555 pwm controller Datasheet

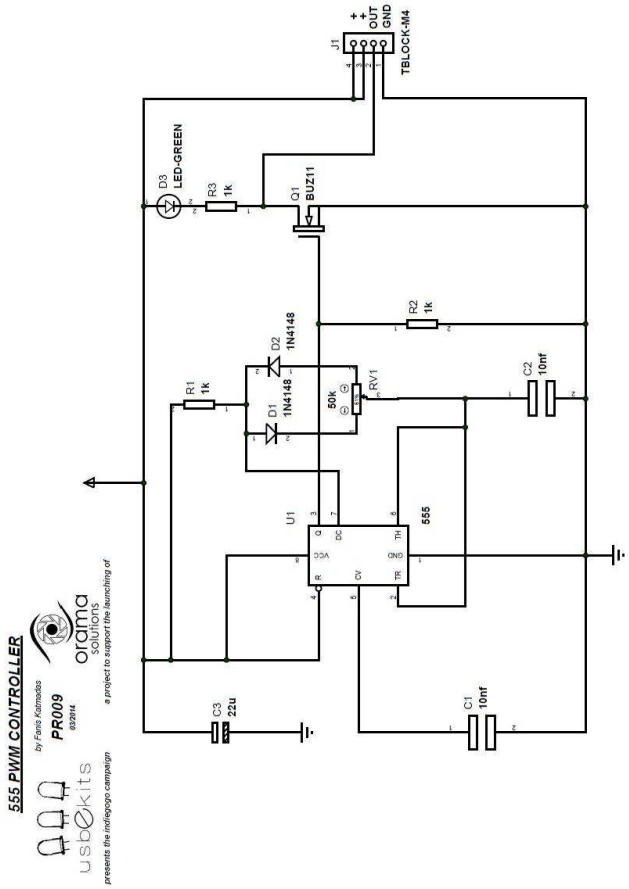
Technical Features

Layers :2
PCB Thickness : 1.6mm
Dimensions : 50 mm x 24 mm (2 inch x 1 inch)
Mounting holes dist:17.8mm
Operating Voltage : 5-18 Vdc .
Operating current : 20 ma
Output sink current: 4 amps max
Rel.date:17/05/14

Functionality

This is a simple pwm controller based on the famous 555 timer chip.
It is necessary for dc devices that needs to be dimmed like high power leds , motors , fans e.t.c.
There isn't enough talk about this circuit.
With the potentiometer you can adjust the pulse length of the output.
With the capacitor c2 you can change the frequency of the output.
By default and with the C2 at 10nf the output is rated at few khz.
The bigger the capacitor the smaller the frequency.
The circuit can operates in a wide input voltage range beginning from 5 volts and up to 18 volts.
The output can sink current up to 4 amps.
If necessary attach a heat sink on the mosfet.
The output transition is from 5-95%.

Circuit schematic



Part list

Ref.	*Type*	*Value*
C1	Ceramic Capacitor	10nF
C2	Ceramic Capacitor	10nF
C3	electrolytic capacitor	22uf
D1	high speed diode	1n4148
D2	high speed diode	1n4148
D3	3mm difused led	Green
J1	Terminal Block	6 pin Dc input & sink outputs
Q1	n-channel mosfets	irfz44n
R1	Resistor 1/4 watt	1k
R2	Resistor 1/4 watt	1k
R3	Resistor 1/4 watt	1k
U1	timer chip	555
RV1	potentiometer	50k