

CDBJFSC5650-G

Reverse Voltage: 650 V

Forward Current: 5 A

RoHS Device



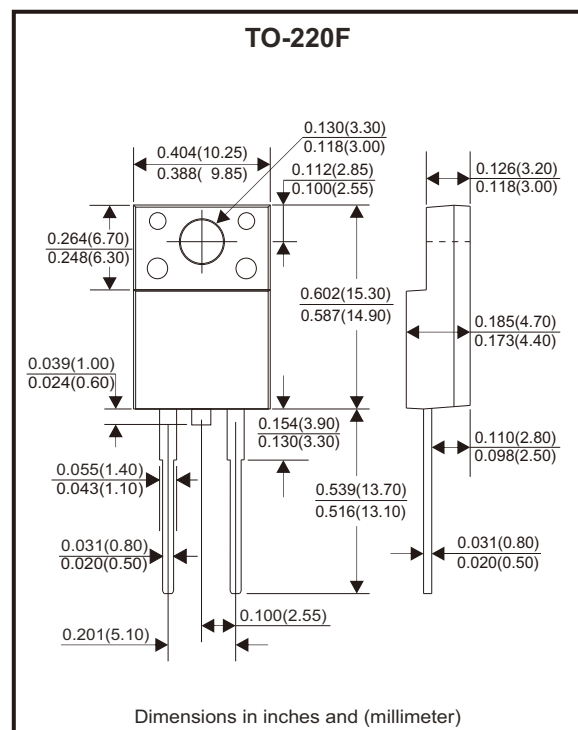
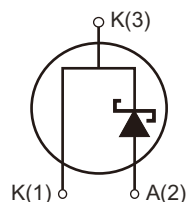
Features

- Rated to 650V at 5 Amps.
- Short recovery time.
- High speed switching possible.
- High frequency operation.
- High temperature operation.
- Temperature independent switching behaviour.
- Positive temperature coefficient on VF.

Mechanical data

- Case: TO-220F, molded plastic.

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	$T_c = 150^\circ\text{C}$	I_F	5	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}	30	A
Non-repetitive peak forward surge current	$T_c = 25^\circ\text{C}$, $t_p = 10\text{ms}$ Half sine wave	I_{FSM}	60	A
Power dissipation	$T_c = 25^\circ\text{C}$	P_{TOT}	30.9	W
	$T_c = 110^\circ\text{C}$		13.4	
Typical thermal resistance	Junction to case	$R_{\theta JC}$	4.85	$^\circ\text{C/W}$
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	$I_F = 5\text{ A}$, $T_J = 25^\circ\text{C}$	V_F	1.35	1.7	V
	$I_F = 5\text{ A}$, $T_J = 175^\circ\text{C}$		1.55		
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	23		nC
Total capacitance	$V_R = 0\text{ V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{ MHz}$	C	430		pF
	$V_R = 200\text{ V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{ MHz}$		44		
	$V_R = 400\text{ V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{ MHz}$		42.5		

Typical Characteristics (CDBJFSC5650-G)

Fig.1 - Forward Characteristics

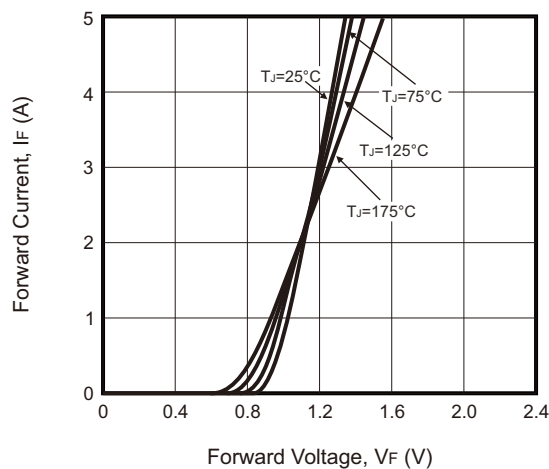


Fig.2 - Reverse Characteristics

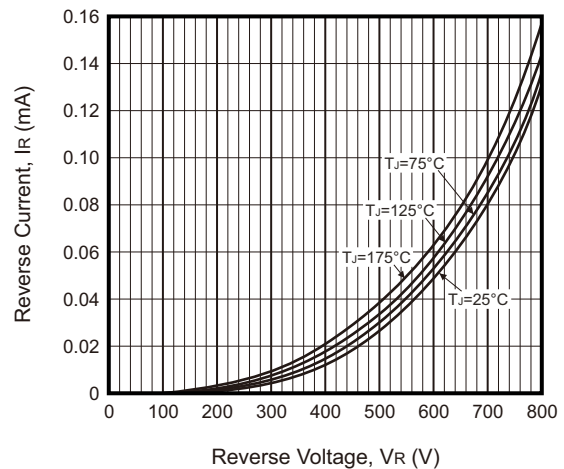


Fig.3 - Current Derating

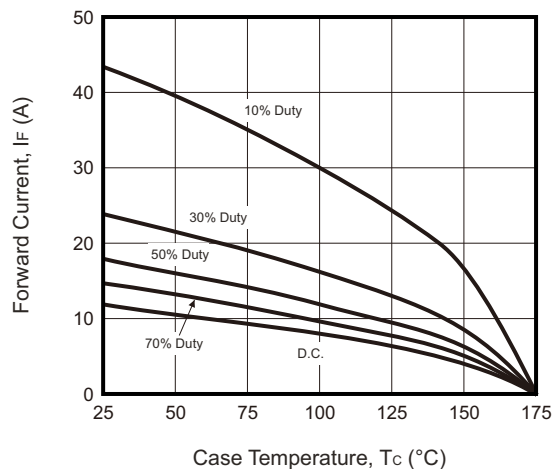
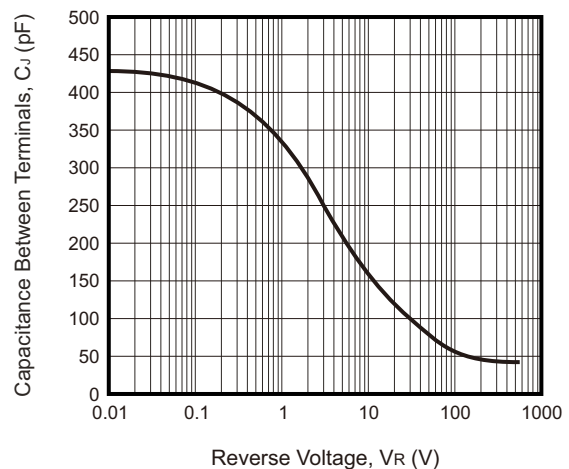
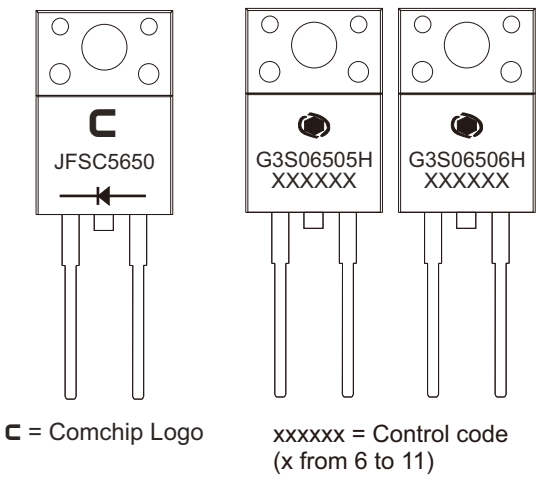


Fig.4 - Capacitance vs. Reverse Voltage



Marking Code

Part Number	Marking Code
CDBJFSC5650-G	JFSC5650
	G3S06505H
	G3S06506H



Standard Packaging

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