

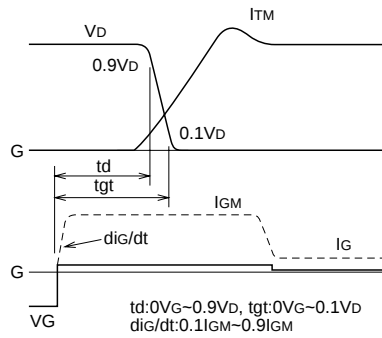
FGC4000BX-90DS

HIGH POWER INVERTER USE
PRESS PACK TYPE

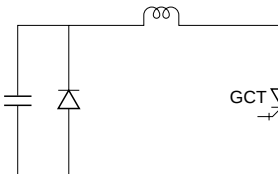
ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V_{TM}	On-state voltage	$I_T = 4000A, T_j = 125^{\circ}C$	—	—	4.0	V
I_{RRM}	Repetitive peak reverse current	$V_{RM} = 21V, T_j = 125^{\circ}C$	—	—	100	mA
I_{DRM}	Repetitive peak off-state current	$V_{DM} = 4500V, V_{GK} = -2V, T_j = 125^{\circ}C$	—	—	150	mA
I_{GRM}	Reverse gate current	$V_{RG} = 21V, T_j = 125^{\circ}C$	—	—	100	mA
dv/dt	Critical rate of rise of off-state voltage	$V_D = 2250V, T_j = 125^{\circ}C, V_{GK} = -2V$ (Expo. ware) (see Fig. 3)	3000	—	—	V/ms
t_d	Turn-on delay	$I_T = 4000A, V_D = 2250V, I_{GM} = 200A, T_j = 125^{\circ}C$ $di/dt = 1000A/ms, di_G/dt = 100A/ms$ (Snubberless) (see Fig. 1)	—	—	3	ms
t_s	Storage time	(Snubberless) $I_T = 4000A, V_{DM} = 4500V, V_D = 2250V$ $di_{GQ}/dt = 6000A/ms, C_c = 6nF, L_c = 0.2mH$ $V_{RG} = 21V, T_j = 125^{\circ}C$ (see Fig. 2)	—	—	3	ms
I_{GQ}	Peak gate turn-off current		—	—	—	A
I_{GT}	Gate trigger current	DC METHOD : $V_D = 24V, R_L = 0.1W, T_j = 25^{\circ}C$	—	—	4.0	A
V_{GT}	Gate trigger voltage		—	—	1.5	V
$R_{th(j-f)}$	Thermal resistance	Junction to fin	—	—	0.011	$^{\circ}C/W$

Fig.1 TURN-ON SWITCHING WAVEFORM AND TEST CIRCUIT



(1) TURN-ON SWITCHING WAVEFORM



(2) TURN-ON TEST CIRCUIT

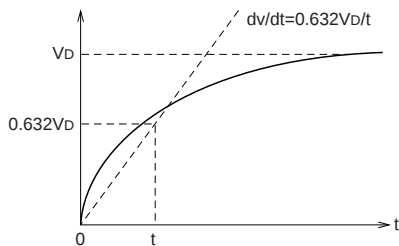
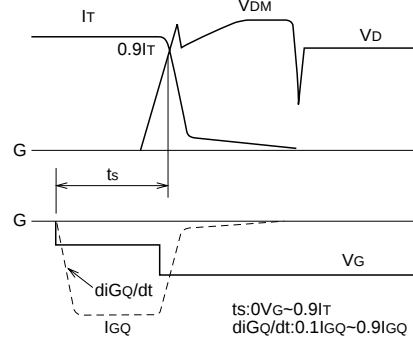
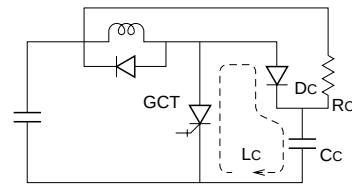


Fig.3 dv/dt TEST WAVEFORM

Fig.1 TURN-OFF SWITCHING WAVEFORM AND TEST CIRCUIT



(1) TURN-OFF SWITCHING WAVEFORM



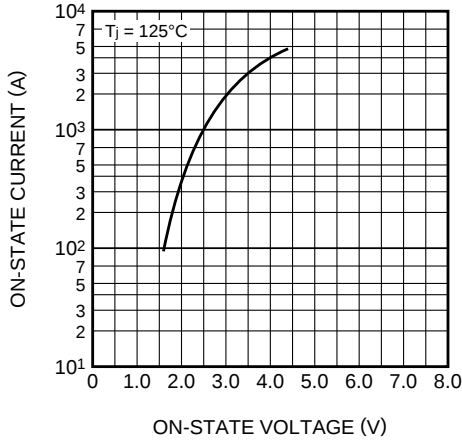
(2) TURN-OFF TEST CIRCUIT

FGC4000BX-90DS

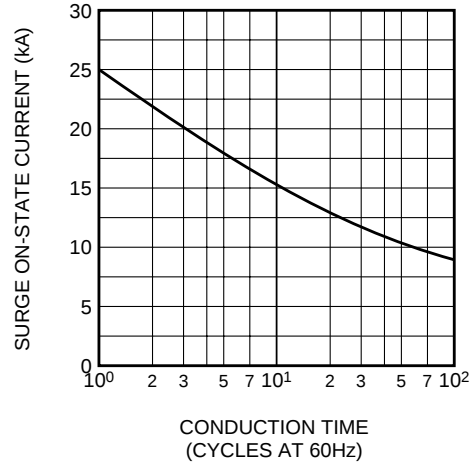
HIGH POWER INVERTER USE
PRESS PACK TYPE

PERFORMANCE CURVES

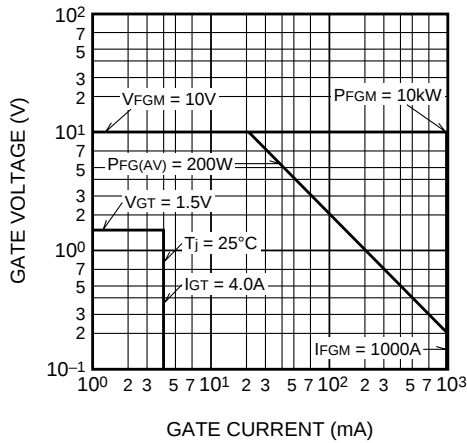
MAXIMUM ON-STATE CHARACTERISTIC



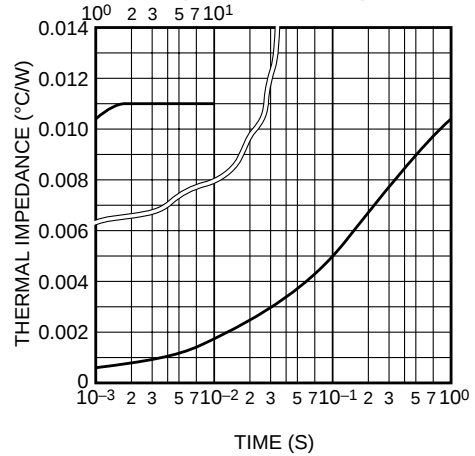
RATED SURGE ON-STATE CURRENT



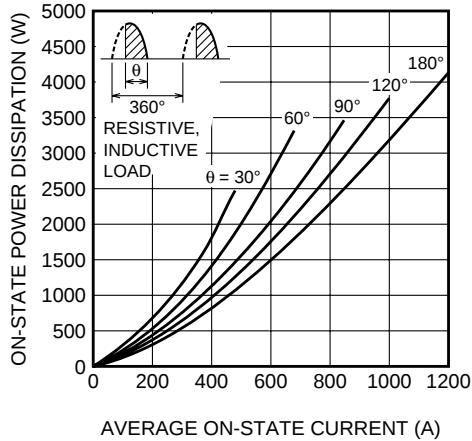
GATE CHARACTERISTICS



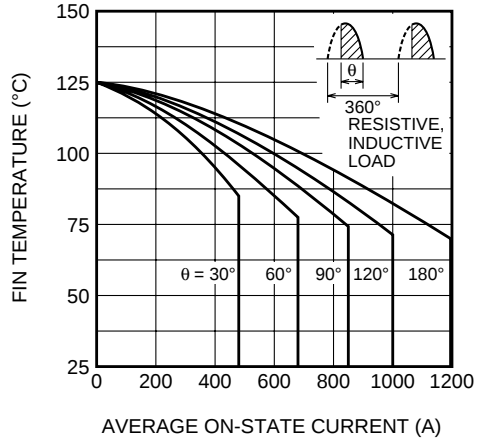
MAXIMUM THERMAL IMPEDANCE CHARACTERISTIC (JUNCTION TO FIN)



MAXIMUM ON-STATE POWER DISSIPATION CHARACTERISTICS (SINGLE-PHASE HALF WAVE)



ALLOWABLE FIN TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)



FGC4000BX-90DS

HIGH POWER INVERTER USE
PRESS PACK TYPE

