GDU 90 20721

GATE DRIVE UNIT

This data sheet should be used in conjuction with the publication entitled GDU9X-XXXXX Series, Gate Drive Unit.

APPLICATIONS

■ Used with Gate Turn-Off Thyristors in high current switching applications

KEY PARAMETERS

I_{FGM}	**40A**
$I_{G(ON)}$	**10A**
dI_{GQ}/dt	**50A/µs**

CONDITIONS - (UNLESS STATED OTHERWISE)

V_1 = +5V	V_2 = +15V	V_3 = -15V

Test circuit GTO	DG858BW
GDU connection to GTO	500mm CO - AX cable type RC5327230 (2 cables in parallel)
Test circuit emitter and gate drive emitter	Hewlett Packard versatile link HFBR 1524
Test circuit emitter current	30mA
Test circuit receiver and gate drive receiver	Hewlett Packard versatile link HFBR 2524

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
I_{V1}	+5V PSU current	500Hz, 50% duty cycle	-	-	5.5	A
I_{V2}	+15V PSU current	500Hz	-	-	0.70	A
I_{V3}	-15V PSU current	500Hz, I_T = 3000A GTO T_j = 125˚C	-	-	12	A
$V_{1(Min)}$	+5V PSU minimum	-	3.8	-	-	V
$V_{2(Min)}$	+15V PSU minimum	-	14.0	-	-	V
$V_{3(Min)}$	-15V PSU minimum	-	14.0	-	-	V
I_{FGM}	Peak forward gate current	-	40	-	-	A
$I_{G(ON)}$	On-state gate current	-	-	10	-	A
dI_{FG}/dt	Rate of rise of positive gate current	Measured 10 - 75% I_{FGM}	-	40	-	A/µs
dI_{GQ}/dt	Rate of rise of negative gate current	I_T = 3000A, 90% $I_{G(ON)}$ - 50% I_{GQM}	-	50	-	A/µs

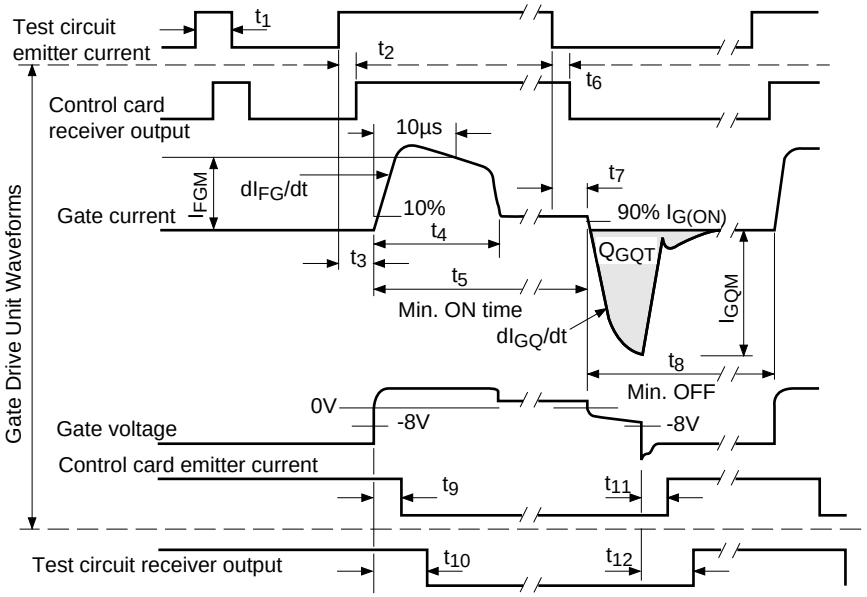
TIMING CHARACTERISTICS

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
t_1*†	No response pulse width of input signal	Adjustable by R81 + R82	2	-	3	µs
t_2	Delay time emitter current to receiver o/p	-	0.2	-	0.4	µs
t_3*†	Turn-on delay emitter current to 10% I_{FGM}	-	5.0	-	5.8	µs
t_4	I_{FGM} pulse width	-	-	25	-	µs
t_5*	Minimum on time 10% I_{FGM} to 90% $I_{G(ON)}$	Adjustable by R37	80	-	110	µs
t_6	Receiver storage time	-	0.8	-	1.2	µs
t_7	Turn-off delay. Emitter current to 90% $I_{G(ON)}$	-	1.5	-	2.3	µs
t_8*	Minimum off time 90% $I_{G(ON)}$ to 10% I_{FGM}	Adjustable by R38	80	-	110	µs
t_9	Delay time Gate volts to o/p emitter current	-	-	0.2	-	µs
t_{10}	Turn-off delay Gate volts to test receiver o/p	-	-	0.8	-	µs
t_{11}	Storage time Gate volts to o/p emitter current	Measured at low I_{GQM}	-	0.1[1]	-	µs
t_{12}	Turn-on delay Gate volts to test receiver o/p	Measured at low I_{GQM}	-	0.3[1]	-	µs

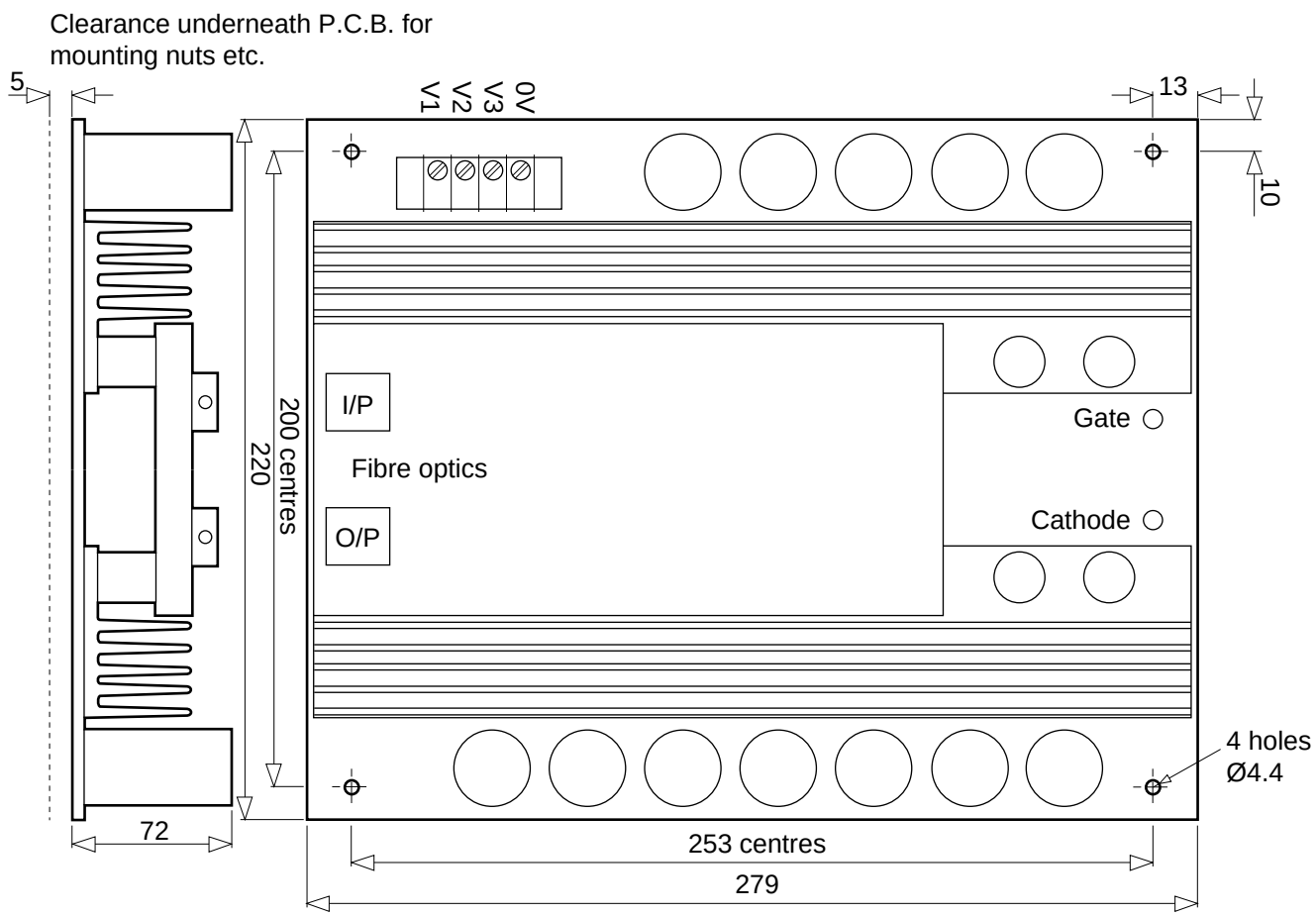
* t_1,t_3,t_5,t_8 are factory settings.

† Adjustment of t_1 alters t_3.

1. Varies with I_{GQM} due to gate lead impedance.



OUTLINE



Weight: 2.12Kg

All dimensions in mm, unless stated otherwise. DO NOT SCALE.

HEADQUARTERS OPERATIONS

GEC PLESSEY SEMICONDUCTORS
Cheney Manor, Swindon,
Wiltshire, SN2 2QW, United Kingdom.
Tel: + 44 (0)1793 518000
Fax: + 44 (0)1793 518411

GEC PLESSEY SEMICONDUCTORS
P.O. Box 660017
1500 Green Hills Road,
Scotts Valley, California 95067-0017,
United States of America.
Tel: + 1 (408) 438 2900
Fax: + 1 (408) 438 5576

POWER PRODUCT CUSTOMER SERVICE CENTRES

- **FRANCE.** 2 rue Henri-Bergson, 92665 Asnieres Cedex.
  Tel: + 33 1 40 80 54 00. Fax: + 33 1 40 80 55 87.
- **GERMANY**. Ungererstrasse 129, 80505 München.
  Tel: + 49 (0)89 36 09 060. Fax: + 49 (0)89 36 09 06 55.
- **NORTH AMERICA.** At Dedham Place, Suite 125, 3 Allied Drive, Dedham. MA 02026.
  Tel: + 1 617 251 0126. Fax: + 1 617 251 0106.
- **UNITED KINGDOM.** Doddington Road, Lincoln. LN6 3LF.
  Tel: + 44 (0)1522 500500. Fax: + 44 (0)1522 500550.

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