Tiny 0.1-0.5 A / 33 V low-cost variable current LED driver

https://www.indiegogo.com/projects/ledonino

Driver
- self made LED fixtures
- easy to use
- low cost
- dimming options
- battery supply
- CV supply

Futuro Lighting design
LED Driver 376V

Build your own LED fixture charger and others

Specification:
- Topology: Buck
- Vcc = 8-32 V DC
- I LED = Adjustable
  see next page for settings

Regulation / dimming:
- hysteretic control
- typical 5% output accuracy
- high speed PWM dimming

Switching freq: 1 MHz max
Rsense ratio: 0,13 Ohm / 1 A

Dimensions: 16 x 16 x 5,5 mm
Thermal shutdown protection
Over current protection

Line regulation
VLED = 18V (~6 x LED)
Ta=24 °C, Rh=62%

Note: if PWM is not connected max ILED generated
Standby mode, PWM < 0,3 V (Icc 70uA typical)
Options: encapsulation, reverse protection
LED Driver 376V

LED current setting

<table>
<thead>
<tr>
<th>LED</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 A</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.23 A</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.3 A</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>0.39 A</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>0.45 A</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>0.53 A</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>0.59 A</td>
<td>do not use!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.73 A</td>
<td>do not use!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X - linked by soldering iron

Output current ripple reduction: adding capacitor across LED string (1 uF on module).
Note: capacitor will not affect operating frequency and efficiency, but it will increase startup delay and reduce maximum dimming PWM frequency. Using ceramic capacitor may result in audio noise during PWM dimming depending on PWM frequency.
3-CH Digital dimmer for LED Driver 376

Ready made solution for your lighting needs

**Specification:**
- Supply voltage: 7-36 V DC
- Power consumption: 1.2 W max
- Model: Custom for LED Driver 376
- Output: PWM 0 - 100%
- Output current: 10 mA / channel max

**Number of dimm steps:** 250
- Illumination: Front - Side Blue LED
- End of range indication: blink (Blue)
- Power-up fade-in duration: 30 sec
- Setting memory type: EEPROM
- Dimensions: 85 x 85 x 30 mm
AquaTimer & LED Driver 376

Available as bare PCB or end user product
3D model on request

Specification:
Supply Voltage: 6-25 VDC
Supply current: <15 mA
Power consumption: 0.65 W max
Clock source: RTC 24h
Settings for sunset and sunrise:
Start time XX:YY
Intensity 0-100%
Dimm time: 5-99 minutes

Others:
- Reverse protection
- >3 days clock backup

PWM frequency: 2000 Hz
Resolution: 1000 steps
Output: 5V / 10mA
Output: CV, 4A max

Display: 2x16 lines
Actual time, status, intensity, Menu
Illuminated (white)

Dimensions: 87x50x10 mm
TouchDIMM & LED Driver 376

Available as bare PCB
3D model on request

Controll:
ON / OFF - short touch (<2sec)

Intensity increase
Touch and hold till reaching required intensity (initial status OFF)

Intensity decrease
Touch and hold till reaching required intensity (initial status ON)

Indicator status
Inactive when off or during fade in and out

Specification:
Supply Voltage: 6-25 VDC
Supply current: <5 mA
Output: PWM / CV 4A max

PWM frequency: 2000 Hz
Resolution: 1000 steps
Output: 5V / 10mA

Dimm steps: 100
Dimming characteristic: Log

Dimensions:
50x13x10 mm
50x13x3.5 mm (wo DC con)

Others:
- Reverse protection
- implemented soft fade in and fade out
- illumination of touch button
- built in N-MOS for CV LED strips

TouchDIMM schematic:

+12 VDC
47uF
GND
Vcc
LED+
LED-
2k

Futuro Lighting design