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2. Connectors and indicators

2.1. Power supply connector

The power supply connector is used to supply the board. Please be aware that only a small isolation (<500V) between input and output exist. Therefore be careful with the power supply and the attached thyristor that no high voltage on the cathode or gate may appear.

J200 : +VDC
J201 : -VDC

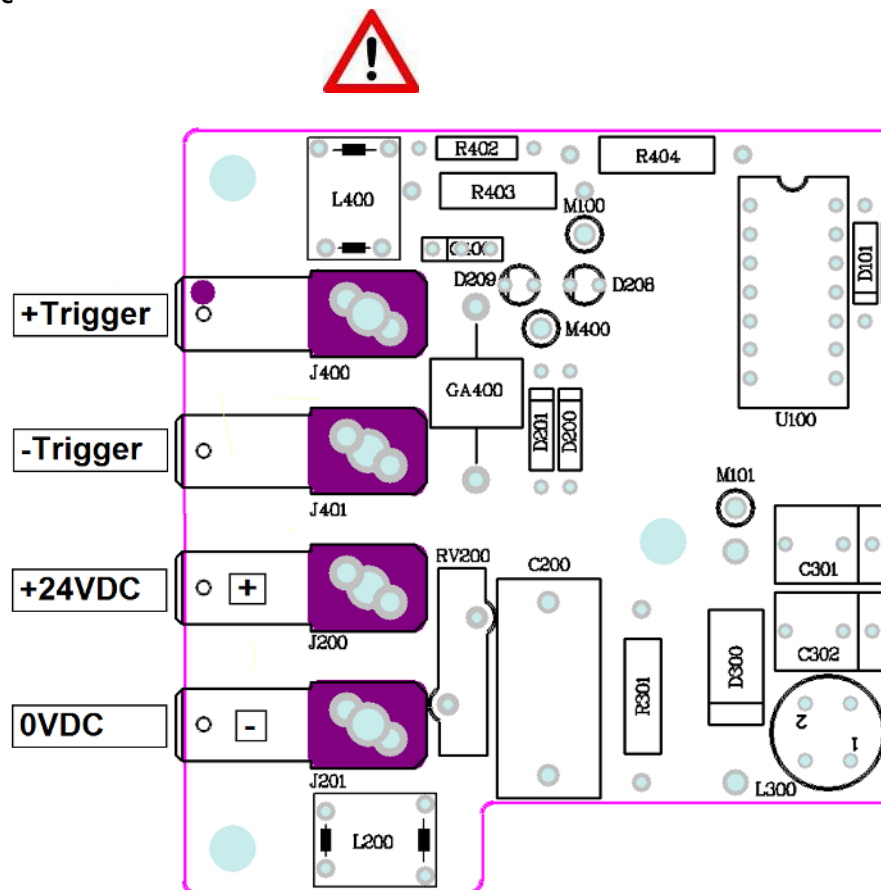


Figure 2 : Power supply input

2.2. Trigger input

The trigger input is used to trigger the thyristor. For the position of the two connectors see also picture above.

J400 : +Trigger
J401 : -Trigger

Parameter	Symbol	Min	Typ	Max	Unit
Thyristor Off		0	0	5	VDC
Thyristor On		14	24	28	VDC

2.3. Output connectors

Connector J100 and J101 are used to attach the thyristor to the gate unit.

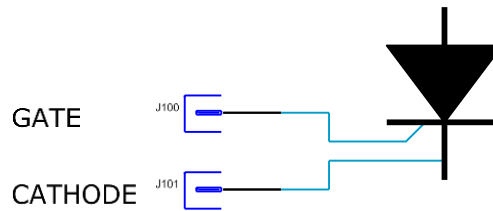


Figure 3 : Thyristor connection

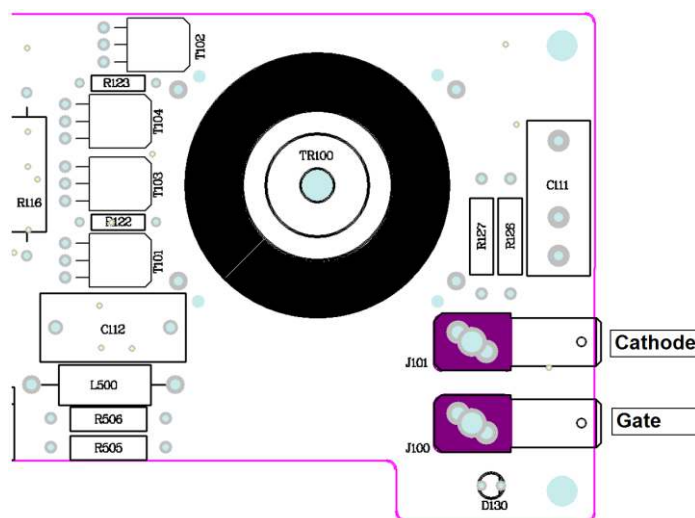


Figure 4 : Gate-Cathode connection

2.4. Indicators

The table below shows the different indicators and its meaning.

Parameter	Description	Color
D130	Will be lit when gate – cathode connection is open	Yellow
D208	Will be lit when power supply is out of range	Red
D209	Will be lit when power supply is ok	Green

2.5. Electrical interfaces

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Auxiliary power	V_{Sup_aux}		20	24	28	VDC
Auxiliary power consumption	P	Standby	-	-	1	W
	P	@1000Hz, 50% Duty cycle	-	-	2.5	W

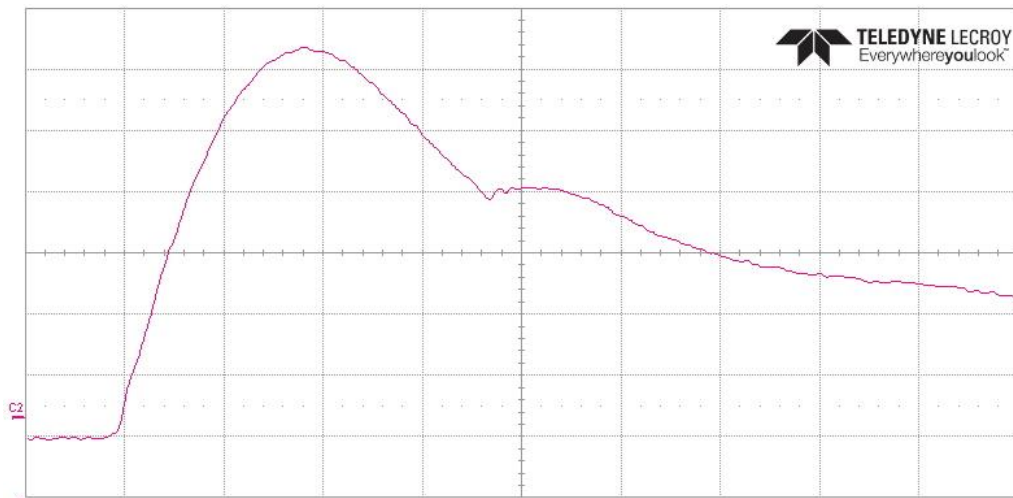
2.6. Environmental conditions

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Ambient temperature	T_{amb}	-	-25	-	+60	°C
Storage temperature	T_{store}	-	-25	-	+85	°C
Humidity	Hum	Non condensing	-	-	95	% RH
Operating altitude	Alt	-	-	-	3000	m

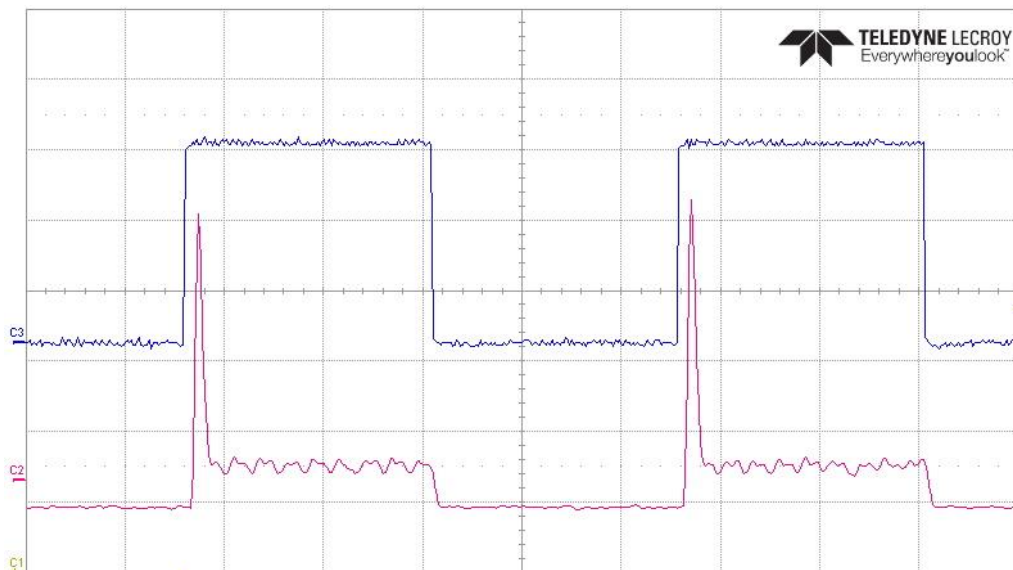
3. Function

3.1. Gate pulse

The gate pulse is made with a pulse forming network. The picture below shows the form of the curve as well as the trigger input and the resulting delay time.



Red: Gate Pulse



Red: Gate pulse
Blue: Trigger pulse

3.2. Electrical parameters gate pulse

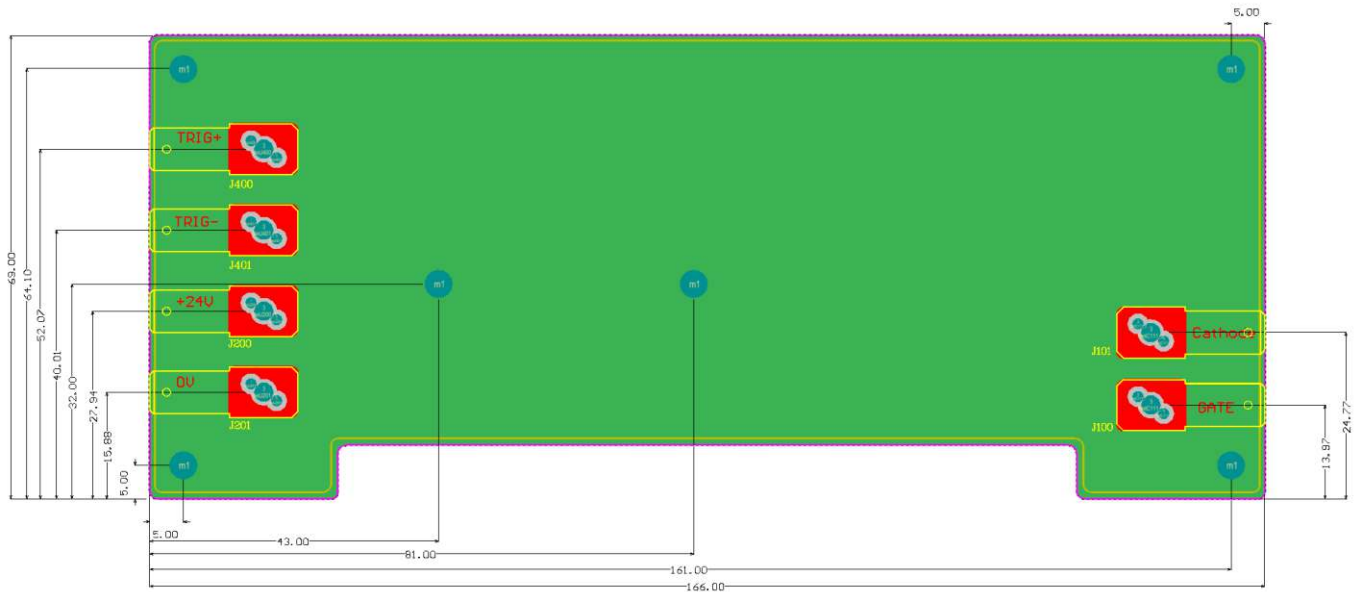
Parameter	Symbol	Condition	Min	Typ	Max	Unit
On delay time	$T_{onDelay}$	@ $T_{amb} = 25^{\circ}C$	-	20	-	μs
Peak current	I_{peak}	@ $V_{in} = 24V$	4	6	7	A
Current rise time	d_i/d_t	@ $T_{amb} = 25^{\circ}C, V_{in} = 24V$		4		A/ μs
Back porch current	I_{BP}	@ $T_{amb} = 25^{\circ}C, V_{in} = 24V$	0.25	0.4	0.5	A
Max Frequency	F	@ $T_{amb} = 25^{\circ}C, V_{in} = 24V$		1		KHz

4. Mechanical

4.1. Parameters

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Weight	m	-		0.1		kg
Dimensions	WxDxH	-		166x69x25		mm

4.2. Mechanical Drawing



4.3. Labels

4.3.1. Front side

- Nothing

4.3.2. Rear side

- Nothing

4.3.3. Bottom side

- Type label with serial number

4.3.4. Top side

- Nothing

5. Order code

AC-10162-001

GU-SGMIII-RY-V1-01

6. Datasheets

6.1. Faston receptacles

Connection to the trigger, power and gate must be made with an 6.3mm Faston connector. Use one of them below or similar. Please check always that crimping is made with correct tools.

PIDG FASTON Receptacles and Tabs (Continued)

Receptacles

Receptacle Style

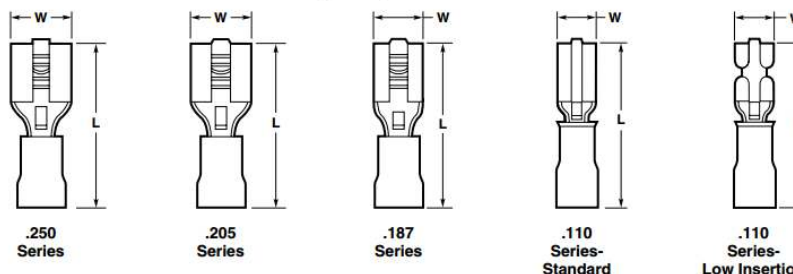
- A — No dimple with wire stop
- B — Dimple with wire stop
- C — No dimple, no wire stop

Material

- Insulation** — Nylon
- Receptacle Body** — Brass per ASTM B-36 or phosphor bronze per ASTM B-139
- Plating** — Tin per MIL-T-10727 except where noted.
- Metallic Sleeve** — Copper per ASTM B-152
- Plating** — Tin per MIL-T-10727

Related Product Data

- Application Tooling** — reference Catalog 82042 for tooling



Series	Wire Size Circular Mills [mm ²]	Style	Dimensions		Terminal Insulation Color	Wire Insulation Diameter Max.	Recept. Matl.	Stock Thk.	Fits Tab Thk.	Part Numbers		
			W Nom.	L Max.						Loose Piece	Tape Mounted	Strip Form
.250	22-18 509-1,900 [0.26-0.96]	B	.300 7.62	.900 22.86	Red	.140 3.56	Brass	.018 0.46	.032 0.81	640903-1*	640903-2	640902-1
					Red	.140 3.56	Brass	.018 0.46	.032 0.81	55675-1 ²	55675-2 ²	—
	16-14 2,050-5,180 [1.04-2.62]	B	.300 7.62	.900 22.86	Blue	.170 4.32	Brass	.018 0.46	.032 0.81	640905-1*	640905-2	640904-1
					Green	.250 6.35	Brass	.018 0.46	.032 0.81	42844-1*†	42844-3†	60544-3†
	14-12 3,831-6,470 ¹ [1.94-3.28]	B	.300 7.62	1.012 25.70	Green	.250 6.35	Phos. Brz.	.018 0.46	.032 0.81	42844-2*†	—	—
					Yellow	.250 6.35	Brass	.018 0.46	.032 0.81	640907-1*	640907-2	640906-1
	12-10 5,180-13,100 [2.62-6.64]	B	.300 7.62	1.012 25.70	Yellow	.250 6.35	Phos. Brz.	.018 0.46	.032 0.81	61198-2 ^{3†}	61198-4†	61197-2
					Yellow	.250 6.35	Phos. Brz.	.018 0.46	.032 0.81	61198-2 ^{3†}	61198-4†	61197-2

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