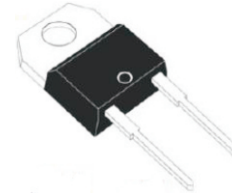


## CDBJSC101200-G

**Reverse Voltage: 1200 V**

**Forward Current: 10 A**

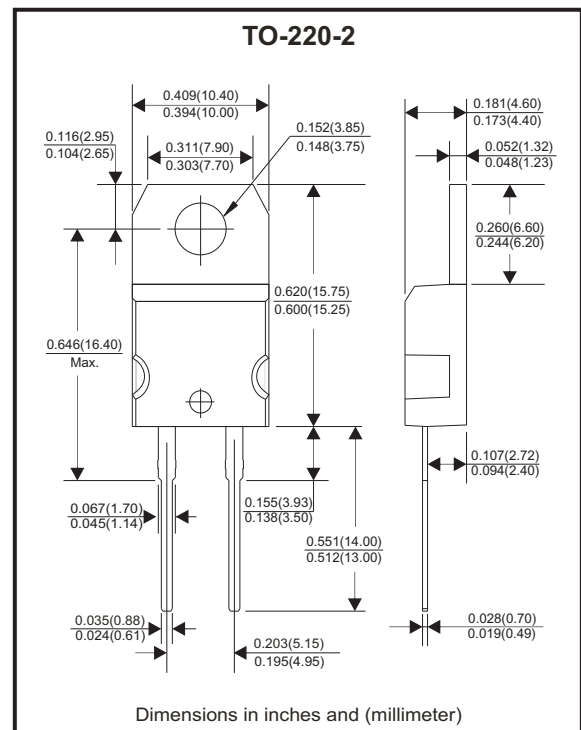
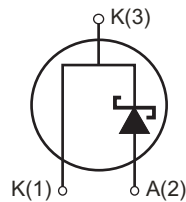
**RoHS Device**



### Features

- Rated to 1200V at 10 Amps
- Short recovery time.
- High speed switching possible.
- High frequency operation.
- High temperature operation.
- Temperature independent switching behaviour.
- Positive temperature coefficient on VF.

### Circuit diagram



### Maximum Rating (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                           |
| Typical continuous forward current        | $T_C = 150^{\circ}\text{C}$   | $I_F$           | 10         | A                           |
| Repetitive peak forward surge current     | $T_C = 25^{\circ}\text{C}$ , $t_p = 10\text{ms}$<br>Half sine wave, $D = 0.3$ | $I_{FRM}$       | 50         | A                           |
| Non-repetitive peak forward surge current | $T_C = 25^{\circ}\text{C}$ , $t_p = 10\text{ms}$<br>Half sine wave            | $I_{FSM}$       | 100        | A                           |
| Power dissipation                         | $T_C = 25^{\circ}\text{C}$  | $P_{TOT}$       | 141.5      | W                           |
|   | $T_C = 110^{\circ}\text{C}$   |                 | 62         |                             |
| Typical thermal resistance                | Junction to case  | $R_{\theta JC}$ | 1.06       | $^{\circ}\text{C}/\text{W}$ |
| 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 | Typ  | Max | Unit          |
|-------------------------|---|--------|------|-----|---------------|
| Forward voltage         | $I_F = 10\text{ A}, T_J = 25^\circ\text{C}$                                   | $V_F$  | 1.63 | 1.7 | V             |
|                         | $I_F = 10\text{ A}, T_J = 175^\circ\text{C}$                                  |        | 2.55 |     |               |
| Reverse current         | $V_R = 1200\text{ V}, T_J = 25^\circ\text{C}$                                 | $I_R$  | 50   | 100 | $\mu\text{A}$ |
|                         | $V_R = 1200\text{ V}, T_J = 175^\circ\text{C}$                                |        | 100  |     |               |
| Total capacitive charge | $V_R = 800\text{ V}, T_J = 150^\circ\text{C}$<br>$Q_C = \int_0^{V_R} C(V) dv$ | $Q_C$  | 69   |     | nC            |
| Total capacitance       | $V_R = 0\text{ V}, T_J = 25^\circ\text{C}, f = 1\text{ MHz}$                  | $C$    | 780  |     | pF            |

## Typical Characteristics (CDBJSC101200-G)

Fig.1 - Forward Characteristics

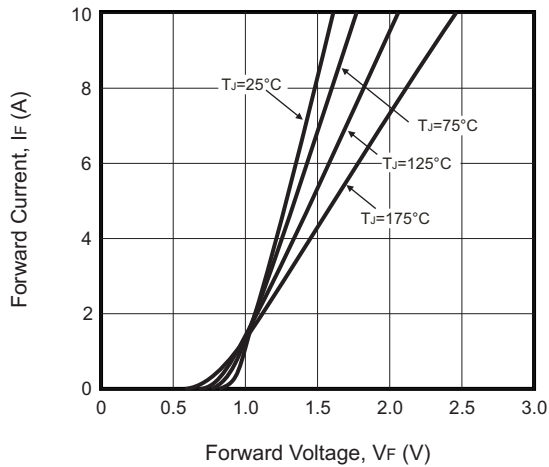


Fig.2 - Reverse Characteristics

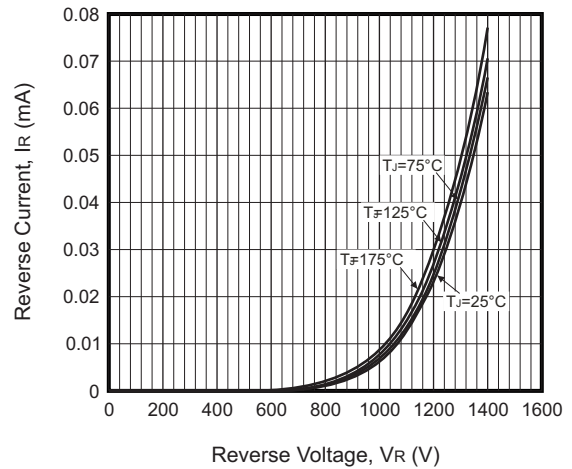


Fig.3 - Current Derating

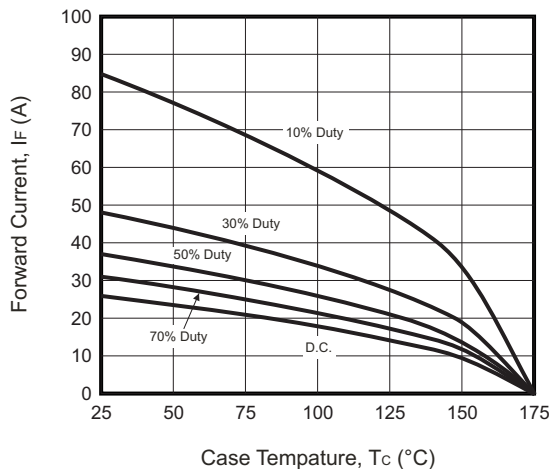
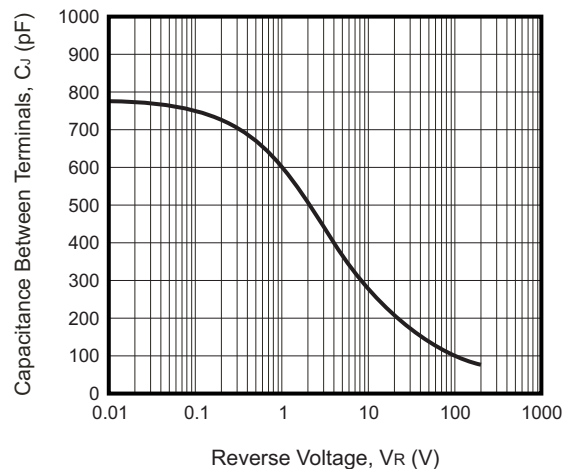
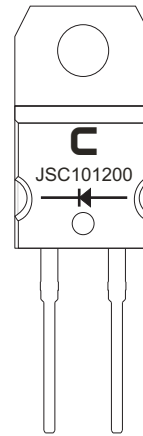


Fig.4 - Capacitance vs. Reverse Voltage



## Marking Code

| Part Number    | Marking Code |
|----------------|--------------|
| CDBJSC101200-G | JSC101200    |



## Standard Packaging

| Case Type | TUBE PACK       |                |
|-----------|-----------------|----------------|
|           | TUBE<br>( pcs ) | BOX<br>( pcs ) |
| TO-220-2  | 50              | 1,000          |