

CDBJFSC8650-G

Reverse Voltage: 650 V
Forward Current: 8 A
RoHS Device

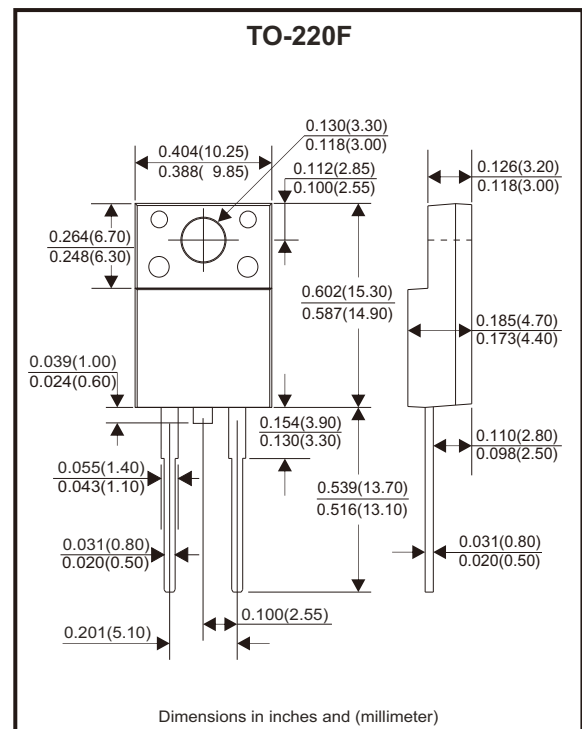
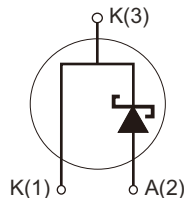

Features

- 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 V_F .

Mechanical data

- Case: TO-220F, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.

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}	50	A
Non-repetitive peak forward surge current	$T_C = 25^\circ\text{C}$, $t_p = 10\text{ms}$ Half sine wave	I_{FSM}	100	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	μA
	$V_R = 650\text{ V}$, $T_J = 175^\circ\text{C}$		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

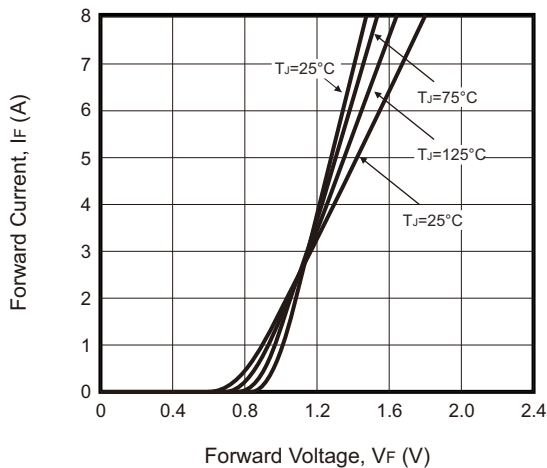


Fig.2 - Reverse Characteristics

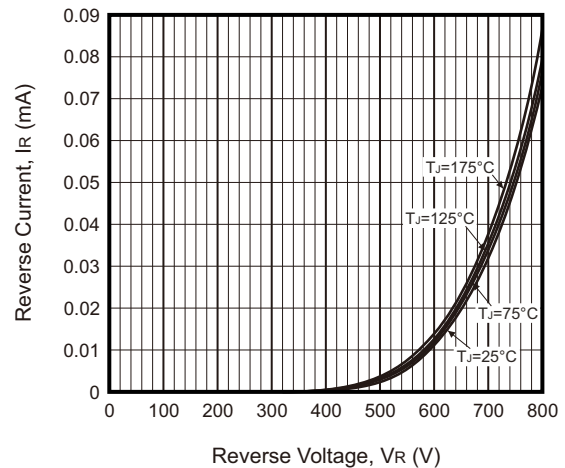


Fig.3 - Current Derating

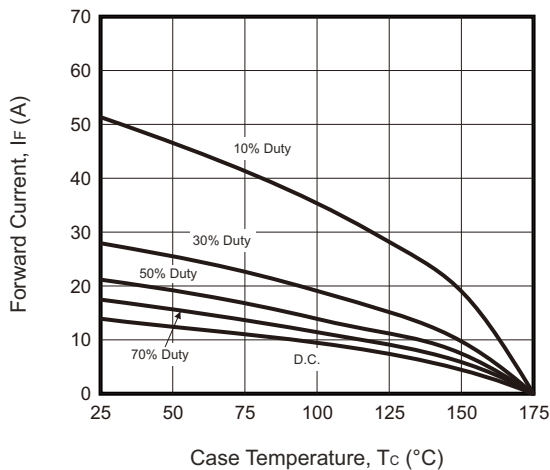
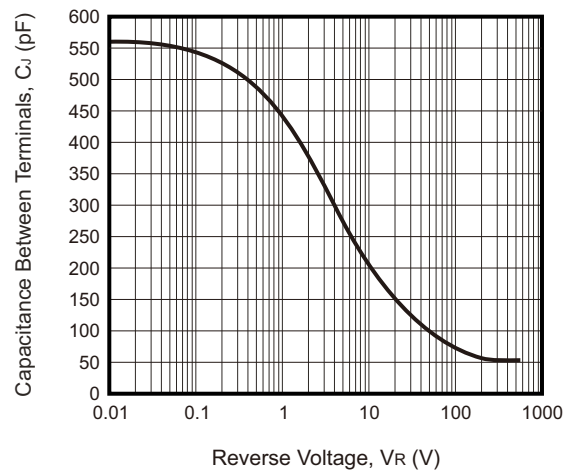
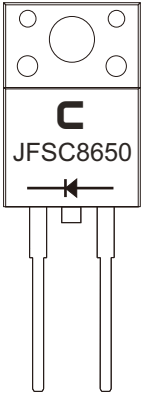


Fig.4 - Capacitance vs. Reverse Voltage

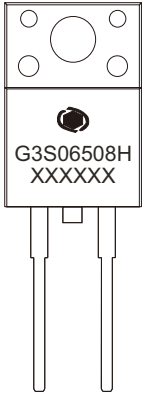


Marking Code

Part Number	Marking Code	
CDBJFSC8650-G	JFSC8650	G3S06508H



Ⓒ = Comchip Logo



xxxxxx = Control code
(x from 6 to 11)

Standard Packaging

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