



PCB-mdriver-QCW

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



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

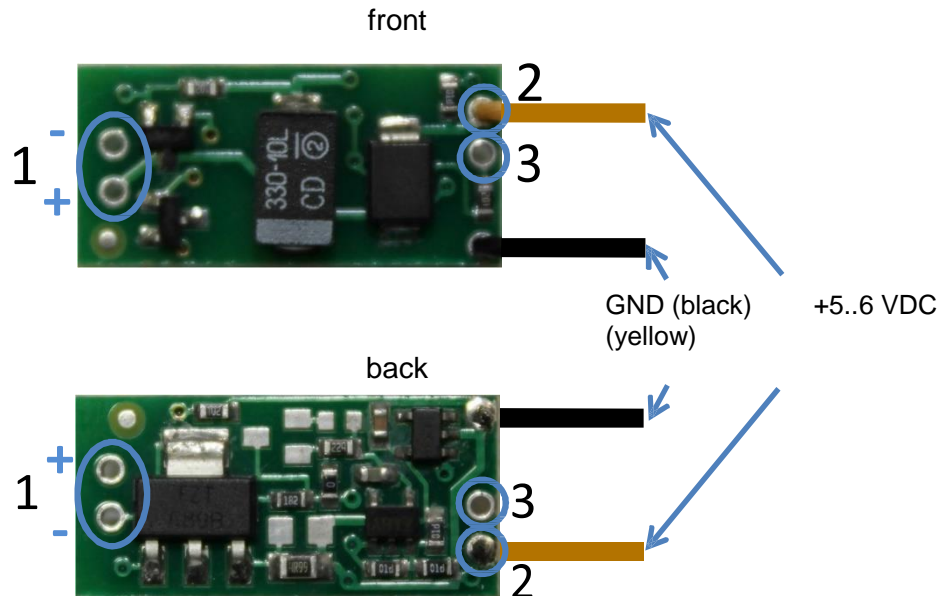
| Parameter | Symbol | Min. | Values Typ. | Max. | Unit |
|----------------------------|--------------|------|----------------|------|------|
| Input Voltage (stabilized) | V_{SUPPLY} | 5 | | 6 | V |
| Voltage Tolerance | | -5 | | +5 | % |
| Power Consumption | P | | | 4 | W |
| Input Current | I_{SUPPLY} | | | | 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 |



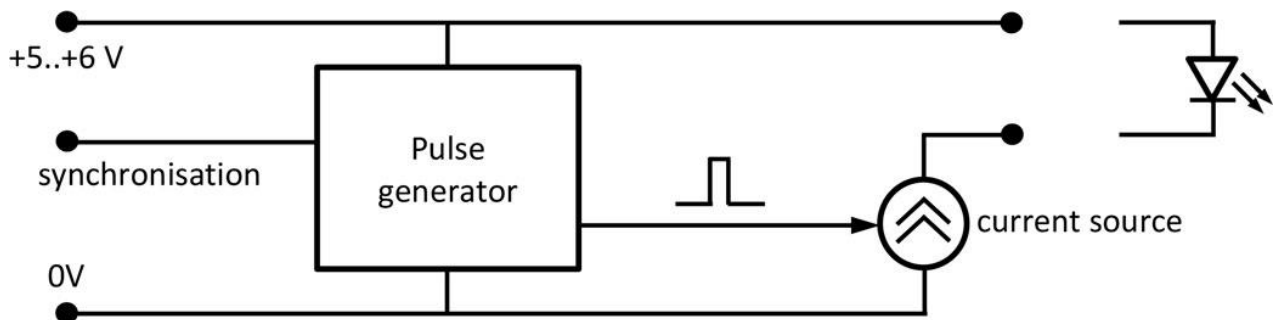
Driver Layout



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

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

Driver Block Diagram

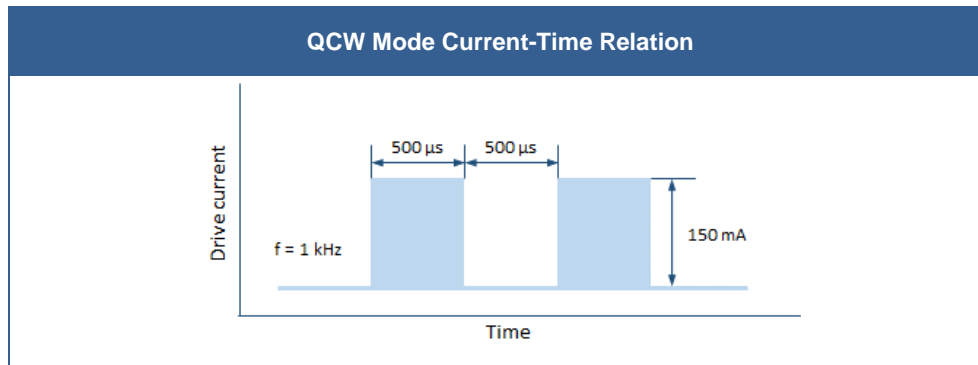




Operating Mode Description

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 μ s and 1 kHz.



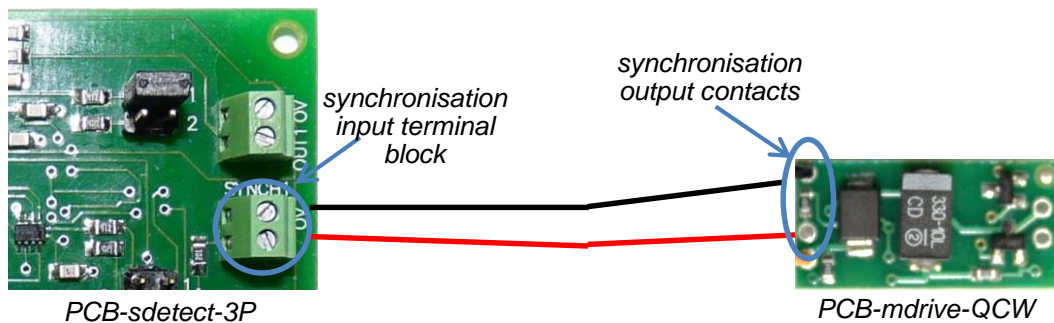
Operating Instruction

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.



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
- Pre-amplifier power output connection
- Averaging time and signal gain selection
- External signal observing device connection

Thermocontroller:

- Thermistor / PCB-driver-51 temperature observation block input connection
- Thermocooler output connection
- External connections (if necessary)

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.

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The above specifications are for reference purpose only and subjected to change without prior notice