

CDBJFSC3650-G

Reverse Voltage: 650 V

Forward Current: 3 A

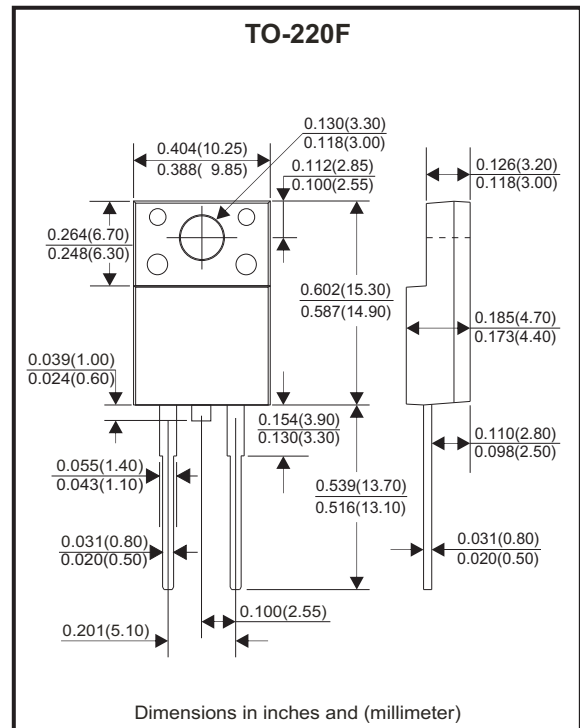
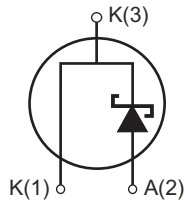
RoHS Device



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 _{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°C	I _F	3	A
Repetitive peak forward surge current	T _C = 25°C, t _p = 10ms Half sine wave, D = 0.3	I _{FRM}	15	A
Non-repetitive peak forward surge current	T _C = 25°C, t _p = 10ms Half sine wave	I _{FSM}	30	A
Power dissipation	T _C = 25°C	P _{TOT}	53.2	W
	T _C = 110°C		23	
Typical thermal resistance	Junction to case	R _{θJC}	7.83	°C/W
Operating junction temperature range		T _J	-55 ~ +175	°C
Storage temperature range		T _{STG}	-55 ~ +175	°C

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

Parameter	Conditions	Symbol	Typ	Max	Unit
Forward voltage	$I_F = 3\text{ A}$, $T_J = 25^\circ\text{C}$	V_F	1.4	1.7	V
	$I_F = 3\text{ A}$, $T_J = 175^\circ\text{C}$		1.8		
Reverse current	$V_R = 650\text{ V}$, $T_J = 25^\circ\text{C}$	I_R	10	100	μA
	$V_R = 650\text{ V}$, $T_J = 175^\circ\text{C}$		20		
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	11	-	nC
Total capacitance	$V_R = 0\text{ V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{ MHz}$	C	190		pF
	$V_R = 200\text{ V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{ MHz}$		23		

Typical Characteristics (CDBJFSC3650-G)

Fig.1 - Forward Characteristics

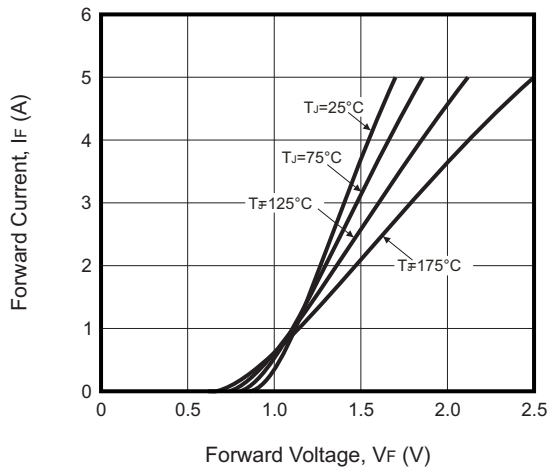


Fig.2 - Reverse Characteristics

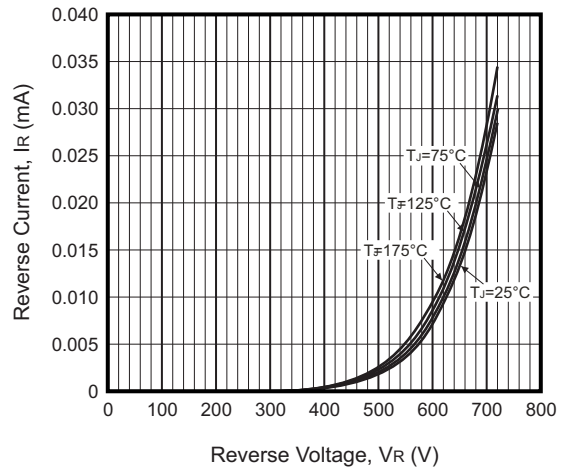


Fig.3 - Current Derating

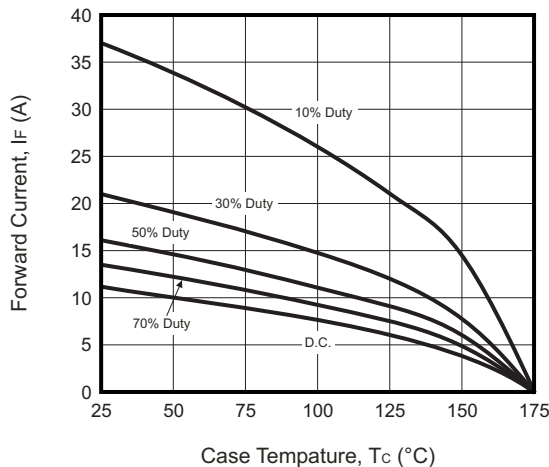


Fig.4 - Capacitance vs. Reverse Voltage

