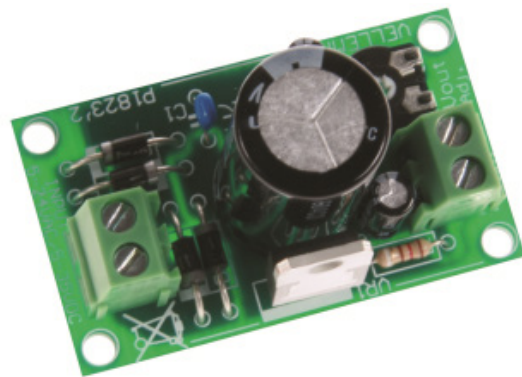


1 A POWER SUPPLY

K1823

The easy way to power your projects.



Specifications

- Great to power your projects and save money on batteries
- Suitable as an adjustable power supply for experiments
- Control DC motors, low voltage light bulbs, ...
- Short-circuit, thermal and overload protection
- Dimensions : 52x30mm (2.1" x 1.2")

Features

- Just add a suitable transformer (see table)
- Great to power your projects and save money on batteries
- Suitable as an adjustable power supply for experiments
- Control DC motors, low voltage light bulbs, ...

Specifications :

- Preset any voltage between 1.5 and 35V
- Very low ripple (80dB rejection)
- Short-circuit, thermal and overload protection
- Max input voltage : 28VAC or 40VDC
- Max dissipation : 15W (with heatsink)
- Dimensions : 52x30mm (2.1" x 1.2")

Choose the right transformer	
Max DC output voltage	Transformer rating
3..5V	9VAC / 15VA
5..8V	12VAC / 30VA
8..13V	15VAC / 30VA
13..15V	18VAC / 30VA
15..18V	22VAC / 30VA
18..22V	24VAC / 50VA
22..35V	28VAC / 50VA

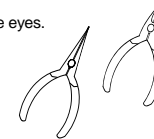


1. Assembly (Skipping this can lead to troubles !)

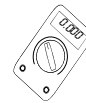
Ok, so we have your attention. These hints will help you to make this project successful. Read them carefully.

1.1 Make sure you have the right tools:

- A good quality soldering iron (25-40W) with a small tip.
- Wipe it often on a wet sponge or cloth, to keep it clean; then apply solder to the tip, to give it a wet look. This is called 'tinning' and will protect the tip, and enables you to make good connections. When solder rolls off the tip, it needs cleaning.
- Thin raisin-core solder. Do not use any flux or grease.
- A diagonal cutter to trim excess wires. To avoid injury when cutting excess leads, hold the lead so they cannot fly towards the eyes.
- Needle nose pliers, for bending leads, or to hold components in place.
- Small blade and Phillips screwdrivers. A basic range is fine.



 For some projects, a basic multi-meter is required, or might be handy



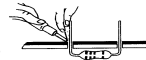
1.2 Assembly Hints :

- ⇒ Make sure the skill level matches your experience, to avoid disappointments.
- ⇒ Follow the instructions carefully. Read and understand the entire step before you perform each operation.
- ⇒ Perform the assembly in the correct order as stated in this manual
- ⇒ Position all parts on the PCB (Printed Circuit Board) as shown on the drawings.
- ⇒ Values on the circuit diagram are subject to changes, the values in this assembly guide are correct*
- ⇒ Use the check-boxes to mark your progress.
- ⇒ Please read the included information on safety and customer service

* Typographical inaccuracies excluded. Always look for possible last minute manual updates, indicated as 'NOTE' on a separate leaflet.

1.3 Soldering Hints :

1- Mount the component against the PCB surface and carefully solder the leads

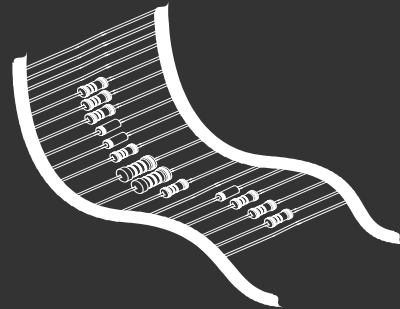


2- Make sure the solder joints are cone-shaped and shiny



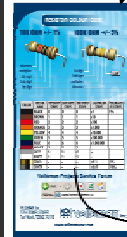
3- Trim excess leads as close as possible to the solder joint



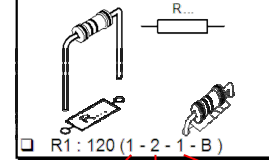


REMOVE THEM FROM THE TAPE ONE AT A TIME !

Included in this kit



2. RESISTOR

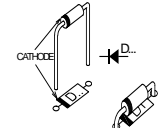


COLOUR	COLOUR NAME	1ST DIGIT STRIPE	2ND DIGIT STRIPE	3RD DIGIT STRIPE	MULTIPLIER STRIPE	TOLERANCE
Black	BLACK	0	0	0	x1	1%
Brown	BROWN	1	1	1	x10	
Red	RED	2	2	2	x100	
Orange	ORANGE	3	3	3	x1.000	
Yellow	YELLOW	4	4	4	x10.000	
Green	GREEN	5	5	5	x100.000	
Blue	BLUE	6	6	6	x1.000.000	

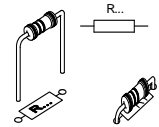
**DO NOT BLINDLY FOLLOW THE ORDER OF THE COMPONENTS ONTO THE TAPE.
ALWAYS CHECK THEIR VALUE ON THE PARTS LIST!**

1. Diodes. Watch the polarity !

- D1 : 1N4007
- D2 : 1N4007
- D3 : 1N4007
- D4 : 1N4007

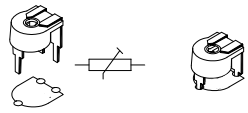


2. Resistor



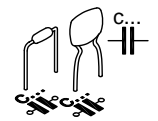
- R1 : 120 (1 - 2 - 1 - B)

3. Trim potentiometer



- RV1 : 4K7

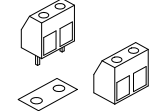
4. Capacitors.



- C1 : 0,1µF, 100nF (104)

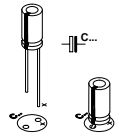
5. Terminal blocks

- SK1
- SK2



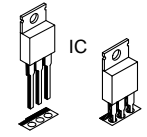
6. Electrolytic Capacitor. Watch the polarity !

- C2 : 1µF
- C3 : 10µF



7. Voltage regulator

- VR1 : LM317

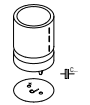


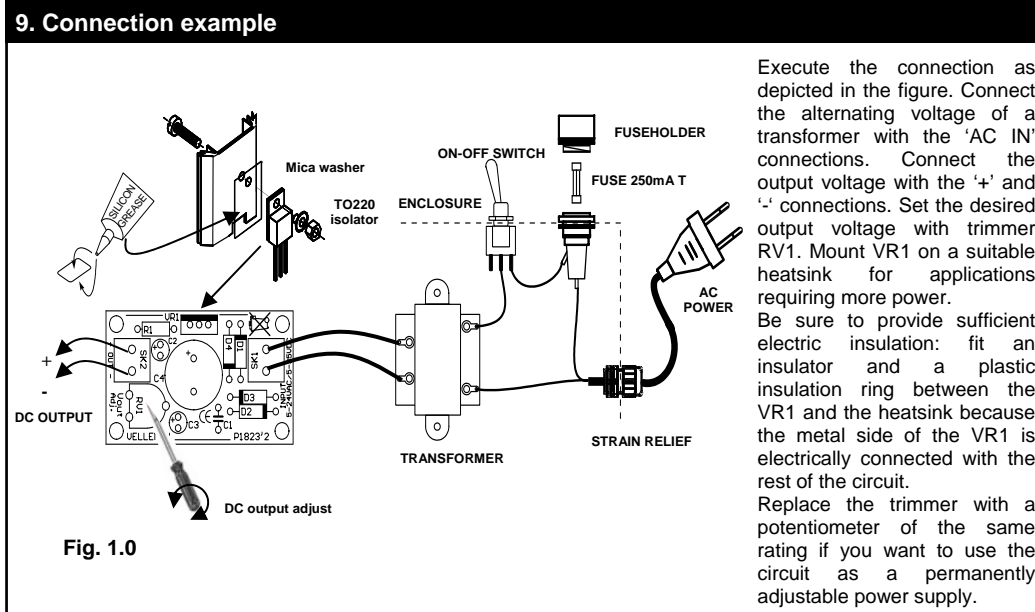
IC

It has not to be cooled if used for small powers.

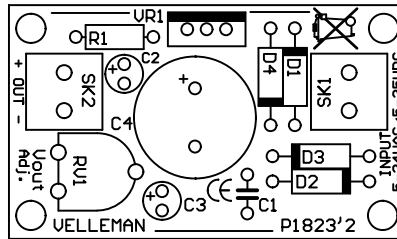
8. Electrolytic Capacitor. Watch the polarity !

- C4 : 2200µF

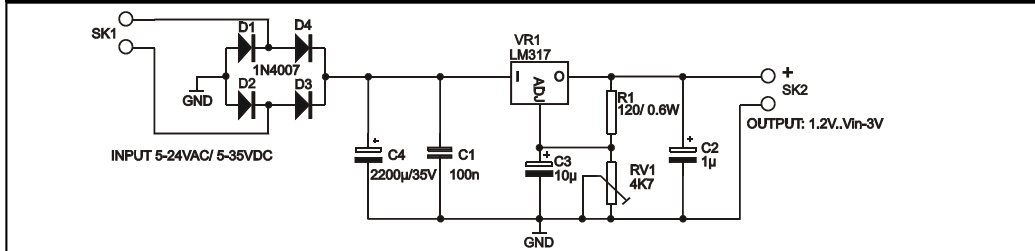


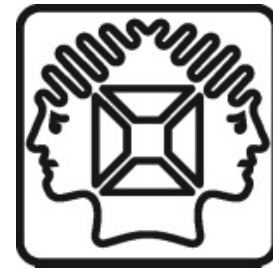


10. PCB layout.



11. Diagram





VELLEMAN NV
Legen Heirweg 33, B-9890 GAVERE
Belgium (Europe)

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