

CDBD2SC21200-G

Reverse Voltage: 1200V

Forward Current: 2A

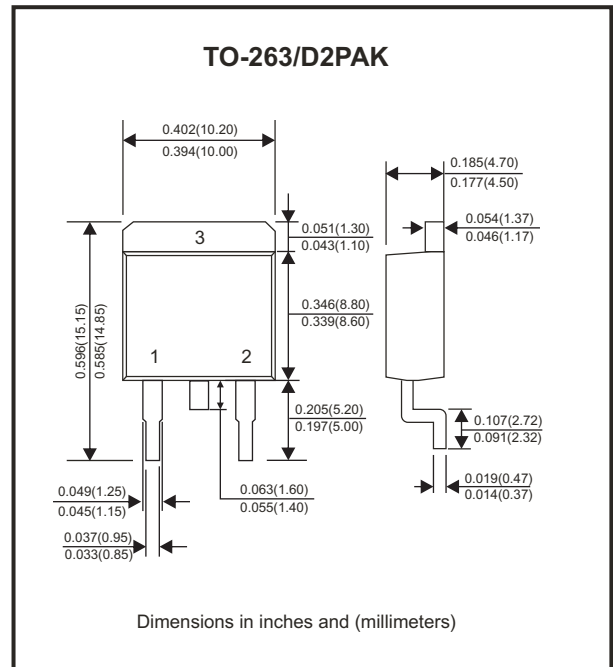
RoHS Device



Features

- Rated to 1200V at 2 Amps
- Short recovery time
- High speed switching possible
- High frequency operation.
- High temperature operation.
- Temperature independent switching behaviour.
- Positive temperature coefficient on V_F

Circuit diagram



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

| Parameter | Conditions | Symbol | Value | Unit |
|---|---|-----------------|------------|--------------------|
| Repetitive peak reverse voltage | | V_{RRM} | 1200 | V |
| Surge peak reverse voltage | | V_{RSM} | 1200 | V |
| DC blocking voltage | | V_{DC} | 1200 | V |
| Continuous forward current | $T_C = 25^\circ\text{C}$ | I_F | 6.2 | A |
| | $T_C = 135^\circ\text{C}$ | | 3.2 | |
| | $T_C = 155^\circ\text{C}$ | | 2 | |
| Repetitive peak forward surge current | $T_C = 25^\circ\text{C}$, $t_p = 10\text{ms}$ Half sine wave, $D = 0.3$ | I_{FRM} | 15 | A |
| Non-repetitive peak forward surge current | $T_C = 25^\circ\text{C}$, $t_p = 10\text{ms}$ Half sine wave | I_{FSM} | 35 | A |
| Power dissipation | $T_C = 25^\circ\text{C}$ | P_{TOT} | 53.2 | W |
| | $T_C = 110^\circ\text{C}$ | | 23 | |
| Typical thermal resistance | Junction to case | $R_{\theta JC}$ | 2.82 | $^\circ\text{C/W}$ |
| Operating junction temperature range | | T_J | -55 ~ +175 | $^\circ\text{C}$ |
| Storage temperature range | | T_{STG} | -55 ~ +175 | $^\circ\text{C}$ |

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

| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Unit |
|-------------------------|--|--------|------|------|------|---------------|
| Forward voltage | $I_F = 2\text{A}, T_J = 25^\circ\text{C}$ | V_F | | 1.62 | 1.7 | V |
| | $I_F = 2\text{A}, T_J = 175^\circ\text{C}$ | | | 2.8 | 3 | |
| Reverse current | $V_R = 1200\text{V}, T_J = 25^\circ\text{C}$ | I_R | | 20 | 100 | μA |
| | $V_R = 1200\text{V}, T_J = 175^\circ\text{C}$ | | | 30 | 200 | |
| Total capacitive charge | $V_R = 800\text{V}, T_J = 150^\circ\text{C}$ $Q_C = \int_0^{V_R} C(V) dv$ | Q_C | | 12 | | nC |
| Total capacitance | $V_R = 0\text{V}, T_J = 25^\circ\text{C}, f = 1\text{MHz}$ | C | | 136 | 150 | pF |
| | $V_R = 400\text{V}, T_J = 25^\circ\text{C}, f = 1\text{MHz}$ | | | 12 | 13 | |
| | $V_R = 800\text{V}, T_J = 25^\circ\text{C}, f = 1\text{MHz}$ | | | 11 | 12 | |

RATING AND CHARACTERISTIC CURVES (CDBD2SC21200-G)

Fig.1 - Forward Characteristics

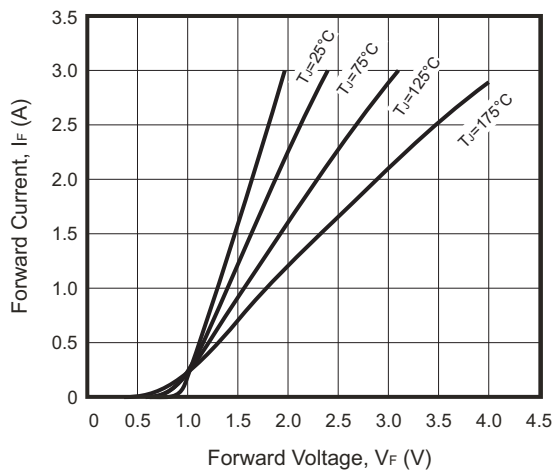


Fig.2 - Reverse Characteristics

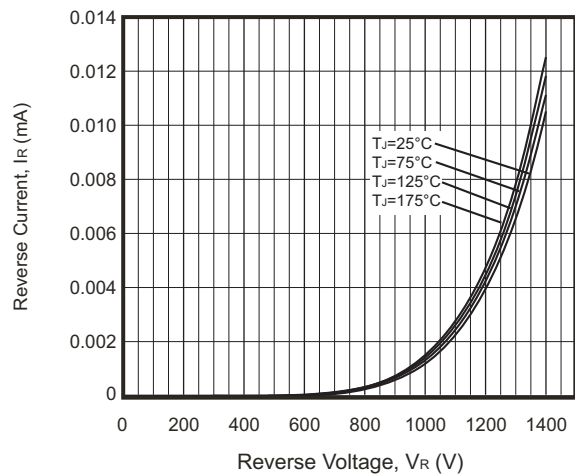


Fig.3 - Current Derating

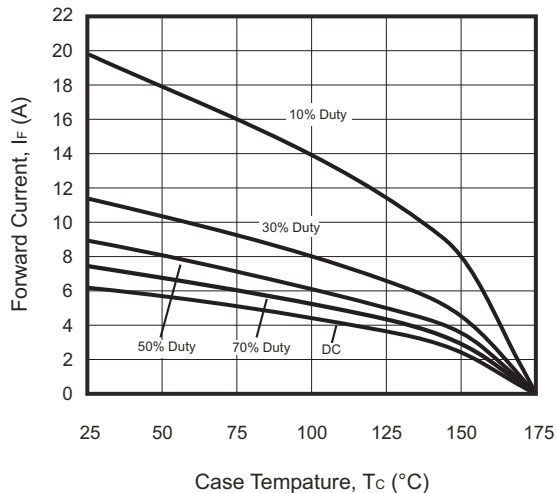


Fig.4 - Capacitance VS. Reverse Voltage

