF | 16 |
| CDBMHT180-HF | 18 |
| CDBMHT1100-HF | 10 |
| CDBMHT1150-HF | 115 |



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 |

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