

CDBD2-40150L-HF

Reverse Voltage: 150 Volts

Forward Current: 40 Amp

RoHS Device

Halogen Free

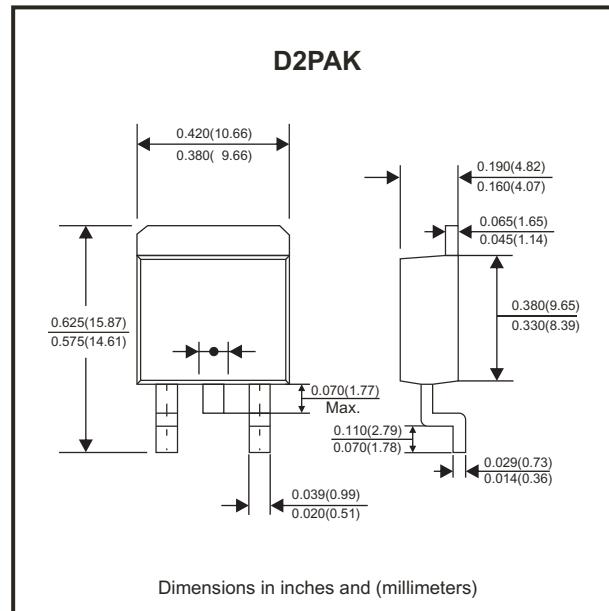


Features

- Low forward voltage drop
- Excellent high temperature stability
- Excellent barrier rectifier technology
- Soft, Fast switching capability

Mechanical data

- Case: TO-263/D2PAK, Molded plastic
- Case material: Molded plastic, UL flammability classification rating 94V-0
- Terminals: Matte Tin finish annealed over copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 1.43 grams (approx.).



Maximum Ratings (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | MIN. | TYP. | MAX. | Unit |
|-----------------------------------|--|-----------|------|------|------|------|
| Recurrent peak reverse voltage | | V_{RRM} | | | 150 | V |
| RMS voltage | | V_{RMS} | | | 105 | V |
| DC blocking voltage | | V_{DC} | | | 150 | V |
| Average forward rectified current | Total | I_F | | | 40 | A |
| | Per leg | | | | 20 | |
| Peak forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | | | 200 | A |
| Operating Temperature range | | T_J | -55 | | +150 | °C |
| Storage temperature range | | T_{STG} | -55 | | +150 | °C |

Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | MIN. | TYP. | MAX. | Unit |
|---|--|-----------------|------|------|------|------|
| Instantaneous forward voltage | $I_F = 3A @ 25^\circ C$ | V_F | | 0.58 | | V |
| | $I_F = 20A @ 25^\circ C$ | | | | 0.85 | |
| Maximum DC reverse current at rated DC blocking voltage | $V_R = V_{RRM} T_A = 25^\circ C$ | I_R | | | 0.2 | mA |
| | $V_R = V_{RRM} T_A = 125^\circ C$ | I_R | | | 20 | mA |
| Thermal Resistance | Junction to case | $R_{\theta JC}$ | | 3 | | °C/W |
| Diode Junction capacitance | f = 1MHz and applied 4V DC reverse Voltage | C_J | | 1100 | | pF |

RATING AND CHARACTERISTIC CURVES (CDBD2-40150L-HF)

Fig. 1 - Typical Forward Current Derating Curve

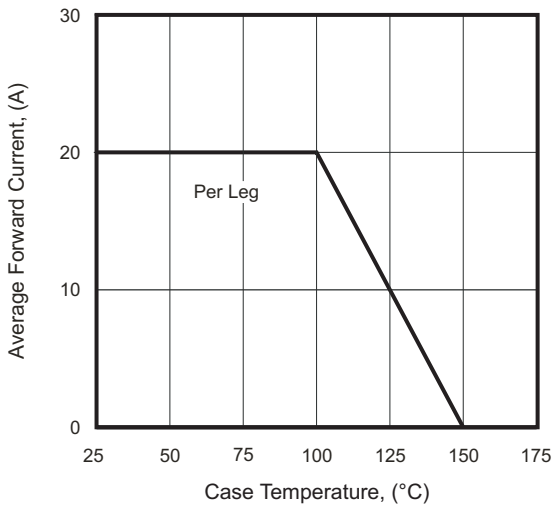


Fig. 2 - Typical Forward Characteristics

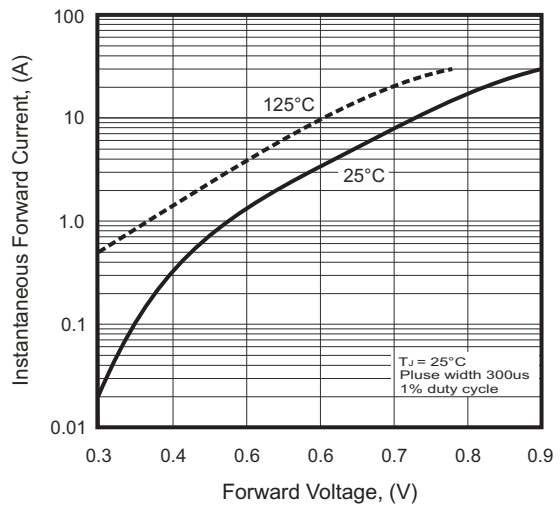


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

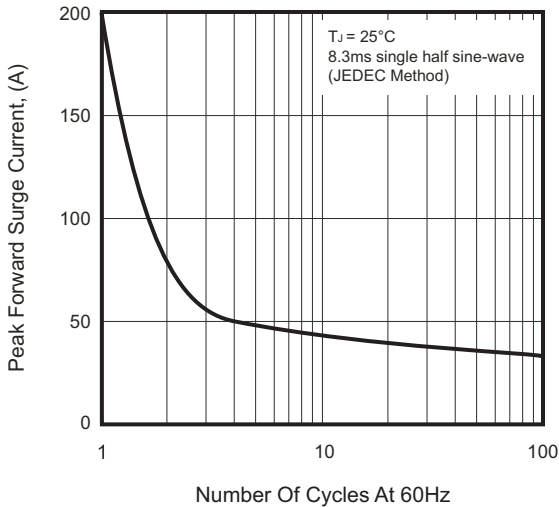


Fig. 4 - Typical Reverse Characteristics

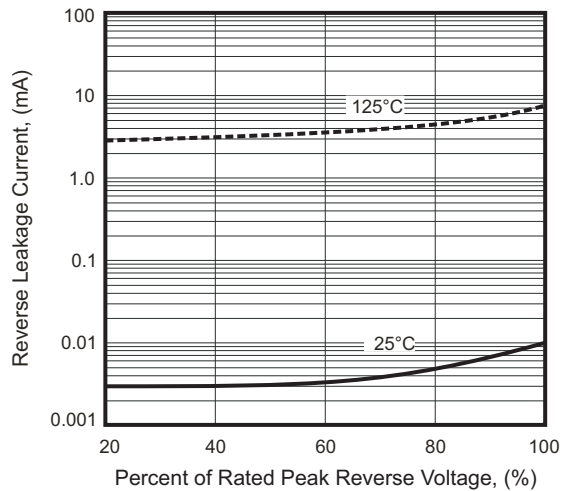
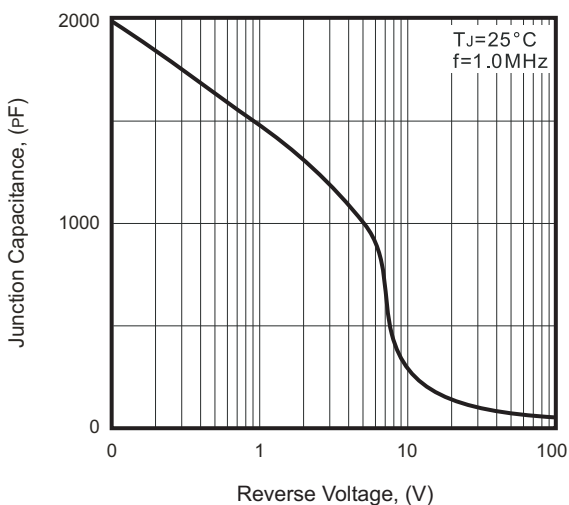
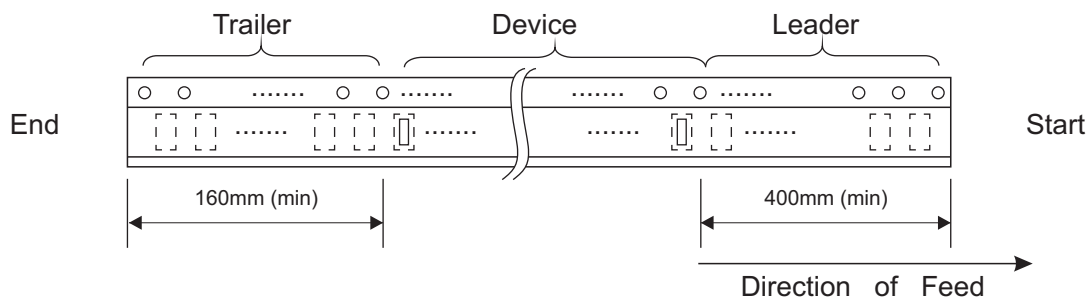
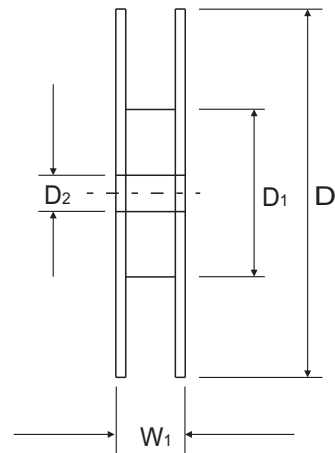
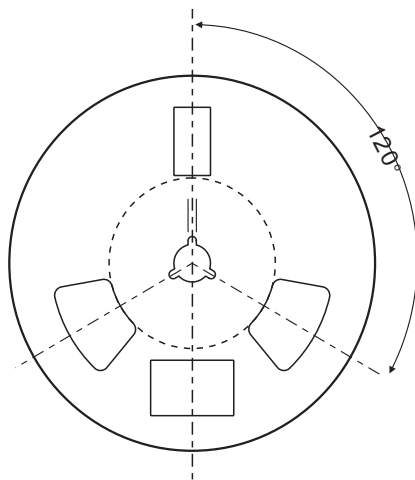
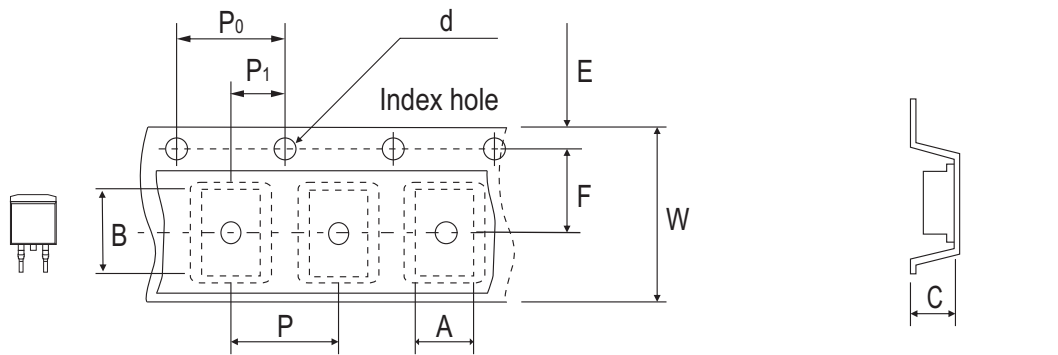


Fig. 5 - Typical Junction Capacitance



Reel Taping Specification

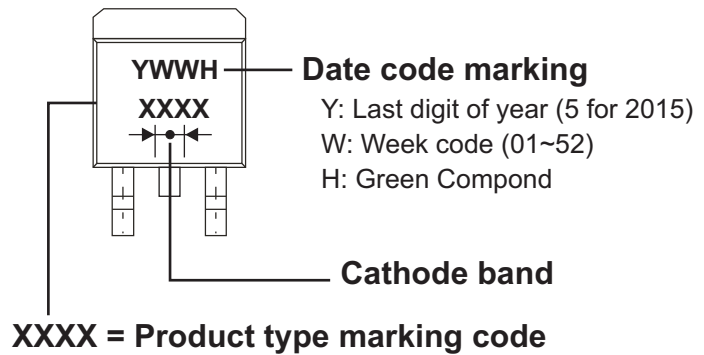


| TO-263/D2PAK | SYMBOL | A | B | C | d | D | D1 | D2 |
|--------------|--------|---------------|---------------|---------------|---------------|----------------|---------------|--------------------------|
| | (mm) | 10.80 ± 0.10 | 16.13 ± 0.10 | 5.21 ± 0.10 | 1.55 ± 0.05 | 330.00 ± 1.00 | 62.00 ± 1.50 | 13.00 + 0.50 - 0.20 |
| | (inch) | 0.425 ± 0.004 | 0.635 ± 0.004 | 0.205 ± 0.004 | 0.061 ± 0.002 | 12.992 ± 0.039 | 2.441 ± 0.059 | 0.531 + 0.020 - 0.008 |

| TO-263/D2PAK | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|--------------|--------|---------------|---------------|---------------|---------------|---------------|--------------------------|-------------------------|
| | (mm) | 1.75 ± 0.10 | 11.50 ± 0.10 | 16.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 24.00 + 0.30 - 0.10 | 24.00 + 3.00 - 0.00 |
| | (inch) | 0.069 ± 0.004 | 0.453 ± 0.004 | 0.630 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.944 + 0.012 - 0.004 | 0.945 + 0.118 - 0.00 |

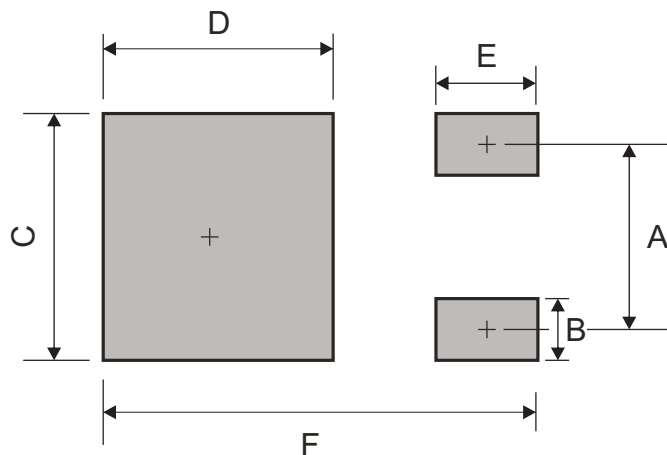
Marking Code

| Part Number | Marking Code |
|-----------------|--------------|
| CDBD2-40150L-HF | T40L150CD2 |



Suggested PAD Layout

| SIZE | TO-263 / D2PAK | |
|------|----------------|--------|
| | (mm) | (inch) |
| A | 5.08 | 0.200 |
| B | 1.10 | 0.043 |
| C | 10.80 | 0.425 |
| D | 8.30 | 0.327 |
| E | 3.50 | 0.138 |
| F | 16.90 | 0.665 |



Standard Packaging

| Case Type | REEL PACK | |
|--------------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| TO-263/D2PAK | 800 | 13 |