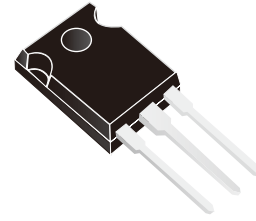


CDBGBSC201200-G

Reverse Voltage: 1200V

Forward Current: 20A

RoHS Device



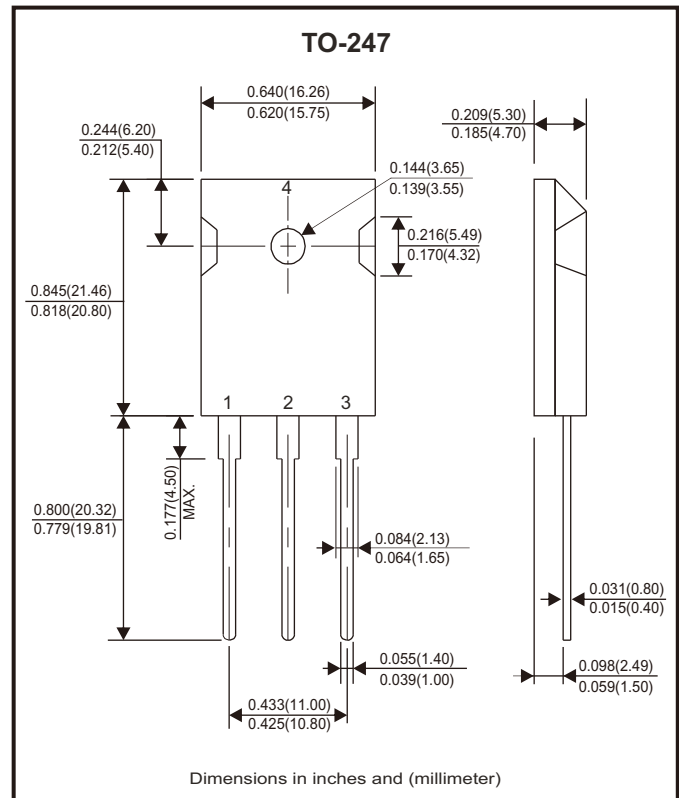
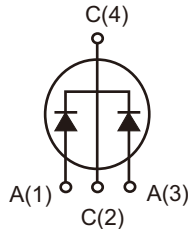
Features

- Rated to 1200 at 20 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-247, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.

Circuit diagram



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

Parameter	Conditions	Symbol	Value	Unit
Repetitive peak reverse voltage	$T_J = 25^\circ\text{C}$	V_{RRM}	1200	V
Surge peak reverse voltage	$T_J = 25^\circ\text{C}$	V_{RSM}	1200	V
DC blocking voltage	$T_J = 25^\circ\text{C}$	V_{DC}	1200	V
Continuous forward current	$T_C = 155^\circ\text{C}$ (Per leg)	I_F	10	A
Repetitive peak forward surge current	$T_C = 25^\circ\text{C}$, $t_p = 10\text{ms}$ Half sine wave, $D = 0.3$ (Per leg)	I_{FRM}	50	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}	100	A
Power dissipation	$T_C = 25^\circ\text{C}$ (Per leg)	P_{TOT}	141.5	W
	$T_C = 110^\circ\text{C}$ (Per leg)		62	
Typical thermal resistance from junction to case	Per leg	$R_{\theta JC}$	1.06	$^\circ\text{C/W}$
	Per diode	$R_{\theta JC}$	0.27	
Maximum case temperature		T_C	135	$^\circ\text{C}$
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	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 10\text{A}$, $T_J = 25^\circ\text{C}$	V_F		1.63	1.8	V
	$I_F = 10\text{A}$, $T_J = 175^\circ\text{C}$			2.55	3	
Reverse current	$V_R = 1200\text{V}$, $T_J = 25^\circ\text{C}$	I_R		50	100	μA
	$V_R = 1200\text{V}$, $T_J = 175^\circ\text{C}$			100	200	
Total capacitive charge	$V_R = 800\text{V}$, $T_J = 150^\circ\text{C}$ $Q_C = \int_0^{V_R} C(V) dv$	Q_C		69	-	nC
Total capacitance	$V_R = 0\text{V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{MHz}$	C		770	790	pF
	$V_R = 400\text{V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{MHz}$			52	54	
	$V_R = 800\text{V}$, $T_J = 25^\circ\text{C}$, $f = 1\text{MHz}$			50	51	

Rating and Characteristics Curves (CDBGBSC201200-G)

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

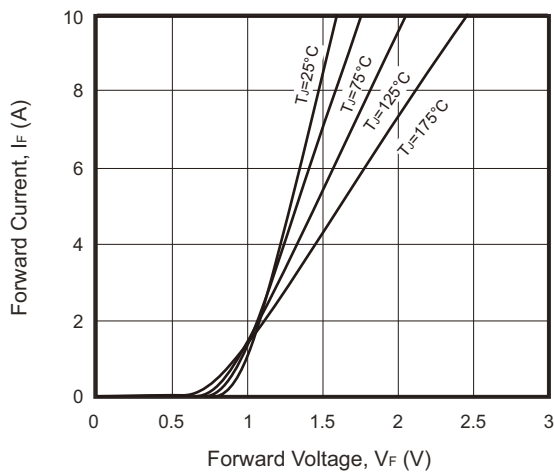


Fig.2 - Reverse IV Characteristics as a Function of T_J :

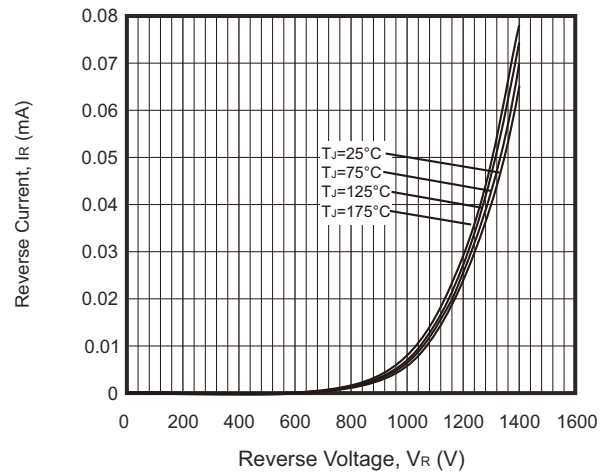


Fig.3 - Current Derating

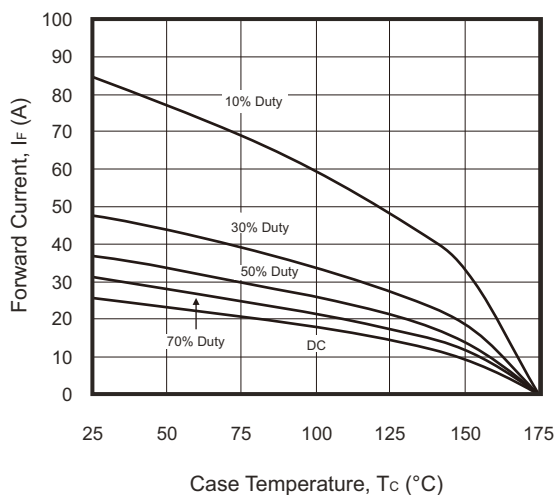
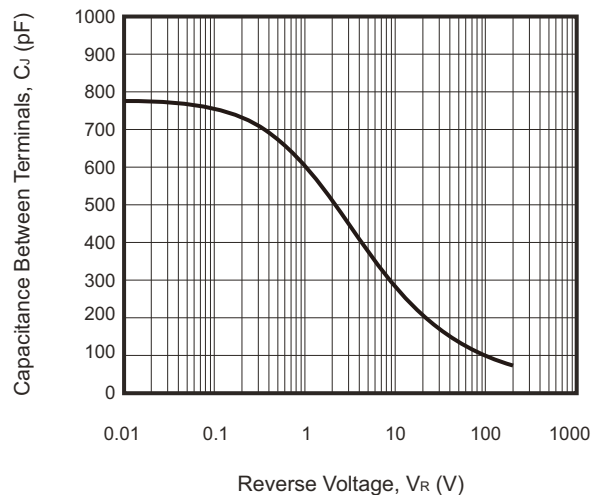
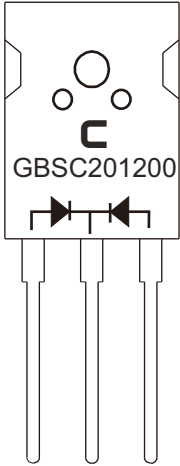


Fig.4 - Capacitance VS. Reverse Voltage

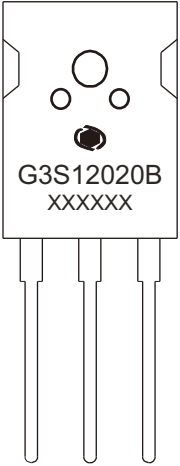


Marking Code

Part Number	Marking Code	
CDBGBSC201200-G	GBSC201200	G3S12020B



C = Comchip Logo



xxxxxx = Control code
(x from 6 to 11)

Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
TO-247	25	500