

CDBD2020-HF Thru. CDBD20200-HF

Reverse Voltage: 20 to 200 Volts

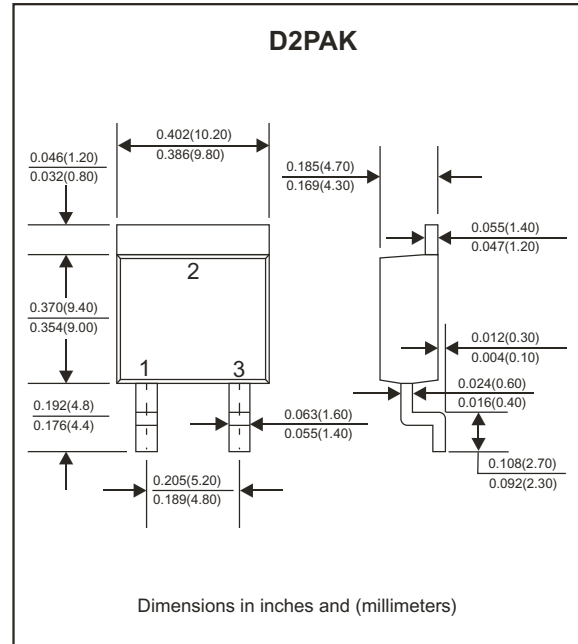
Forward Current: 20.0 Amp

RoHS Device

Halogen Free

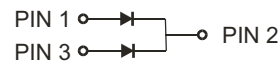
Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- 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.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228



Mechanical data

- Case: TO-263/D2PAK, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Weunting Position: Any
- Weight:1.46 gram(approx.).



Maximum Ratings (At Ta=25°C, unless otherwise noted)

| Parameter | Symbol | CDBD | CDBD | CDBD | CDBD | CDBD | CDBD | CDBD | CDBD | CDBD | CDBD | Unit | |
|---|------------------------|-----------------|---------|---------|---------|---------|-------------|---------|----------|----------|----------|------|------|
| | | 2020-HF | 2030-HF | 2040-HF | 2045-HF | 2050-HF | 2060-HF | 2080-HF | 20100-HF | 20150-HF | 20200-HF | | |
| Repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | 150 | 200 | V | |
| Continuous reverse voltage | V_R | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | 150 | 200 | V | |
| RMS voltage | V_{RMS} | 14 | 21 | 28 | 31.5 | 35 | 42 | 56 | 70 | 105 | 140 | V | |
| Maximum Forward rectified current (See fig. 1) | I_o | 20.0 | | | | | | | | | | A | |
| Maximum forward voltage $I_F=10.0A$ | V_F | 0.55 | | | 0.75 | | 0.85 | | 1.00 | | | V | |
| Maxium Forward surge current, 8.3ms singlehalf sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | 150 | | | | | | | | | | A | |
| MaximumReverse current | $V_R=V_{RRM}$ TA=25°C | I_R | | | | | | | | | | 0.5 | mA |
| | $V_R=V_{RRM}$ TA=100°C | I_R | | | | | | | | | | 50 | mA |
| Typ. Thermal resistance | Junction to Case | $R_{\theta Jc}$ | | | | | | | | | | 2.0 | °C/W |
| Operating temperature | T_J | -55 to +125 | | | | | -55 to +150 | | | | | | °C |
| Storage temperature | T_{STG} | -65 to +175 | | | | | | | | | | | °C |

RATING AND CHARACTERISTIC CURVES (CDBD2020-HF Thru. CDBD20200-HF)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

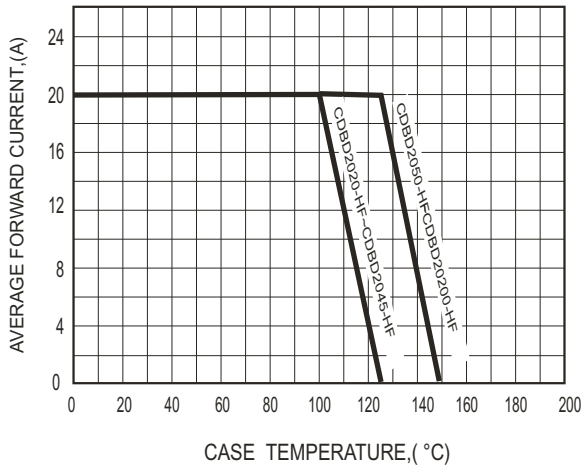


FIG.2-TYPICAL FORWARD CHARACTERISTICS

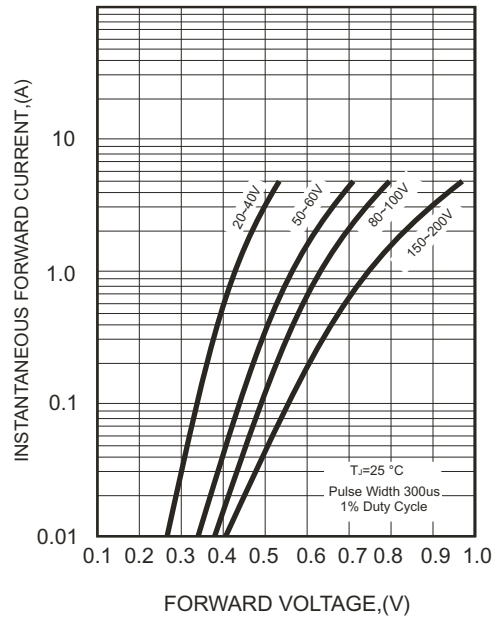


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

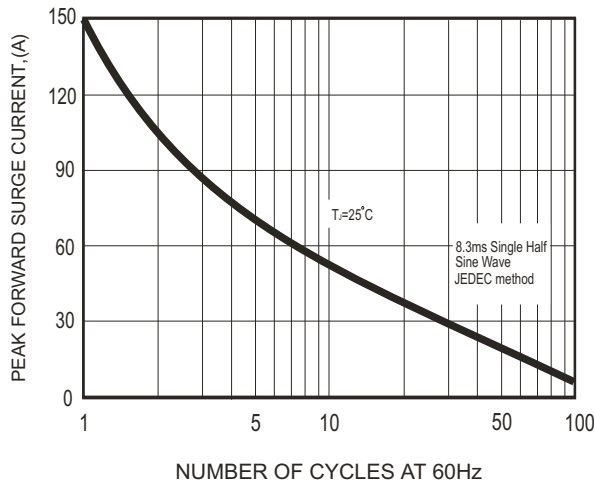
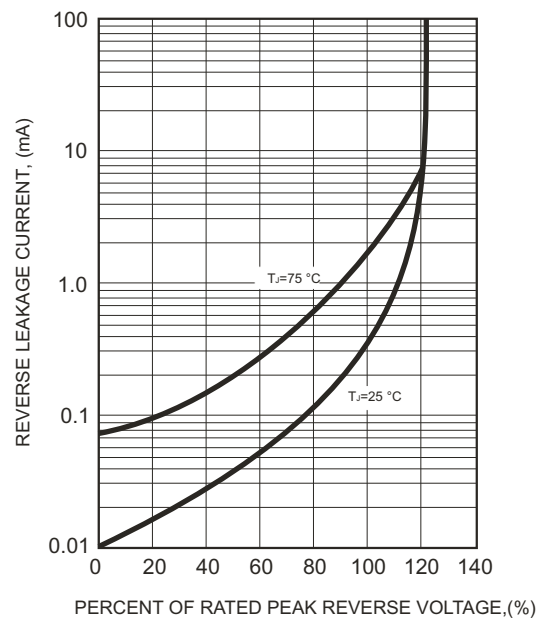
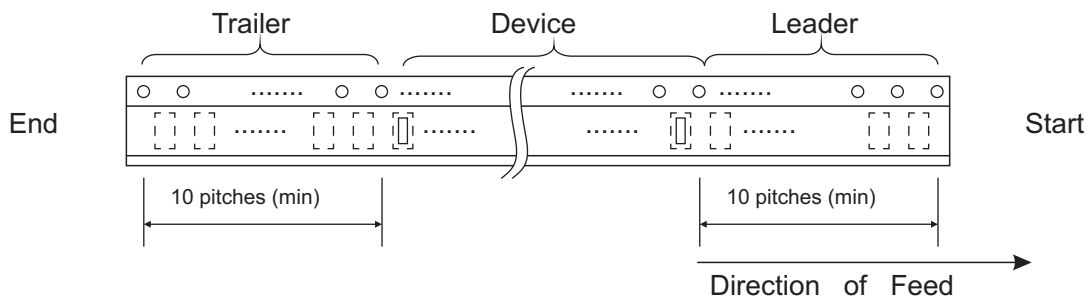
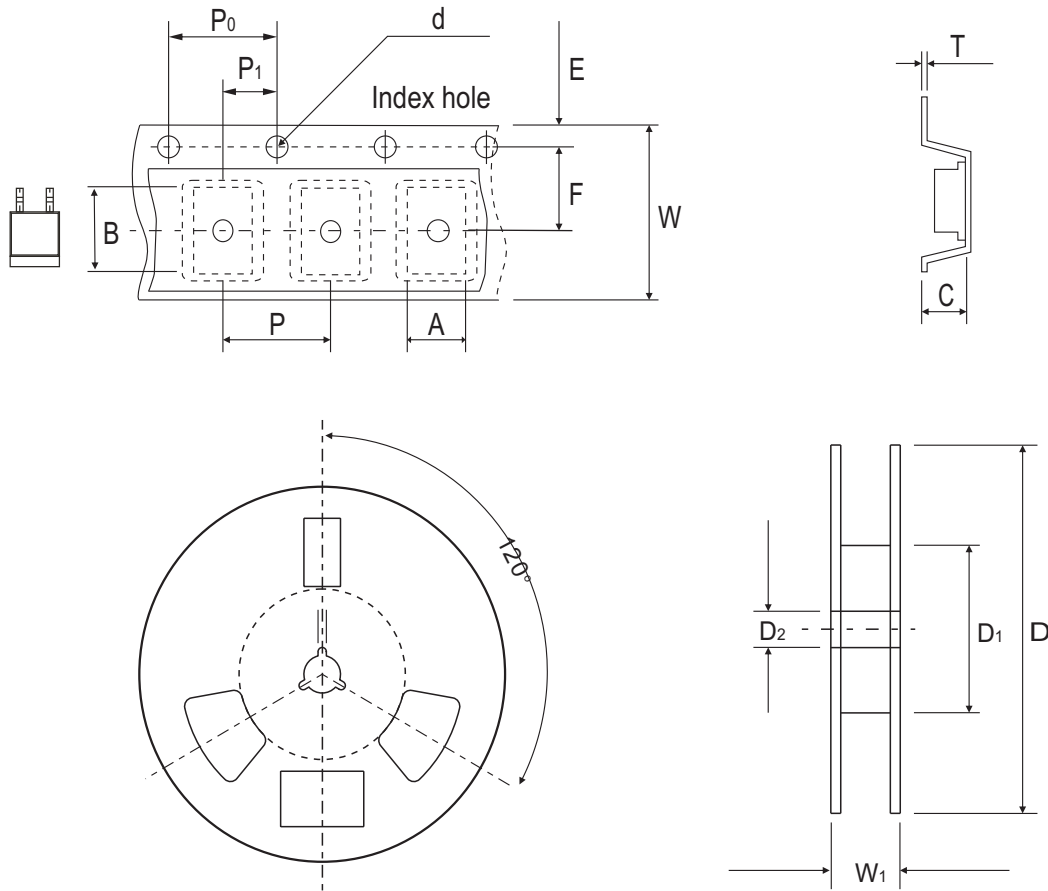


FIG.4 - TYPICAL REVERSE CHARACTERISTICS



Reel Taping Specification

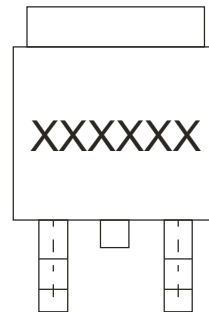


| TO-263/D2PAK | SYMBOL | A | B | C | d | D | D1 | D2 |
|--------------|--------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
| | (mm) | 10.70 ± 0.10 | 16.30 ± 0.10 | 5.10 ± 0.10 | 1.50 ± 0.10 | 330.00 ± 2.00 | 50.0 MIN. | 13.0 ± 0.50 |
| | (inch) | 0.421 ± 0.004 | 0.642 ± 0.004 | 0.201 ± 0.004 | 0.059 ± 0.004 | 13.00 ± 0.079 | 1.969 MIN. | 0.512 ± 0.020 |

| TO-263/D2PAK | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|--------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 1.75 ± 0.10 | 11.50 ± 0.10 | 16.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.23 ± 0.10 | 24.00 ± 0.30 | 30.00 ± 1.0 |
| | (inch) | 0.069 ± 0.004 | 0.453 ± 0.004 | 0.630 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.009 ± 0.004 | 0.945 ± 0.012 | 1.181 ± 0.039 |

Marking Code

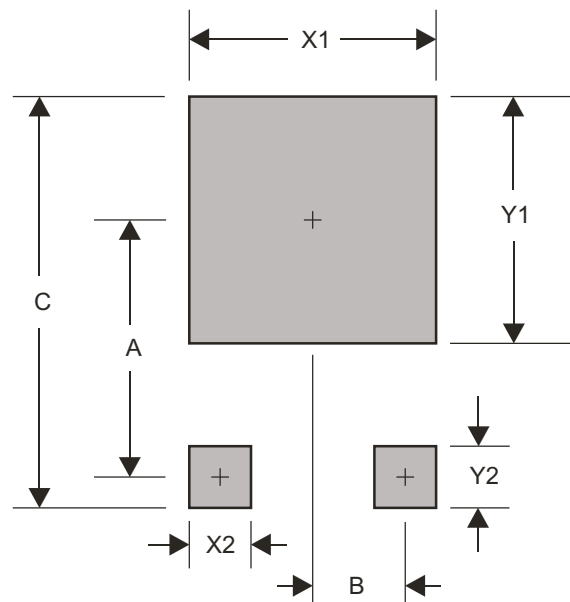
| Part Number | Marking Code |
|--------------|--------------|
| CDBD2020-HF | SK2020 |
| CDBD2030-HF | SK2030 |
| CDBD2040-HF | SK2040 |
| CDBD2045-HF | SK2045 |
| CDBD2050-HF | SK2050 |
| CDBD2060-HF | SK2060 |
| CDBD2080-HF | SK2080 |
| CDBD20100-HF | SK20100 |
| CDBD20150-HF | SK20150 |
| CDBD20200-HF | SK20200 |



XXXXXXX / XXXXXXXX = Product type marking code

Suggested PAD Layout

| SIZE | TO-263 / D2PAK | |
|------|----------------|--------|
| | (mm) | (inch) |
| A | 9.50 | 0.374 |
| B | 2.50 | 0.098 |
| C | 16.90 | 0.665 |
| X1 | 10.80 | 0.425 |
| X2 | 1.10 | 0.043 |
| Y1 | 11.40 | 0.449 |
| Y2 | 3.50 | 0.138 |



Standard Packaging

| Case Type | Qty per Reel | Reel Size |
|----------------|--------------|-----------|
| | (Pcs) | (inch) |
| TO-263 / D2PAK | 800 | 13 |