

## CDBJFSC3650-G

Reverse Voltage: 650 V

Forward Current: 3 A

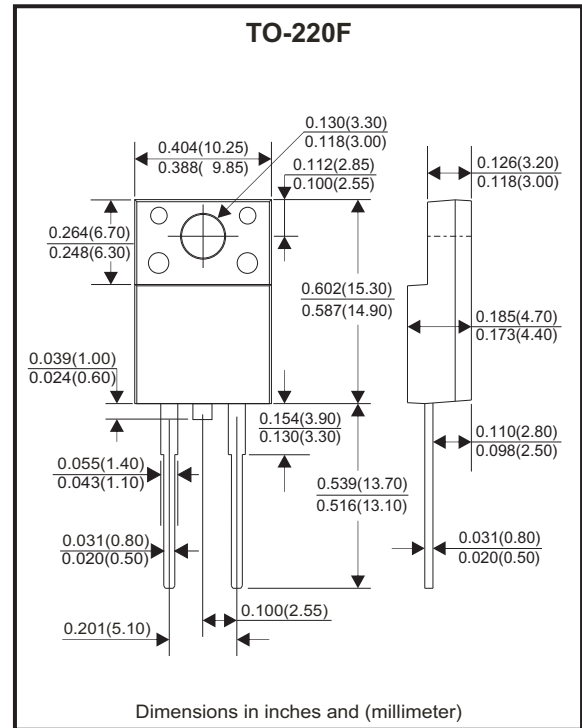
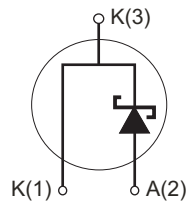
RoHS Device



### 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 <sub>RRM</sub>	650	V
Surge peak reverse voltage		V <sub>RSM</sub>	650	V
DC blocking voltage		V <sub>DC</sub>	650	V
Continuous forward current	T <sub>C</sub> = 25°C	I <sub>F</sub>	11	A
	T <sub>C</sub> = 135°C		5	
	T <sub>C</sub> = 150°C		3	
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>	15	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>	35	A
Power dissipation	T <sub>C</sub> = 25°C	P <sub>TOT</sub>	53.2	W
	T <sub>C</sub> = 110°C		23	
Typical thermal resistance	Junction to case	R <sub>θJC</sub>	7.83	°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 Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Typ	Max	Unit
Forward voltage	IF = 3 A , TJ = 25°C	VF	1.4	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 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 (CDBJFSC3650-G)

Fig.1 - Forward Characteristics

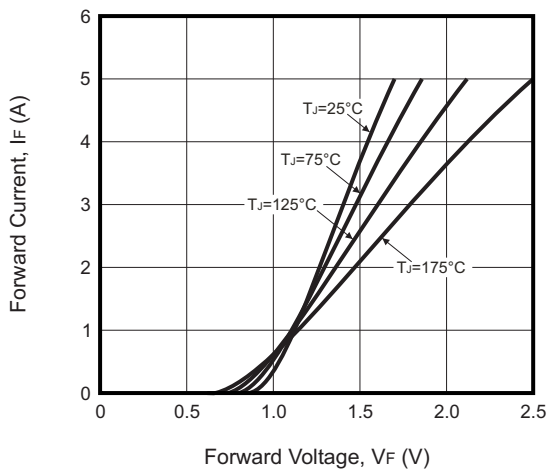


Fig.2 - Reverse Characteristics

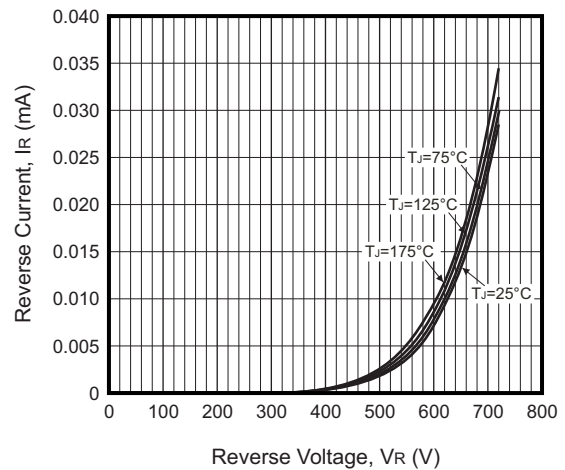


Fig.3 - Current Derating

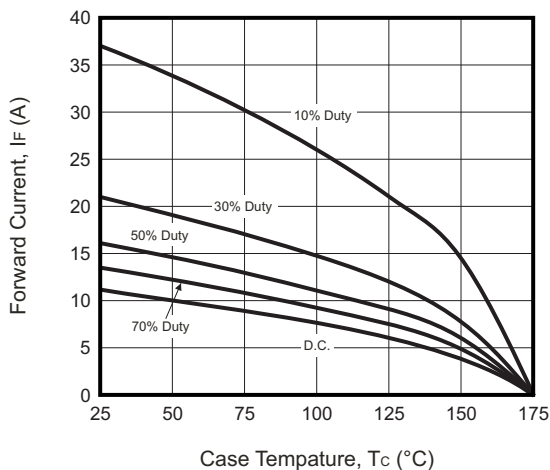
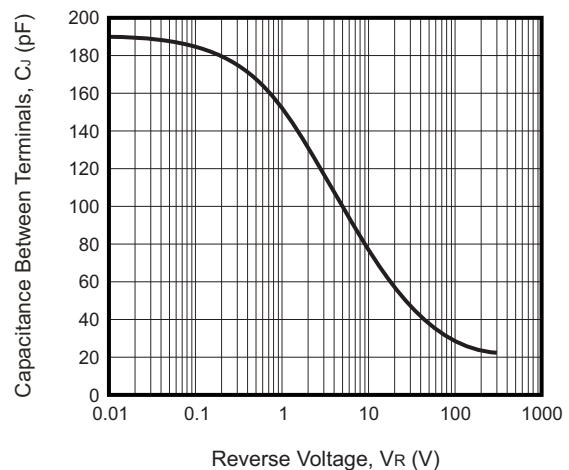


Fig.4 - Capacitance vs. Reverse Voltage



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

REV: