

## CDBJFSC8650-G

Reverse Voltage: 650 V

Forward Current: 8 A

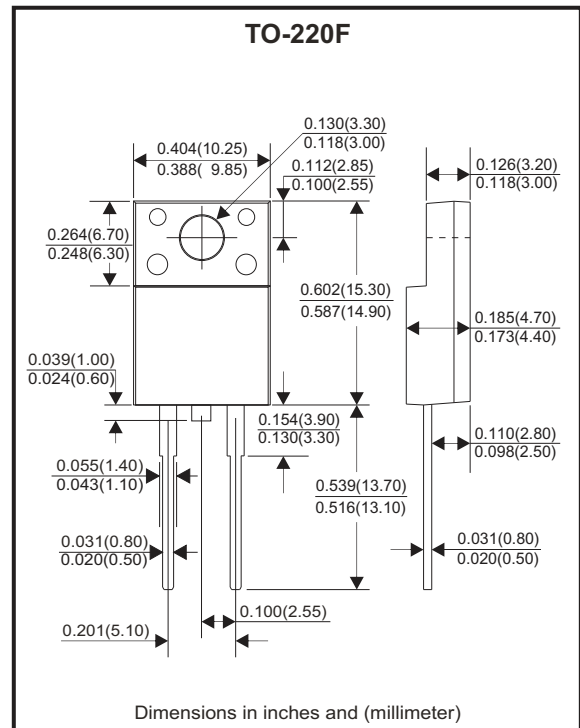
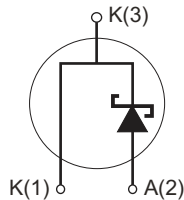
RoHS Device



### Features

- Rated to 650V at 8 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		$V_{RRM}$	650	V
Surge peak reverse voltage		$V_{RSM}$	650	V
DC blocking voltage		$V_{DC}$	650	V
Typical continuous forward current	$T_C = 135^\circ\text{C}$	$I_F$	8	A
Repetitive peak forward surge current	$T_C = 25^\circ\text{C}$ , $t_p = 10\text{ms}$ Half sine wave, $D = 0.3$	$I_{FRM}$	40	A
Non-repetitive peak forward surge current	$T_C = 25^\circ\text{C}$ , $t_p = 10\text{ms}$ Half sine wave	$I_{FSM}$	80	A
Power dissipation	$T_C = 25^\circ\text{C}$	$P_{TOT}$	36.9	W
	$T_C = 110^\circ\text{C}$		16	
Typical thermal resistance	Junction to case	$R_{\theta JC}$	4.07	$^\circ\text{C/W}$
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	Typ	Max	Unit
Forward voltage	$I_F = 8\text{ A}$ , $T_J = 25^\circ\text{C}$	$V_F$	1.45	1.7	V
	$I_F = 8\text{ A}$ , $T_J = 175^\circ\text{C}$		1.75		
Reverse current	$V_R = 650\text{ V}$ , $T_J = 25^\circ\text{C}$	$I_R$	10	100	$\mu\text{A}$
	$V_R = 650\text{ V}$ , $T_J = 175^\circ\text{C}$		15		
Total capacitive charge	$V_R = 400\text{ V}$ , $T_J = 150^\circ\text{C}$ $Q_C = \int_0^{V_R} C(V) dv$	$Q_C$	30		nC
Total capacitance	$V_R = 0\text{ V}$ , $T_J = 25^\circ\text{C}$ , $f = 1\text{ MHz}$	C	560		pF
	$V_R = 200\text{ V}$ , $T_J = 25^\circ\text{C}$ , $f = 1\text{ MHz}$		56.5		
	$V_R = 400\text{ V}$ , $T_J = 25^\circ\text{C}$ , $f = 1\text{ MHz}$		54		

## Typical Characteristics (CDBJFSC8650-G)

Fig.1 - Forward Characteristics

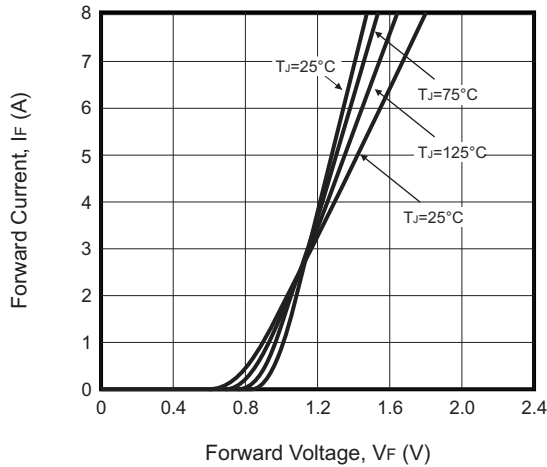


Fig.2 - Reverse Characteristics

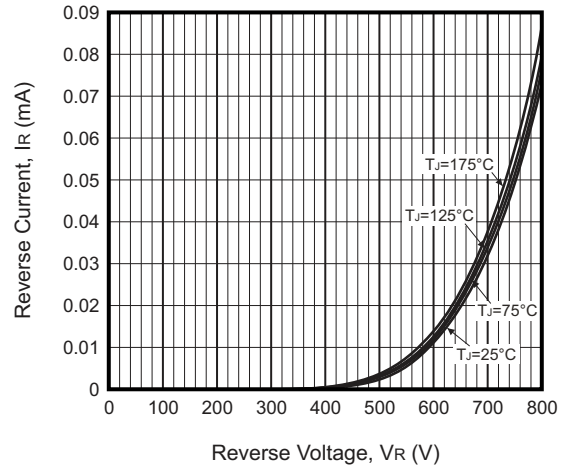


Fig.3 - Current Derating

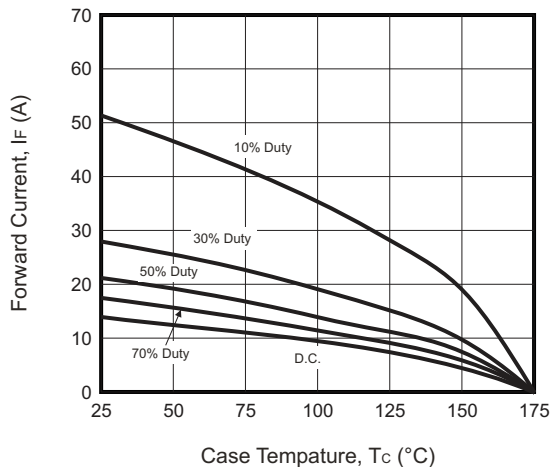
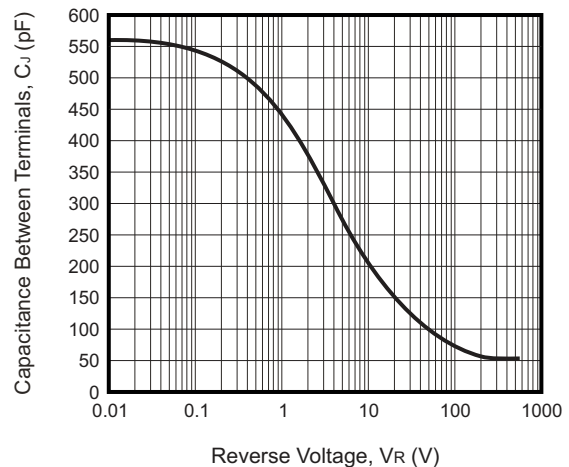
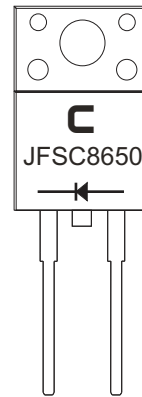


Fig.4 - Capacitance vs. Reverse Voltage



## Marking Code

Part Number	Marking Code
CDBJFC8650-G	JFSC8650



## Standard Packaging

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