

## CDBJFSC10650-G

**Reverse Voltage: 650 V**

**Forward Current: 10 A**

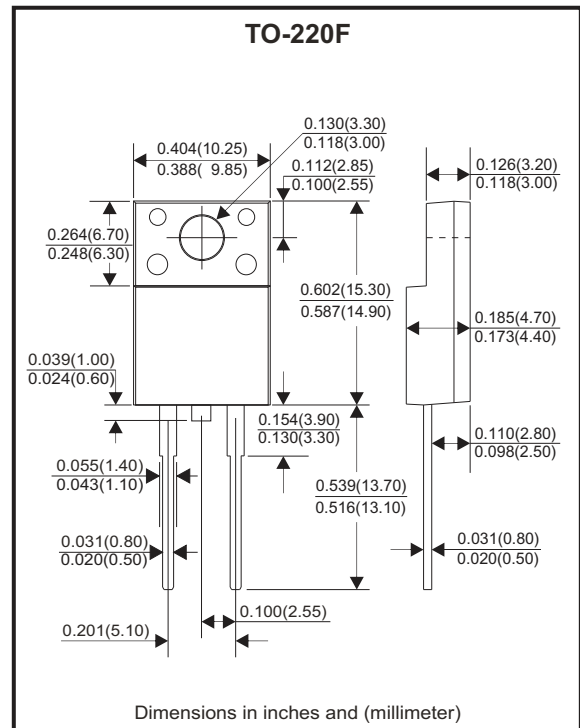
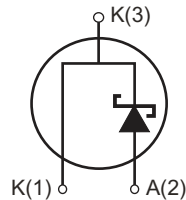
**RoHS Device**



### Features

- Rated to 650V 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<sub>A</sub>=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Repetitive peak reverse voltage		V <sub>RRM</sub>	650	V
Surge peak reverse voltage		V <sub>RSM</sub>	650	V
DC blocking voltage		V <sub>DC</sub>	650	V
Typical continuous forward current	T <sub>C</sub> = 120°C		10	A
Repetitive peak forward surge current	T <sub>C</sub> = 25°C, t <sub>p</sub> = 10ms Half sine wave, D = 0.3	I <sub>FRM</sub>	50	A
Non-repetitive peak forward surge current	T <sub>C</sub> = 25°C, t <sub>p</sub> = 10ms Half sine wave	I <sub>FSM</sub>	100	A
Power dissipation	T <sub>C</sub> = 25°C	P <sub>TOT</sub>	39.4	W
	T <sub>C</sub> = 110°C		17.1	
Typical thermal resistance	Junction to case	R <sub>θJC</sub>	3.81	°C/W
Operating junction temperature range		T <sub>J</sub>	-55 ~ +175	°C
Storage temperature range		T <sub>STG</sub>	-55 ~ +175	°C

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

Parameter	Conditions	Symbol	Typ	Max	Unit
Forward voltage	$I_F = 10\text{ A}$ , $T_J = 25^\circ\text{C}$	$V_F$	1.48	1.7	V
	$I_F = 10\text{ A}$ , $T_J = 175^\circ\text{C}$		1.7		
Reverse current	$V_R = 650\text{ V}$ , $T_J = 25^\circ\text{C}$	$I_R$	20	100	$\mu\text{A}$
	$V_R = 650\text{ V}$ , $T_J = 175^\circ\text{C}$		30		
Total capacitive charge	$V_R = 400\text{ V}$ , $T_J = 150^\circ\text{C}$ $Q_C = \int_0^{V_R} C(V) dv$	$Q_C$	36		nC
Total capacitance	$V_R = 0\text{ V}$ , $T_J = 25^\circ\text{C}$ , $f = 1\text{ MHz}$	C	710		pF
	$V_R = 200\text{ V}$ , $T_J = 25^\circ\text{C}$ , $f = 1\text{ MHz}$		72		

## Typical Characteristics (CDBJFSC10650-G)

Fig.1 - Forward Characteristics

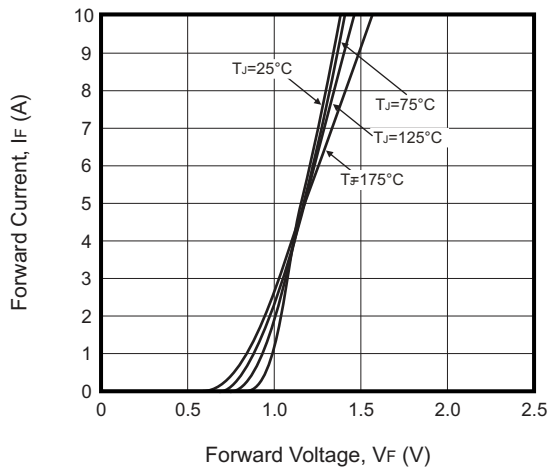


Fig.2 - Reverse Characteristics

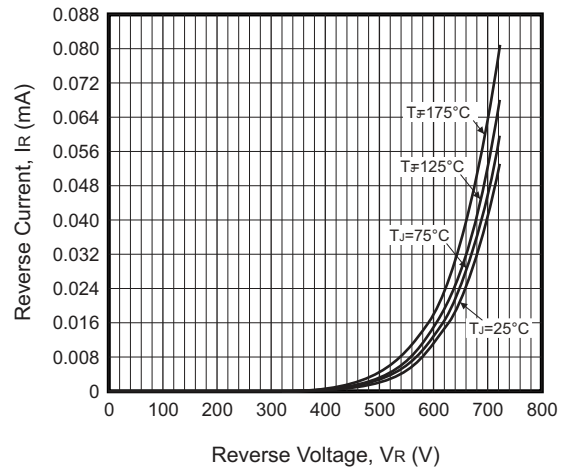


Fig.3 - Current Derating

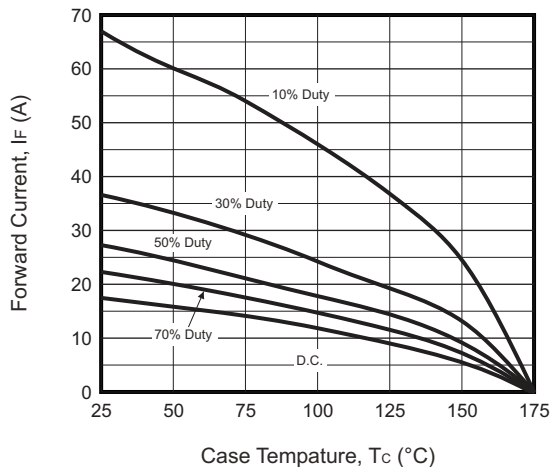
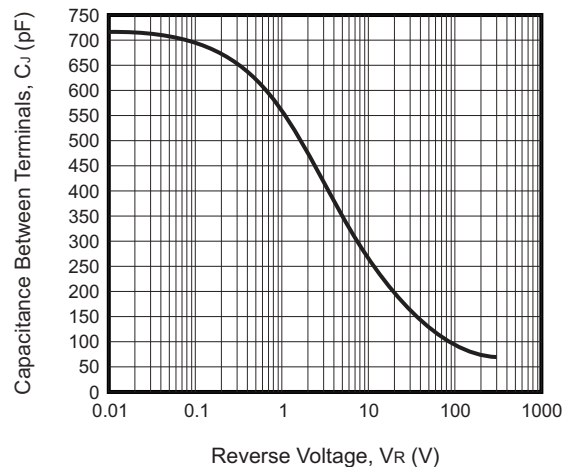
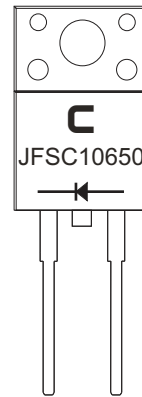


Fig.4 - Capacitance vs. Reverse Voltage



## Marking Code

Part Number	Marking Code
CDBJFC10650-G	JFSC10650



## Standard Packaging

Case Type	TUBE PACK	
	TUBE ( pcs )	BOX ( pcs )
TO-220F	50	1,000