

## CDBHD140L-HF Thru. CDBHD1100L-HF

Reverse Voltage: 40 to 100 V

Forward Current: 1.0 A

RoHS Device  
Halogen Free



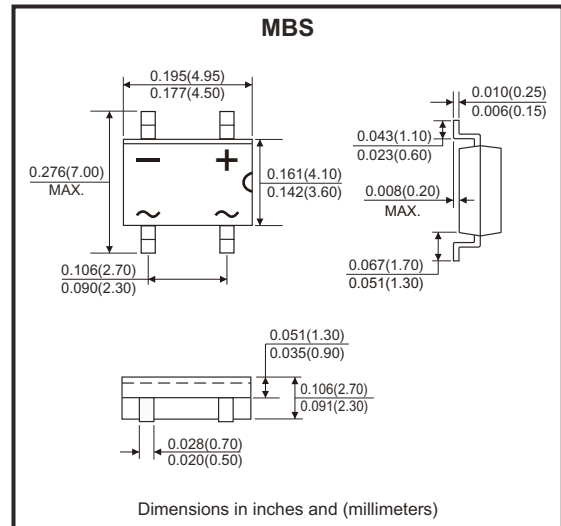
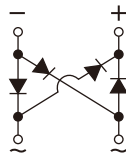
### Features

- Schottky brier chip.
- Low power loss, high efficiency.
- ideally suited for automatic assembly.
- Surge overload rating to 50A peak.
- Plastic case material has UL flammability classification 94V-0.

### Mechanical data

- Case: MBS, molded plastic.
- Terminals: Plated leads solderable per MIL-STD-202, method 208.
- Polarity: As marked on body.
- Mounting position: Any.

### Circuit Diagram



### Maximum Ratings and Electrical Characteristics

(at  $T_A=25^\circ\text{C}$ , unless otherwise specified)

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter                                                                                                      | Symbol          | CDBHD140L-HF | CDBHD160L-HF | CDBHD1100L-HF | Unit                 |
|----------------------------------------------------------------------------------------------------------------|-----------------|--------------|--------------|---------------|----------------------|
| Peak repetitive reverse voltage                                                                                | $V_{RRM}$       | 40           | 60           | 100           | V                    |
| RMS reverse voltage                                                                                            | $V_{RMS}$       | 28           | 42           | 70            | V                    |
| DC blocking voltage                                                                                            | $V_{DC}$        | 40           | 60           | 100           | V                    |
| Average rectified output current (Note 1) @ $T_C=100^\circ\text{C}$                                            | $I_{F(AV)}$     | 1            |              |               | A                    |
| Non-repetitive peak forward surge current 8.3ms single has sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$       | 50           |              |               | A                    |
| $I^2t$ rating for fusing ( $t < 8.3\text{ms}$ )                                                                | $I^2t$          | 10.375       |              |               | $\text{A}^2\text{s}$ |
| Forward voltage per element @ $I_F=1\text{A}$                                                                  | $V_{FM}$        | 0.44         | 0.625        | 0.75          | V                    |
| Peak reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=100^\circ\text{C}$        | $I_{RM}$        | 0.1<br>10    |              | 0.05<br>5     | mA                   |
| Typical junction capacitance per leg (Note 3)                                                                  | $C_J$           | 200          |              |               | pF                   |
| Typical thermal resistance per leg (Note 2)                                                                    | $R_{\theta JL}$ | 16           |              |               | $^\circ\text{C/W}$   |
| Operating junction temperature range                                                                           | $T_J$           | -55 to +150  |              |               | $^\circ\text{C}$     |
| Operating and storage temperature range                                                                        | $T_{STG}$       | -55 to +150  |              |               | $^\circ\text{C}$     |

Notes: 1. Mounted on aluminum substrate PC board with  $1.3\text{mm}^2$  solder pad.

2. Thermal resistance from junction to lead.

3.  $f=1\text{MHz}$  and applied 4V DC reverse voltage.

## Rating and Characteristics Curves (CDBHD140L-HF Thru. CDBHD1100L-HF)

Fig.1 - Forward Current Derating Curve

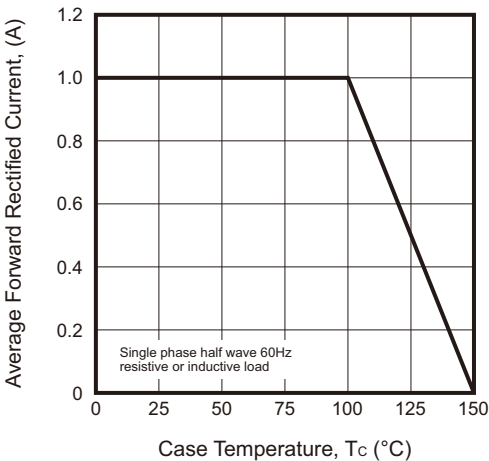


Fig.2 - Maximum Non-Repetitive Peak Forward surge current

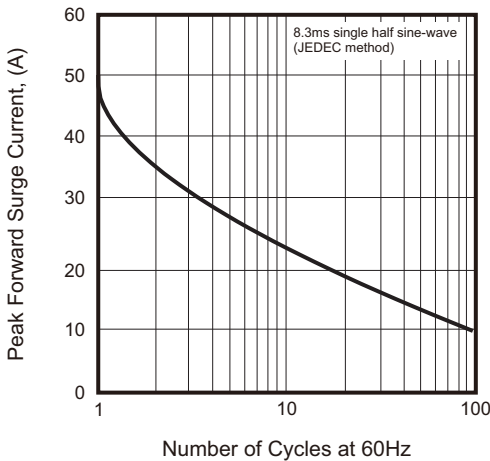


Fig.3 - Typical Instantaneous Forward Characteristics

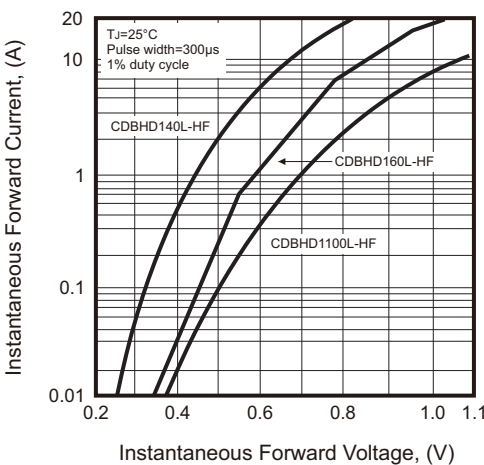


Fig.4 - Typical Reverse Characteristics

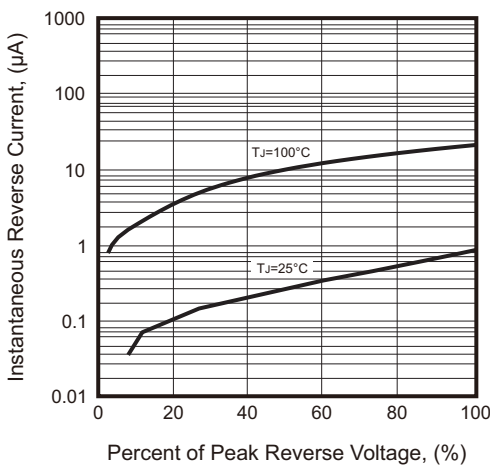
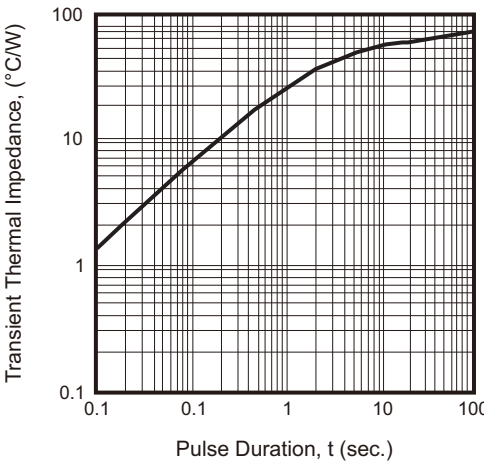
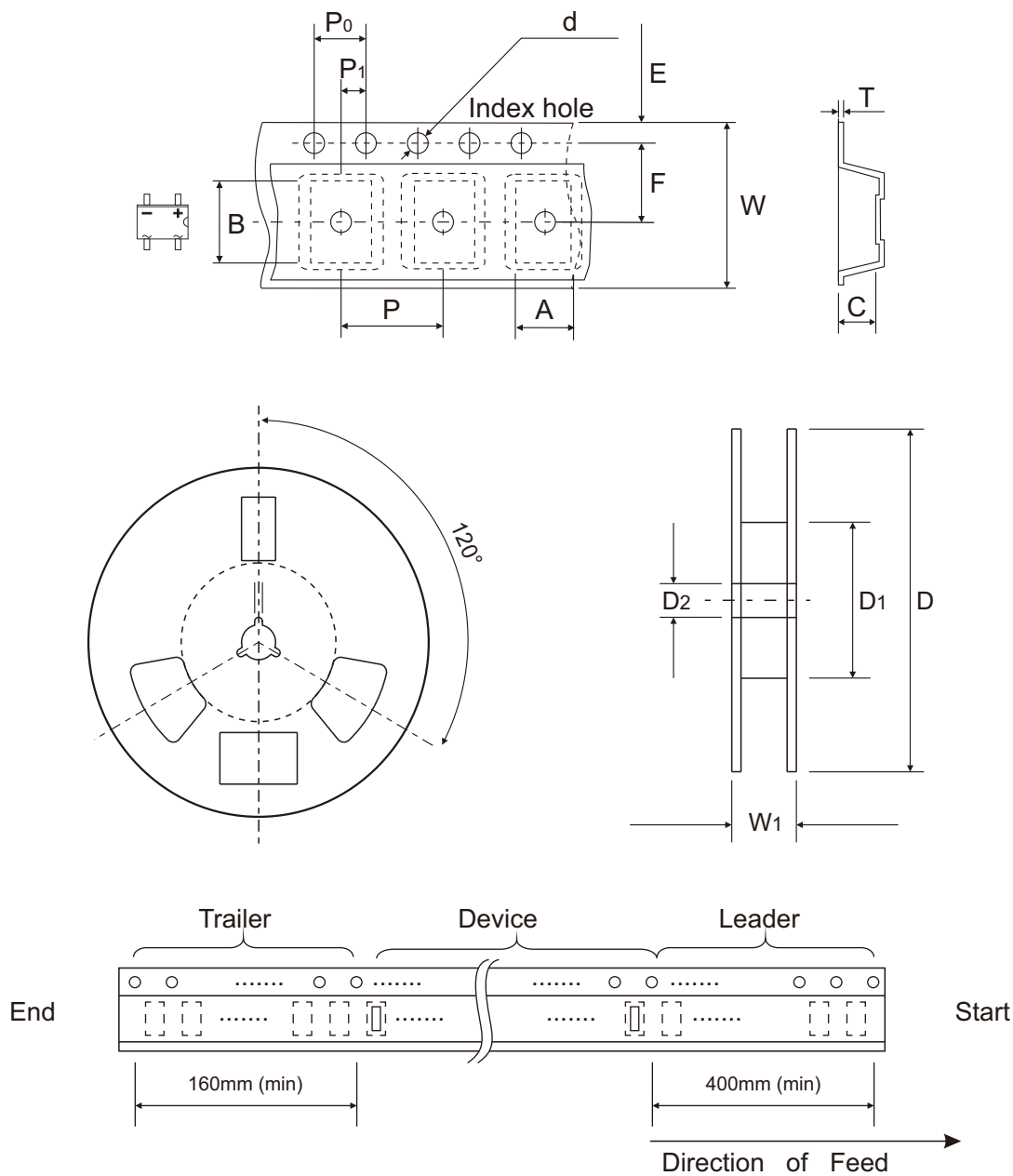


Fig.5 - Typical Transient Thermal Impedance



Reel Taping Specification

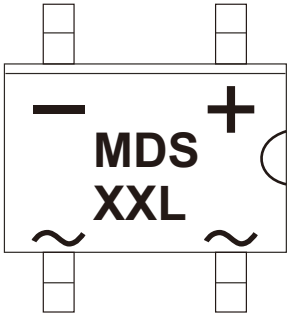


| MBS | SYMBOL | A             | B             | C             | d             | D              | D1            | D2            |
|-----|--------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|
|     | (mm)   | 4.90 ± 0.10   | 7.22 ± 0.10   | 2.88 ± 0.10   | 1.55 ± 0.05   | 330 ± 1.00     | 100 ± 0.50    | 13.00 ± 0.50  |
|     | (inch) | 0.193 ± 0.004 | 0.284 ± 0.004 | 0.113 ± 0.004 | 0.061 ± 0.002 | 12.992 ± 0.039 | 3.937 ± 0.020 | 0.512 ± 0.020 |

| MBS | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | T             | W             | W <sub>1</sub> |
|-----|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
|     | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.05   | 8.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.05    | 0.27 ± 0.03   | 12.00 ± 0.10  | 18.40 Max      |
|     | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.004  | 0.011 ± 0.001 | 0.472 ± 0.004 | 0.724 Max      |

Marking Code

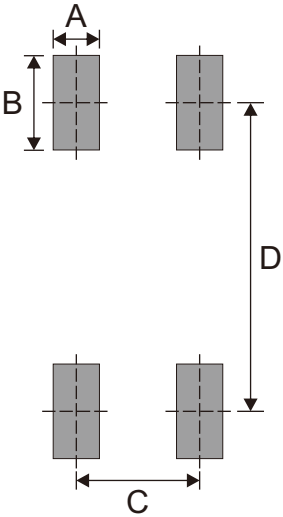
| Part Number   | Marking Code |
|---------------|--------------|
| CDBHD140L-HF  | MDS14L       |
| CDBHD160L-HF  | MDS16L       |
| CDBHD1100L-HF | MDS110L      |



xx/xxx = Product type marking code

Suggested P.C.B. PAD Layout

| SIZE | MBS  |        |
|------|------|--------|
|      | (mm) | (inch) |
| A    | 0.90 | 0.035  |
| B    | 1.84 | 0.072  |
| C    | 2.40 | 0.094  |
| D    | 6.00 | 0.236  |



Standard Packaging

| Case Type | REEL PACK  |                  |
|-----------|------------|------------------|
|           | REEL (pcs) | Reel Size (inch) |
| MBS       | 3,000      | 13               |