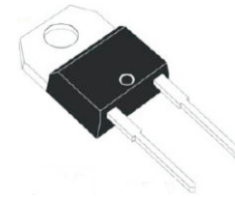


## CDBJSC3650-G

Reverse Voltage: 650 V

Forward Current: 3 A

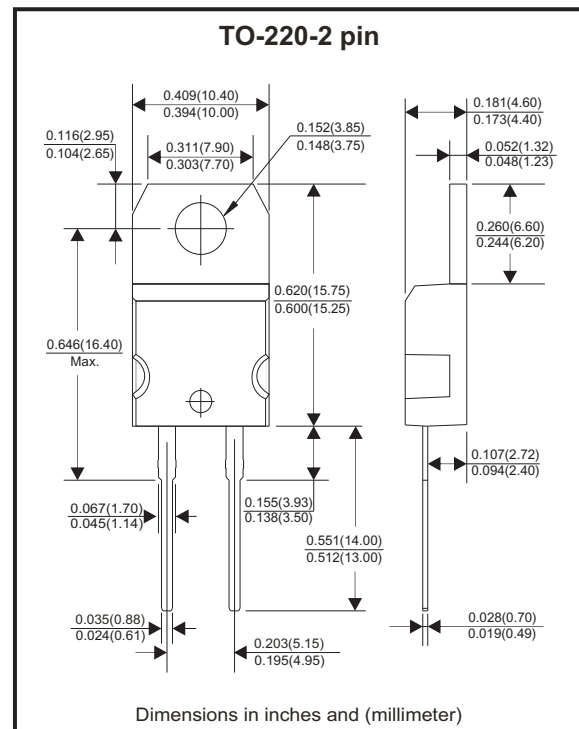
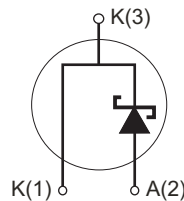
RoHS Device



### Features

- Rated to 650V at 3 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 Ta=25°C unless otherwise noted)

| Parameter                                 | Conditions   | Symbol          | Value      | Unit         |
|---|--|-----------------|------------|--------------|
| Repetitive peak reverse voltage           |  | $V_{RRM}$       | 650        | V            |
| Surge peak reverse voltage                |  | $V_{RSM}$       | 650        | V            |
| DC blocking voltage                       |  | $V_{DC}$        | 650        | V            |
| Continuous forward current                | $T_C = 25^\circ C$   | $I_F$           | 11         | A            |
|   | $T_C = 135^\circ C$  |                 | 5          |              |
|   | $T_C = 150^\circ C$  |                 | 4          |              |
| Repetitive peak forward surge current     | $T_C = 25^\circ C$ , $t_p = 10ms$<br>Half sine wave, $D = 0.3$ | $I_{FRM}$       | 15         | A            |
| Non-repetitive peak forward surge current | $T_C = 25^\circ C$ , $t_p = 10ms$<br>Half sine wave            | $I_{FSM}$       | 30         | A            |
| Power dissipation                         | $T_C = 25^\circ C$   | $P_{TOT}$       | 53.2       | W            |
|   | $T_C = 110^\circ C$  |                 | 23         |              |
| Typical thermal resistance                | Junction to case   | $R_{\theta JC}$ | 2.82       | $^\circ C/W$ |
| Operating junction temperature range      |  | $T_J$           | -55 ~ +175 | $^\circ C$   |
| Storage temperature range                 |  | $T_{STG}$       | -55 ~ +175 | $^\circ C$   |

Company reserves the right to improve product design, functions and reliability without notice.

REV:

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

| Parameter               | Conditions  | Symbol | Typ  | Max | Unit |
|-------------------------|---|--------|------|-----|------|
| Forward voltage         | IF = 3 A , TJ = 25°C  | VF     | 1.41 | 1.7 | V    |
|                         | IF = 3 A , TJ = 175°C   |        | 1.8  | 2.5 |      |
| Reverse current         | VR = 650V , TJ = 25°C   | IR     | 10   | 100 | μA   |
|                         | VR = 650V , TJ = 175°C  |        | 20   | 200 |      |
| Total capacitive charge | VR = 400V , TJ = 150°C<br>QC = ∫ <sub>0</sub> <sup>VR</sup> C(V) dv | QC     | 11   | -   | nC   |
| Total capacitance       | VR = 0V , TJ = 25°C , f = 1 MHz                                     | C      | 181  | 220 | pF   |
|                         | VR = 200V , TJ = 25°C , f = 1 MHz                                   |        | 22.5 | 25  |      |
|                         | VR = 400V , TJ = 25°C , f = 1 MHz                                   |        | 20.5 | 21  |      |

## Typical Characteristics (CDBJSC3650-G)

Fig.1 - Forward Characteristics

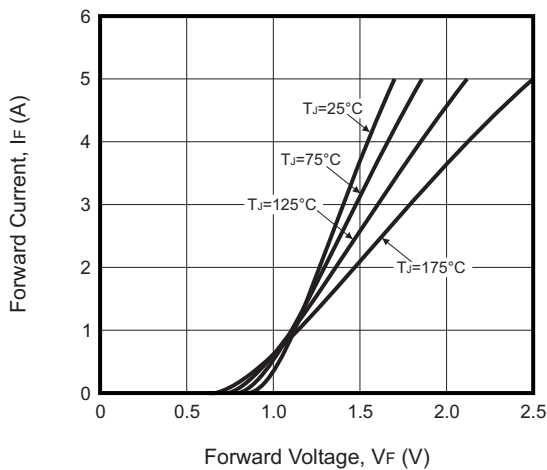


Fig.2 - Reverse Characteristics

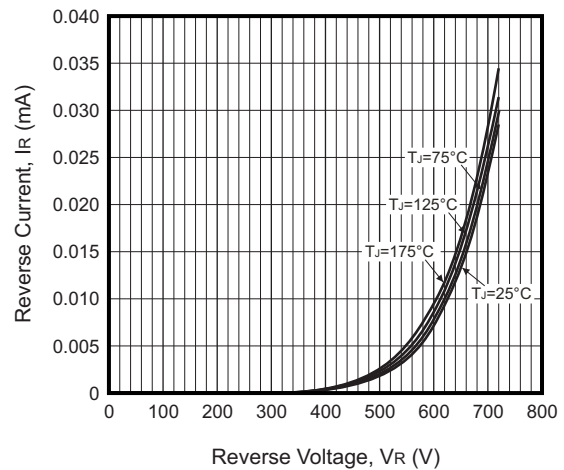


Fig.3 - Current Derating

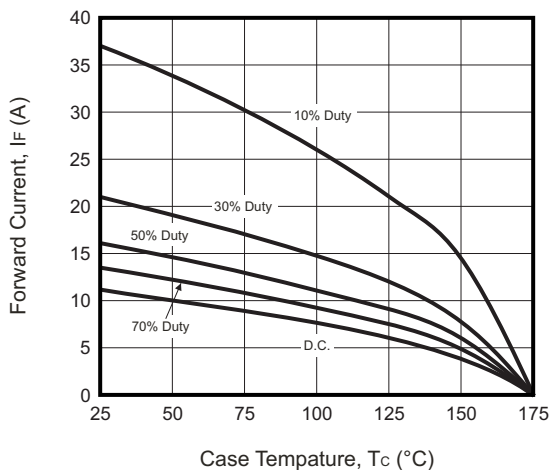
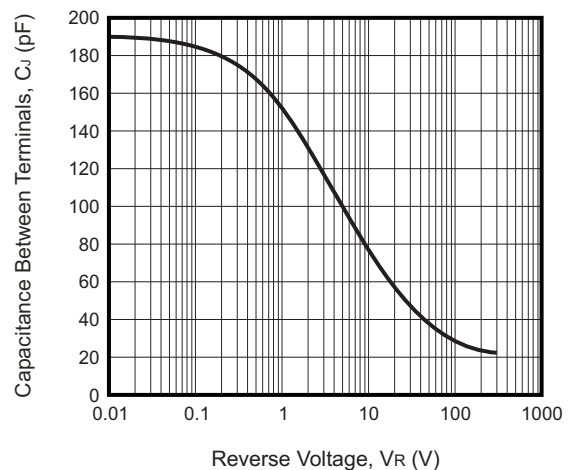


Fig.4 - Capacitance vs. Reverse Voltage



Company reserves the right to improve product design , functions and reliability without notice.

REV: