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PCB-mdriver-QCW

- LED Mini Driver For Mid-IR LEDs
- QCW Mode Operation
- Fixed Values
- Synchronization Output
- Dimension: 24 x 12 x 8 mm

RoHS COMPLIANT   Pb Pb-Free

Description

PCB-mdriver-QCW driver is designed as power supply of Mid-IR LEDs. It provides **QCW mode operation** with **fixed signal data parameters**.
Additional that unit provides a **synchronization output** for synchronization with an external device.

Features

- **QCW mode operation** (for **maximum average optical power**)
- **Fixed** signal data parameters, as amplitude, repetition rate and pulse duration for easy handling.
- **Synchronization output**, for possible synchronization with an external device (PCB-sdetect-3P synchronous detector, for example)

Main Characteristics

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Input Voltage (stabilized)	V_{SUPPLY}	5		6	V
Voltage Tolerance		-5		+5	%
Power Consumption	P			4	W
Input Current	I_{SUPPLY}				A
Board Dimensions			24 x 12 x 8		mm

Adjustable Parameters

| Parameter	Symbol	Pulse Mode	Unit
Pulse Duration	t_P	500	µs
Frequency	f	1	kHz
Output Current Amplitude	I_{OUT}	150	mA

Driver Layout

front

back
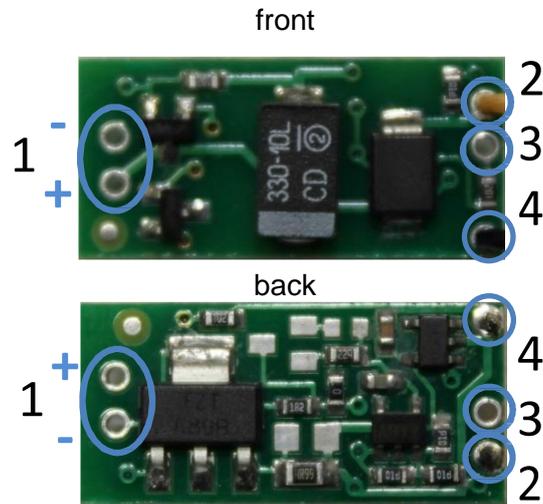
1. LED connection contacts
2. Power input contact (+5 VDC) *
3. Synchronization output contact *
4. GND contact

 * Power input and synchronization output contacts have common GND wire (black).

Driver Block Diagram
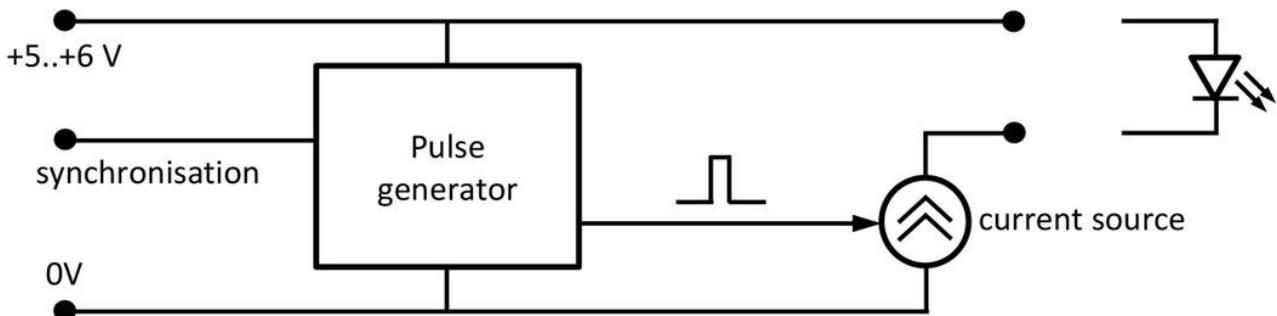
Operating Mode Description

PCB-mdriver-QCW driver works in a QCW mode. This mode provides LED maximum average optical power.

LED current, pulse duration and frequency are fixed to 150 mA, 500 µs and 1 kHz.


QCW Mode Current-Time Relation
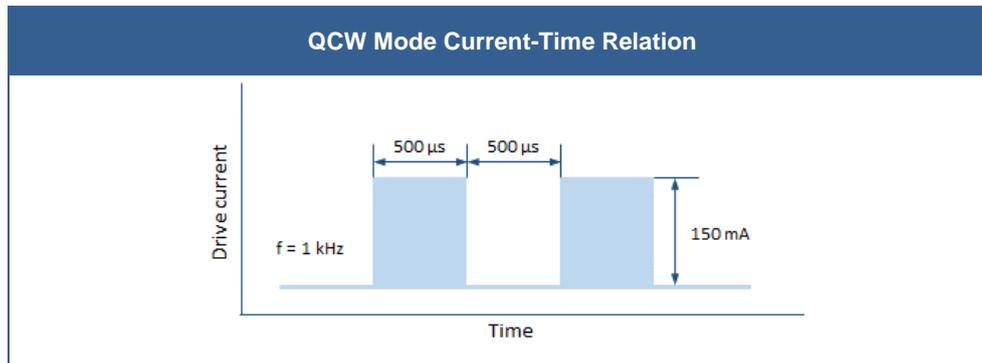
Operating Instruction

1. Securely solder the appropriate pins of the LED with LED connection contacts (1).

   Note! Contact marked with "LED +" must be connected to the appropriate pin of an LED (marked with a red dot). Improper connection may cause LED damage.

   Note! LED case must be electrically isolated from the ground.

2. If you use PCB-sdetect-3P synchronous detector, connect the PCB-mdriver-QCW's synchronization output contacts (2) with synchronization input terminal block.

synchronisation input terminal block

synchronisation output contacts

PCB-sdetect-3P　　　　　　　　　　　　　　　*PCB-mdrive-QCW*
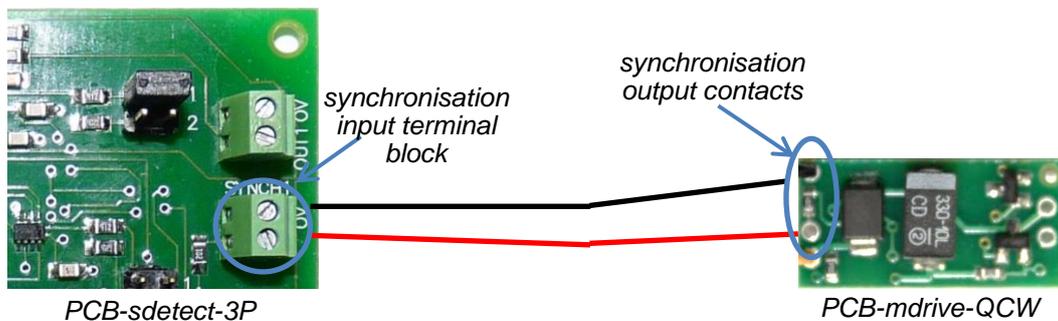
3. If necessary, make all the connections of other boards (synchronous detector, thermocontroller etc.) following the appropriate instructions manuals. Before turning them on check the required connections and modes:

   Synchronous detector:
   - Photodiode input connection
   - Preamplifier power output connection
   - Averaging time and signal gain selection
   - External signal observing device connection
   -

4. Connect 5V stabilised power supply to the power input (3).

Precautions

- Only turn on the power supply of the LED Driver after all connections are made and tested.
- Mount or dismount the LED Driver in power-off state only, otherwise it can lead to breakdown.
- Ingress protection rating of the LED Driver is IP00, so please assure the protection of the driver.
- Do not use multimeter to control and adjust current.

Operation:

Indoor operation only.
Ingress Protection Rating IP00.