

Projet 1 - 12V15V5V / Alimentations +15V / +5V / -15V à partir d'une batterie 12V

Projet : IUT4
Info : [DIV491]
Révision : 1 du 14 mai 2006

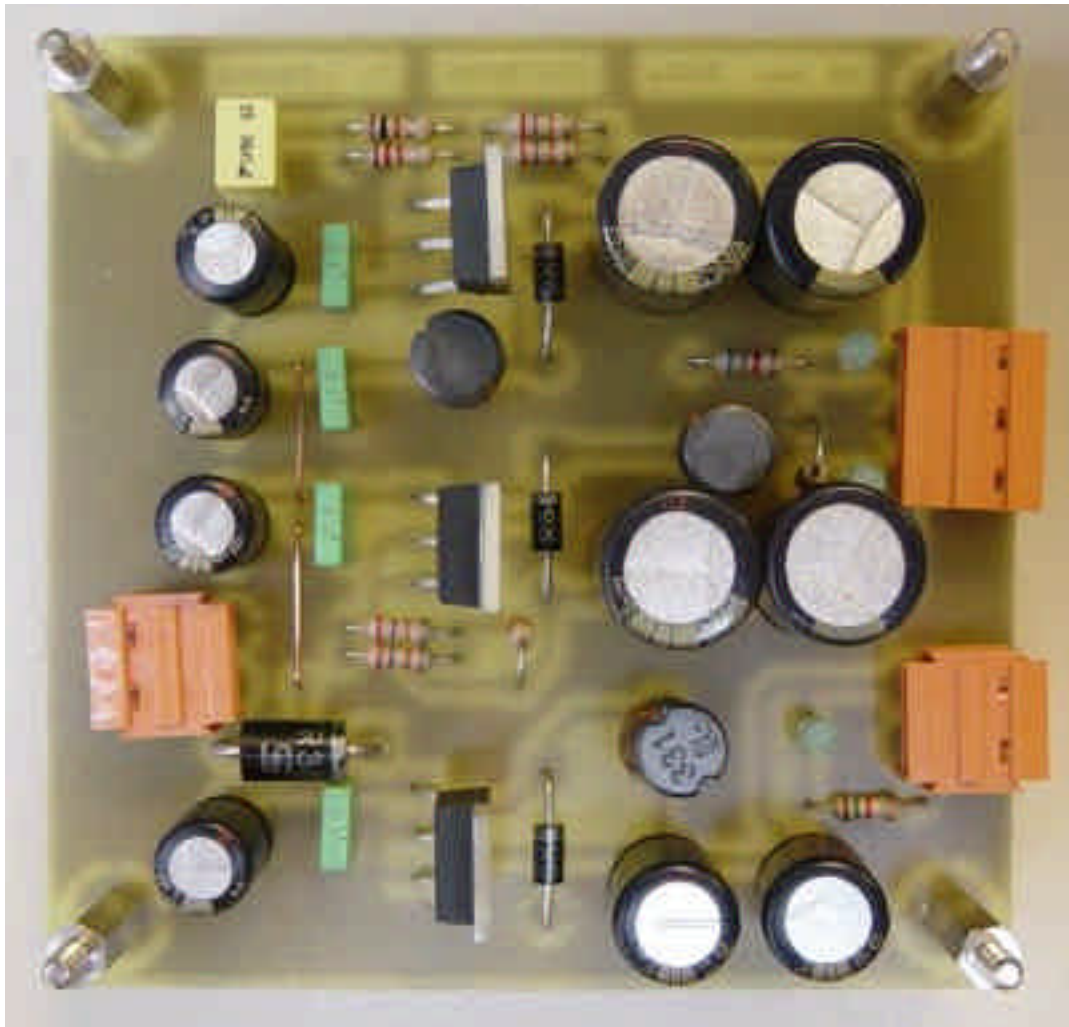


Fig. 1.1. Maquette (images-maquettes\12v15v5v-12.jpg).

1.1 Liste des documents

- Prix du montage.
- Schéma électronique.
- Circuit imprimé coté cuivre.
- Circuit imprimé coté composants.
- Implantation des composants.
- Documentations.

1.2 Désignation des composants

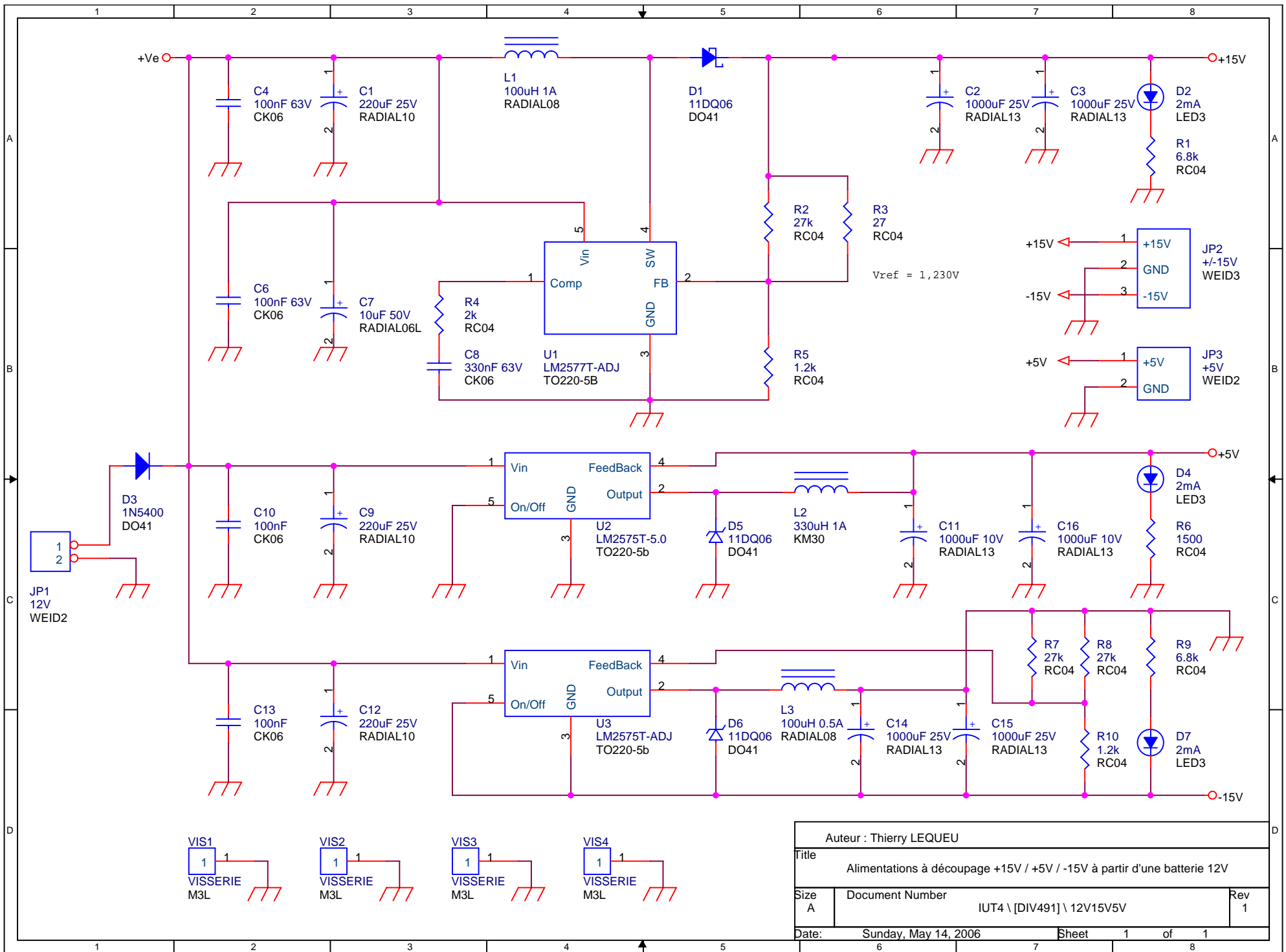
Tableau 1.1. Liste de composants (projets-iut4.xls / 12V15V5V).

N°	Quantité	Référence	Désignation	Empreinte
1	3	C1,C9,C12	220uF 25V	RADIAL10
2	4	C2,C3,C14,C15	1000uF 25V	RADIAL13
3	2	C4,C6	100nF 63V	CK06
4	1	C7	10uF 50V	RADIAL06L
5	1	C8	330nF 63V	CK06
6	2	C10,C13	100nF	CK06
7	2	C11,C16	1000uF 10V	RADIAL13
8	3	D1,D5,D6	11DQ06	DO41
9	3	D2,D4,D7	2mA	LED3
10	1	D3	1N5400	DO41
11	1	JP1	12V	WEID2
12	1	JP2	+/-15V	WEID3
13	1	JP3	+5V	WEID2
14	1	L1	100uH 1A	RADIAL08
15	1	L2	330uH 1A	KM30
16	1	L3	100uH 0.5A	RADIAL08
17	2	R9,R1	6.8k	RC04
18	3	R2,R7,R8	27k	RC04
19	1	R3	27	RC04
20	1	R4	2k	RC04
21	2	R5,R10	1.2k	RC04
22	1	R6	1500	RC04
23	1	U1	LM2577T-ADJ	TO220-5B
24	1	U2	LM2575T-5.0	TO220-5b
25	1	U3	LM2575T-ADJ	TO220-5b
26	4	VIS1,VIS2,VIS3,VIS4	VISSERIE	M3L

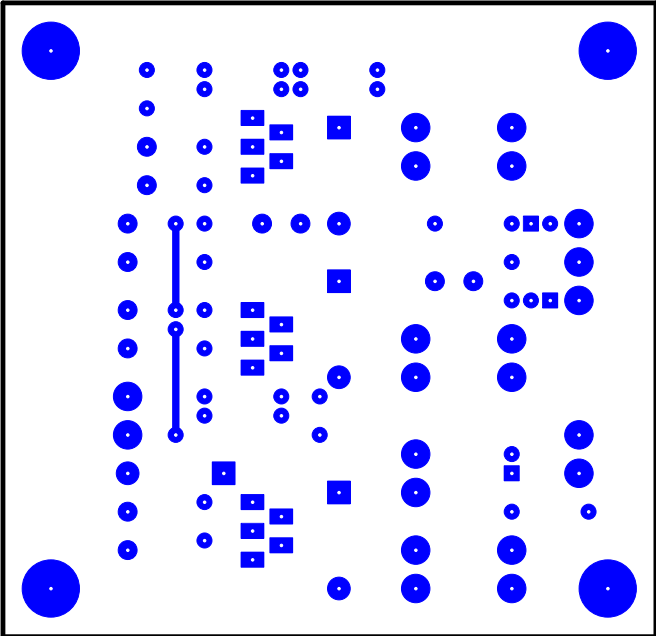
1.3 Allure des principaux composants

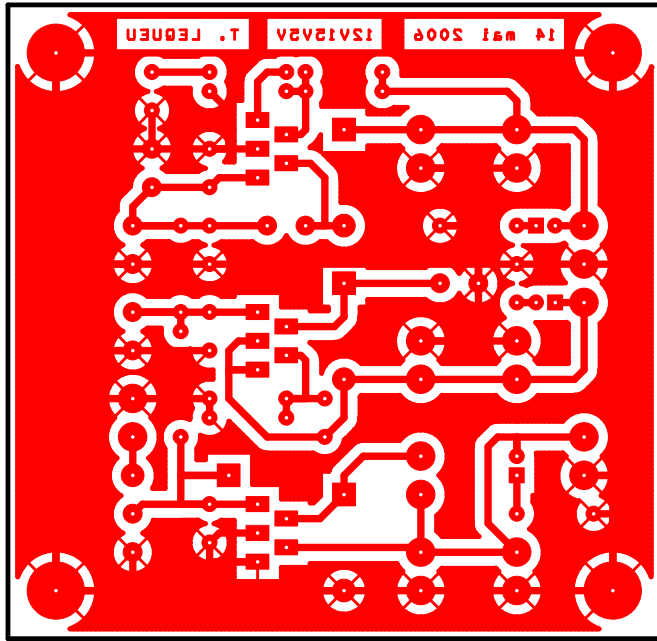


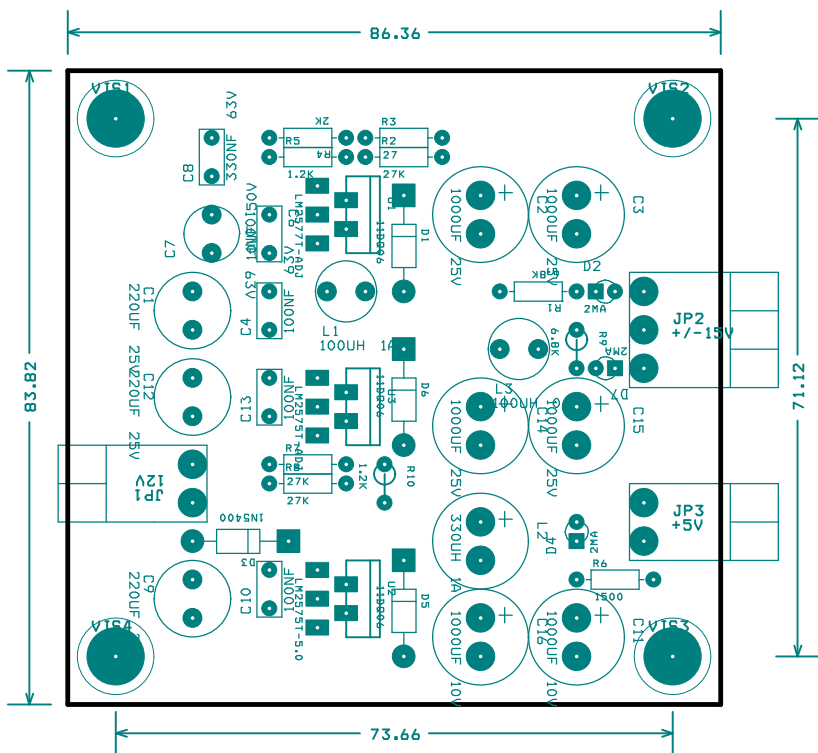
Fig. 1.2. Bornier CANDEM 3 points (images-composants\bornier1.jpg).

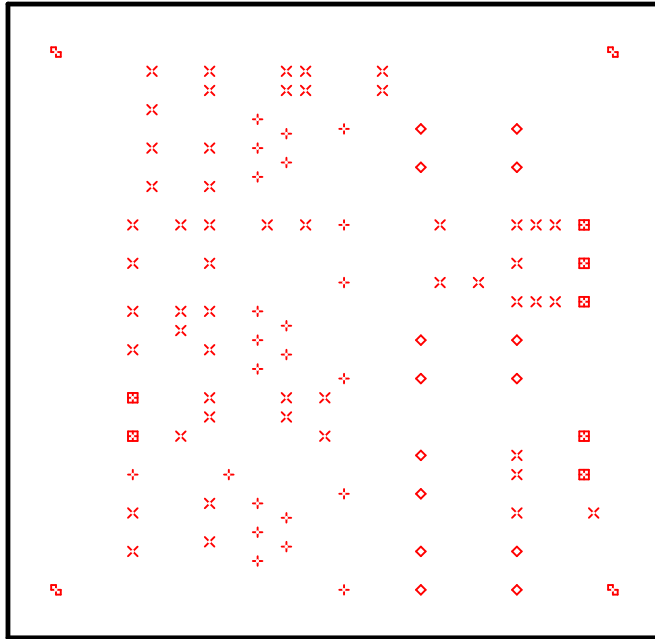


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Title Alimentations à découpage +15V / +5V / -15V à partir d'une batterie 12V		
Size A	Document Number IUT4 \ [DIV491] \ 12V15V5V	Rev 1
Date: Sunday, May 14, 2006	Sheet 1	of 1









DRILL CHART				
SYM	DIAM	TOL	QTY	NOTE
x	0.787 mm		52	
+	0.991 mm		23	
◇	1.194 mm		14	
⊞	1.499 mm		7	
⊞	3.200 mm		4	
TOTAL			100	

LM1577/LM2577 Series SIMPLE SWITCHER® Step-Up Voltage Regulator

General Description

The LM1577/LM2577 are monolithic integrated circuits that provide all of the power and control functions for step-up (boost), flyback, and forward converter switching regulators. The device is available in three different output voltage versions: 12V, 15V, and adjustable.

Requiring a minimum number of external components, these regulators are cost effective, and simple to use. Listed in this data sheet are a family of standard inductors and flyback transformers designed to work with these switching regulators.

Included on the chip is a 3.0A NPN switch and its associated protection circuitry, consisting of current and thermal limiting, and undervoltage lockout. Other features include a 52 kHz fixed-frequency oscillator that requires no external components, a soft start mode to reduce in-rush current during start-up, and current mode control for improved rejection of input voltage and output load transients.

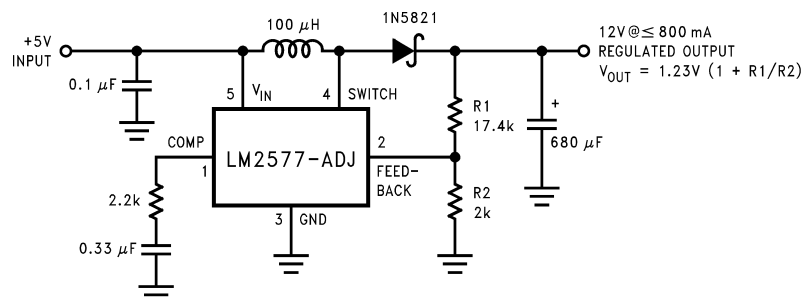
Features

- Requires few external components
- NPN output switches 3.0A, can stand off 65V
- Wide input voltage range: 3.5V to 40V
- Current-mode operation for improved transient response, line regulation, and current limit
- 52 kHz internal oscillator
- Soft-start function reduces in-rush current during start-up
- Output switch protected by current limit, under-voltage lockout, and thermal shutdown

Typical Applications

- Simple boost regulator
- Flyback and forward regulators
- Multiple-output regulator

Typical Application



DS011468-1

Note: Pin numbers shown are for TO-220 (T) package.

Ordering Information

Temperature Range	Package Type	Output Voltage			NSC Package Drawing	Package
		12V	15V	ADJ		
-40°C ≤ T _A ≤ +125°C	24-Pin Surface Mount	LM2577M-12	LM2577M-15	LM2577M-ADJ	M24B	SO
	16-Pin Molded DIP	LM2577N-12	LM2577N-15	LM2577N-ADJ	N16A	N
	5-Lead Surface Mount	LM2577S-12	LM2577S-15	LM2577S-ADJ	TS5B	TO-263
	5-Straight Leads	LM2577T-12	LM2577T-15	LM2577T-ADJ	T05A	TO-220
	5-Bent Staggered Leads	LM2577T-12 Flow LB03	LM2577T-15 Flow LB03	LM2577T-ADJ Flow LB03	T05D	TO-220
-55°C ≤ T _A ≤ +150°C	4-Pin TO-3	LM1577K-12/883	LM1577K-15/883	LM1577K-ADJ/883	K04A	TO-3

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