

## GU-C40

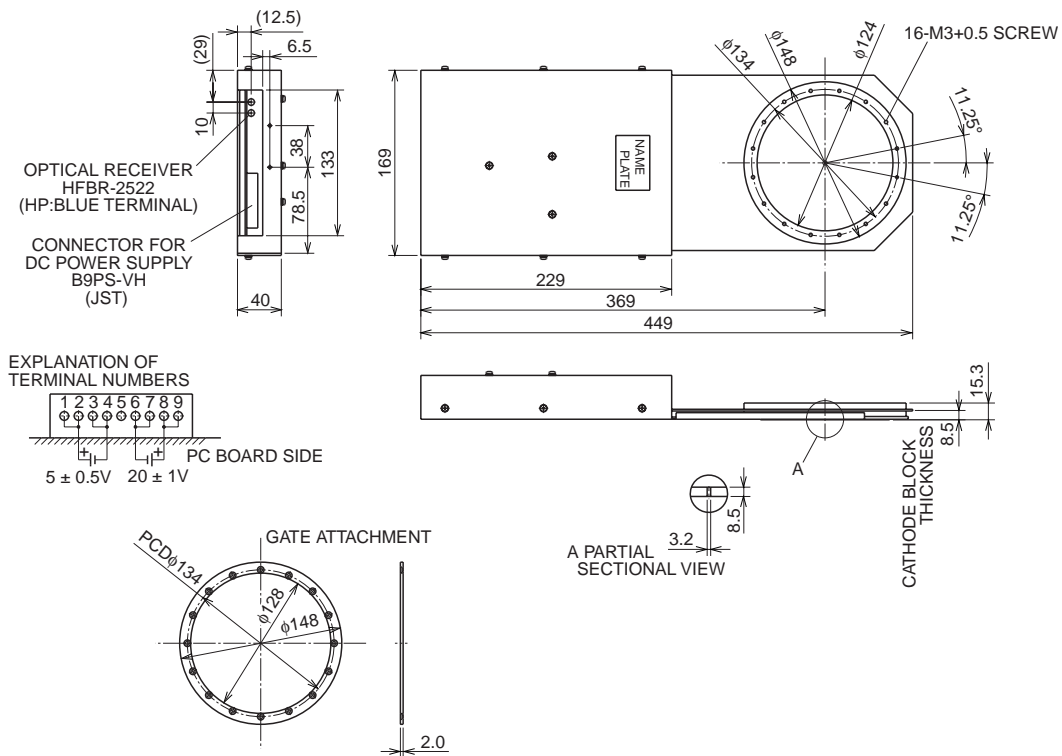


## APPLICATION

Inverters, Converters, DC choppers, Induction heating, DC to DC converters.

## OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm

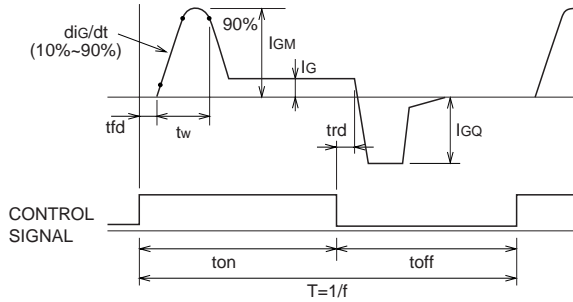


CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
+Vc	Power supply (+)	DC power supply 10A (Note 1, 3)	4.5	5.0	5.5	V
-Vc	Power supply (-)	DC power supply 6A (Note 2, 3)	19	20	21	V
-	Control signal	Optical fiber data link Receiver: HFBR-2522 (HP)	—	—	—	—
f	Frequency	1500Arms Duty 50%	—	—	500	Hz
ton min	Turn-on minimum	Protection is 28μs min and 32μs max. (Note 4)	28	30	32	μs
toff min	Turn-off minimum	Protection is 44μs min and 52μs max. (Note 5)	44	50	52	μs
tfd	Delay time of on gate current		7	8	9	μs
trd	Delay time of off gate current		5	6	7	μs
diG/dt	Critical rate of rise of on gate current		100	—	—	A/μs
IGM	Peak on gate current		—	200	—	A
tw	Width of on high gate current		5	—	—	μs
IG	On gate current		10	—	—	A
diGQ/dt	Critical rate of rise of off gate current	VRG = 20V	—	6000	—	A/μs
Dmax	Maximum duty		—	—	50	%
Ta	Temperature		-10	—	+60	°C
Rth	Thermal resistance (Junction to Fin)	GU-C40 and FGC4000BX-90DS (Note 6)	—	—	0.012	°C/W

- Note 1. In case of DC power supply which has no current control, please be careful that rush current (peak value 140A, width 2ms) flows at the turn on of power supply in 1m cable for power supply.
2. In case of DC power supply which has no current control, please be careful that rush current (peak value 140A, width 2ms) flows at the turn on of power supply in 1m cable for power supply.
3. Main current condition of GCT Thyristor is 1500Arms and duty 50%.
4. If input turn-on signal is shorter than ton (min) protection operates and turn on width is 28μs min and 32μs max.
5. If turn-on signal is input during toff (min) protection operates and turn off width is 44μs min and 52μs max.
6. If GU-C40 and FGC4000BX-90DS are used together, Rth (j-f) is becomes 0.012°C/W.  
(Only FGC4000BX-90DS is used. Rth(j-f) becomes 0.011°C/W)

WAVEFORM



CONNECTION INSTRUCTION FOR THE GATE DRIVER

Connection instruction for the gate driver refer to Fig. 1.

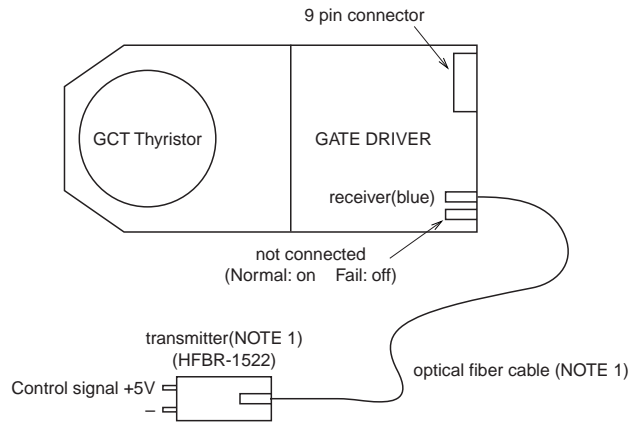
OUTLINE DRAWING

Refer to Fig. 2

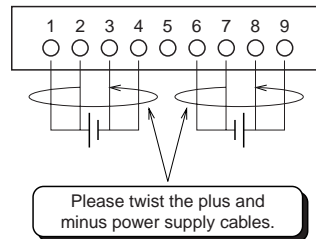
Installation of GCT Thyristor

GCT Thyristor is put on the gate driver to coincide with the holes each other and covered by gate attachment at the ring gate of GCT Thyristor. By screwing at each hole, GCT Thyristor is installed on the gate driver.

Fig. 1 Connection instruction for the gate driver



9 pin connector and cable (VHR-9N) (NOTE 1) (NOTE 2)



NOTE 1

Please prepare these parts beforehand.

NOTE 2

A cross section of power supply cable is 0.75mm<sup>2</sup> or 0.83mm<sup>2</sup> and twist the plus and minus cable.

The power supply cable is shorter than 2m and lower inductance.