Driver

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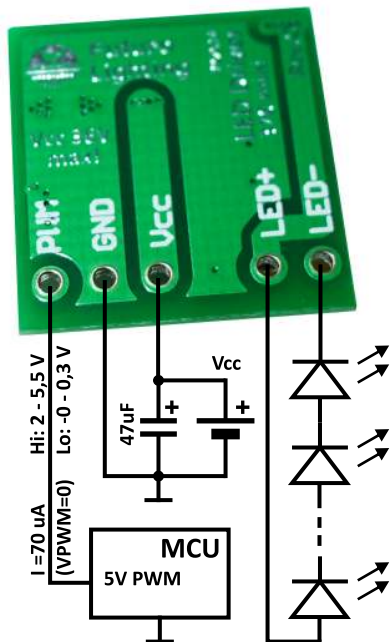- dimming options
- battery supply
- CV supply

Futuro
Lighting
design

2014

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 controll
- typical 5% output accuracy
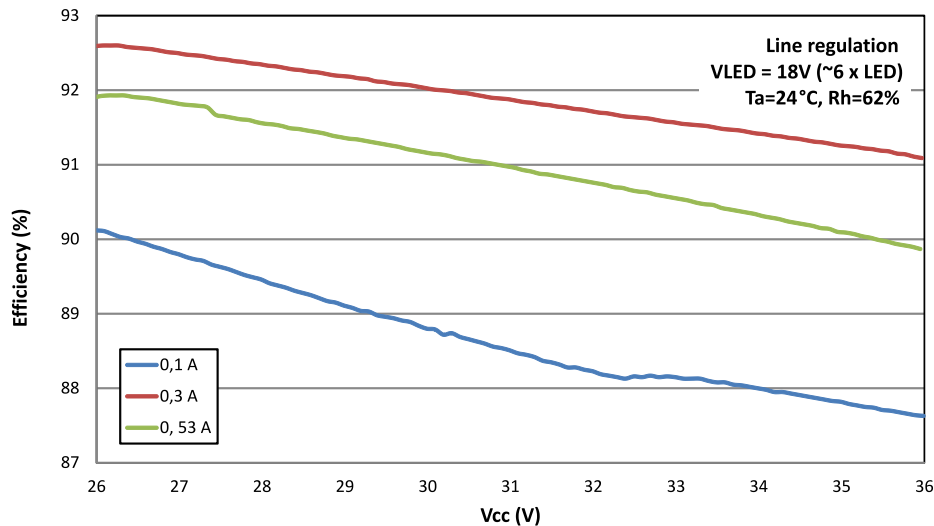- high speed PWM dimming

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%

Efficiency (%)

0,1 A	
0,3 A	
0, 53 A	

Vcc (V)

Hi: 2 - 5,5 V   Lo: -0 - 0,3 V

I=70 uA
(VPWM=0)

47uF

Vcc

MCU
5V PWM

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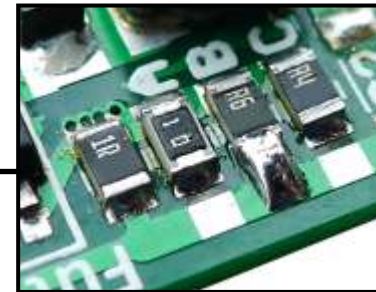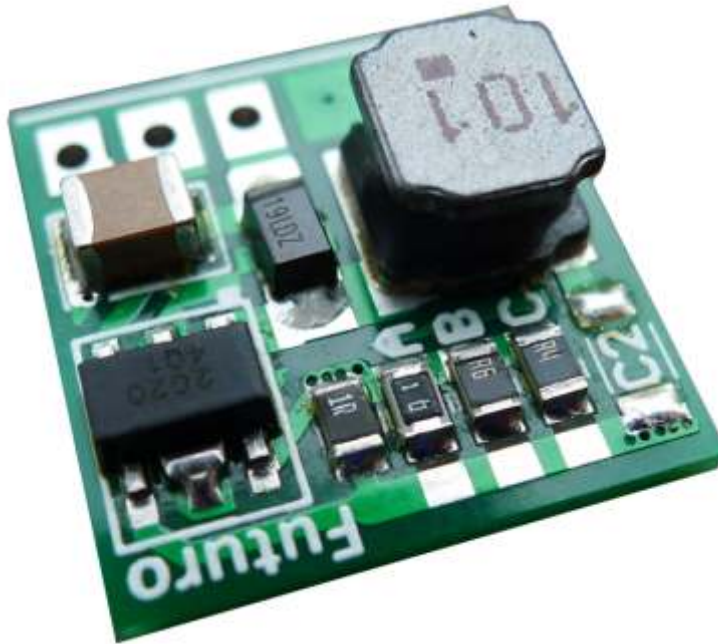Options: encapsulation, reverse protection

Futuro Lighting design

Rev.0.3

PWM   GND   Vcc   LED+   LED-

LED Driver 376V

LED current selection from 0,1 A up to 0.53 A

ILED	A	B	C
0,1 A	-	-	-
0,23 A	X	-	-
0,3 A	-	X	-
0,39 A	-	-	X
0,45 A	X	X	-
0,53 A	X	-	X
0,59 A	do not use !		
0,73 A	do not use !		

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.

Futuro
Lighting
design

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%
Outut 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
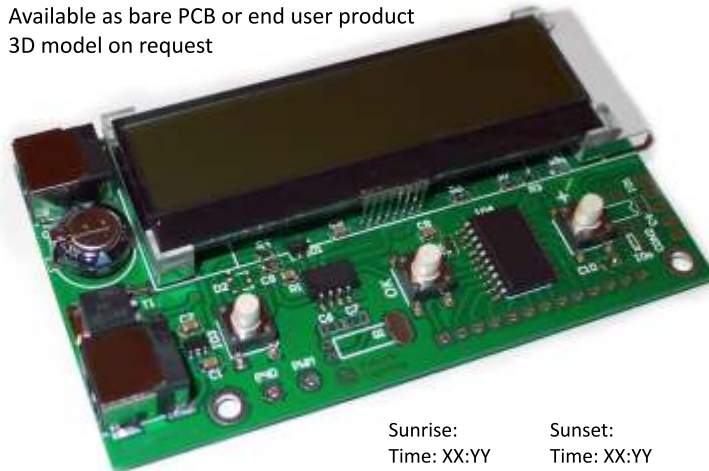Setting memory type: EEPROM
Dimensions: 85 x 85 x 30 mm

Futuro Lighting *design*

AquaTimer & LED Driver 376

Artificial sun for Aquarium life
Application example

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

Sunrise:
Time: XX:YY
P = 10-100%
Dimm = 5-99

Sunset:
Time: XX:YY
P = 0-90%
Dimm = 5-99

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Lighting
design
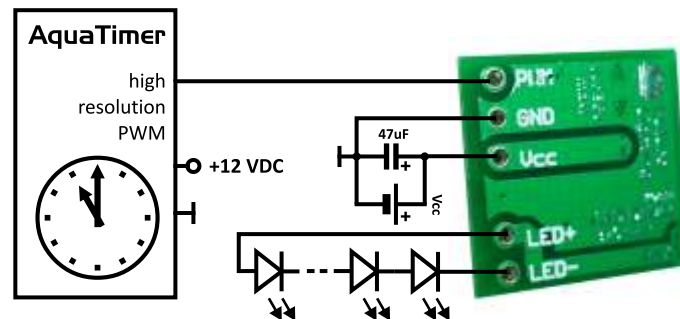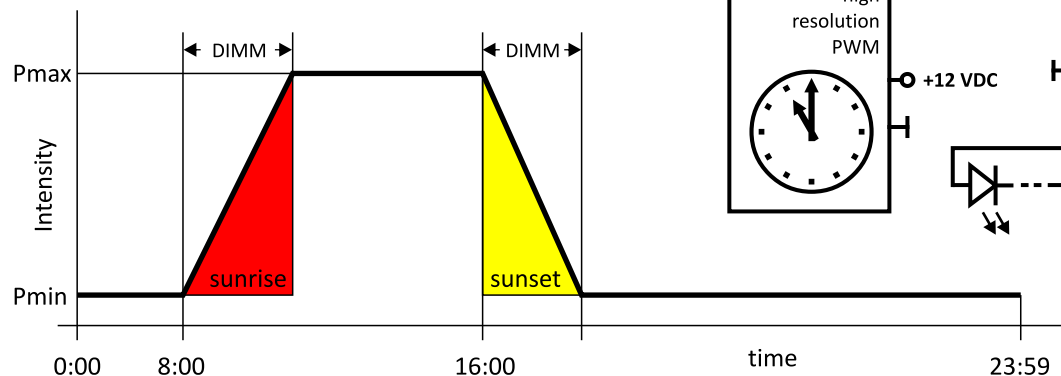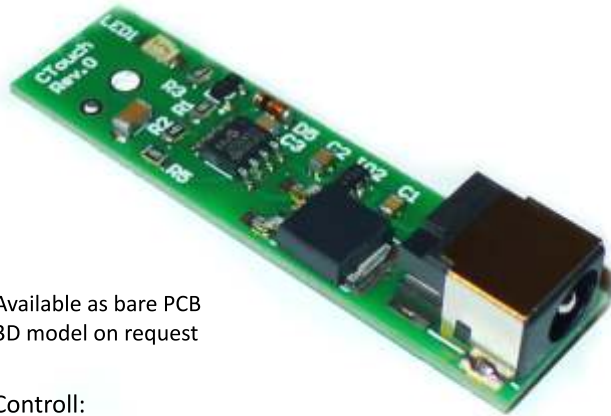
TouchDIMM & LED Driver 376

Just single push to adjust
Application example

Available as bare PCB
3D model on request

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

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

Dimm steps: 100
Dimming characteristic: Log

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

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

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

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

TouchDIMM

high
resolution
PWM

+12 VDC

47uF

Vcc

PWR
GND
Vcc
LED+
LED−

Futuro
Lighting
design