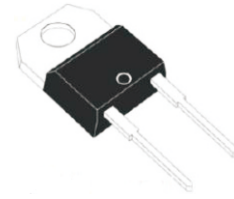


CDBJCSC20650-G

Reverse Voltage: 650V

Forward Current: 20A

RoHS Device



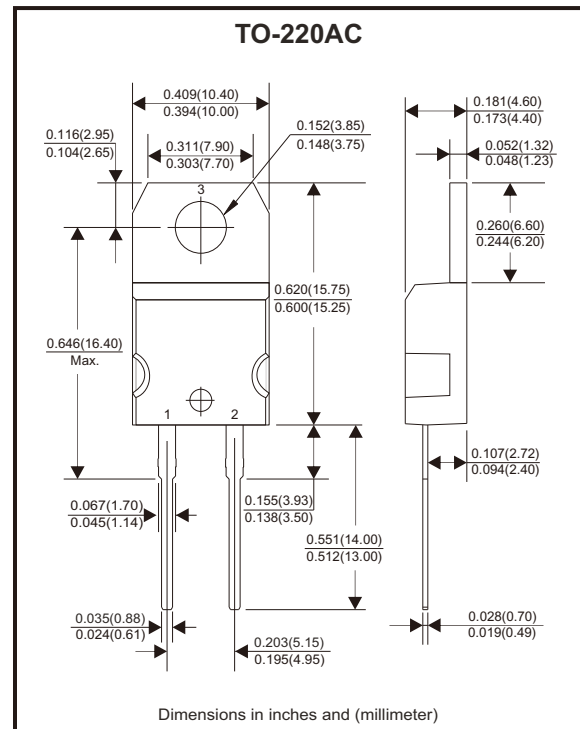
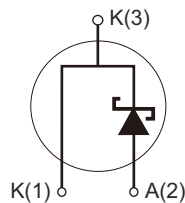
Features

- Rated to 650 at 20 Amps
- Zero reverse recovery current.
- Zero forward recovery voltage.
- Temperature independent switching behaviour.
- High temperature operation.
- High frequency operation.

Mechanical data

- Case: TO-220AC, molded plastic.

Circuit Diagram



Maximum Ratings (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
Continuous forward current	$T_C = 135^\circ\text{C}$	I_F	20	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}	80	A
Non-repetitive peak forward surge current	$T_C = 25^\circ\text{C}$, $t_p = 10\text{ms}$ Half sine wave (Per leg)	I_{FSM}	175	A
Power dissipation	$T_C = 25^\circ\text{C}$	P_{TOT}	141.5	W
	$T_C = 110^\circ\text{C}$		61.3	
Typical thermal resistance	Junction to case	$R_{\theta JC}$	1.06	$^\circ\text{C/W}$
Operating junction temperature range		T_J	$-55 \sim +175$	$^\circ\text{C}$
Storage temperature range		T_{STG}	$-55 \sim +175$	$^\circ\text{C}$

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

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 20\text{A}$, $T_J = 25^\circ\text{C}$	V_F		1.68	1.8	V
	$I_F = 20\text{A}$, $T_J = 175^\circ\text{C}$			2		
Reverse current	$V_R = 650\text{V}$, $T_J = 25^\circ\text{C}$	I_R		10	50	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		56		nC
Total capacitance	$V_R = 0\text{V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{MHz}$	C		1170	1300	pF

Rating and Characteristics Curves (CDBJCSC20650-G)

Fig.1 - Forward IV Characteristics as a Function of T_J :

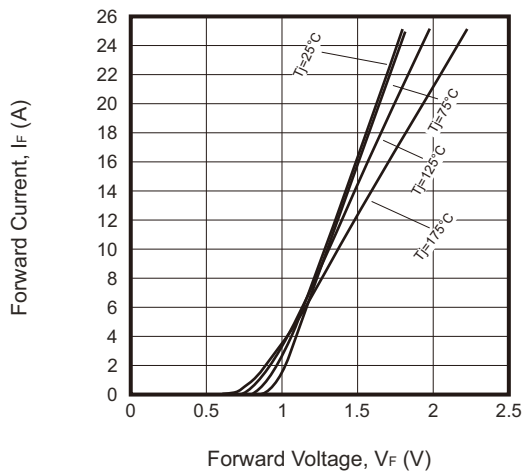


Fig.2 - Reverse IV Characteristics as a Function of T_J :

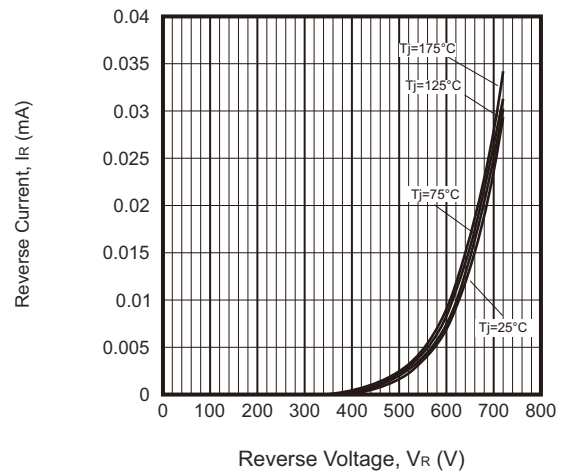


Fig.3 - Current Derating

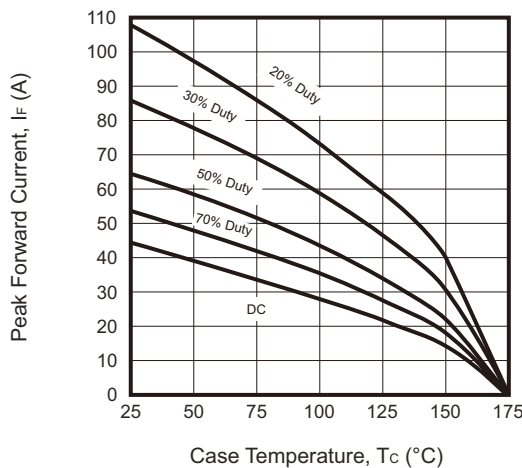
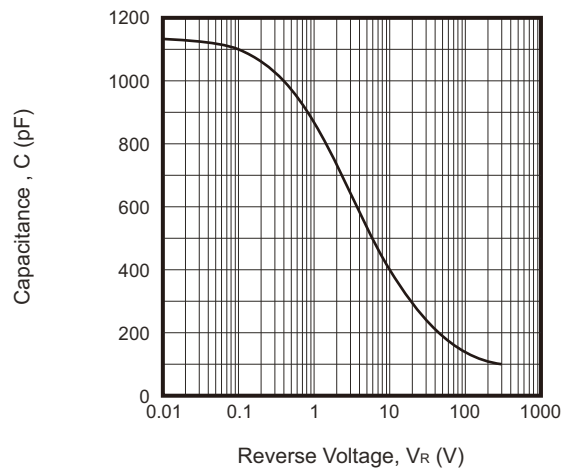
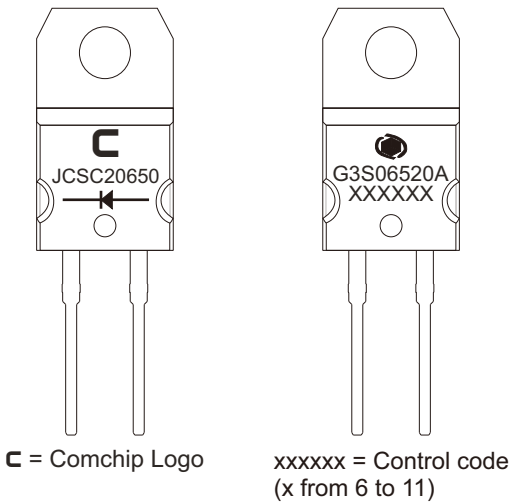


Fig.4 - Capacitance VS. Reverse Voltage



Marking Code

Part Number	Marking Code	
CDBJCSC20650-G	JCSC20650	G3S06520A



Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
TO-220AC	50	1000