



Figure 3.12. Vue de carte électronique (images-maquettes\alim2575-22.jpg).



Figure 3.13. Vue de carte électronique (images-maquettes\lm2575b-2.jpg).

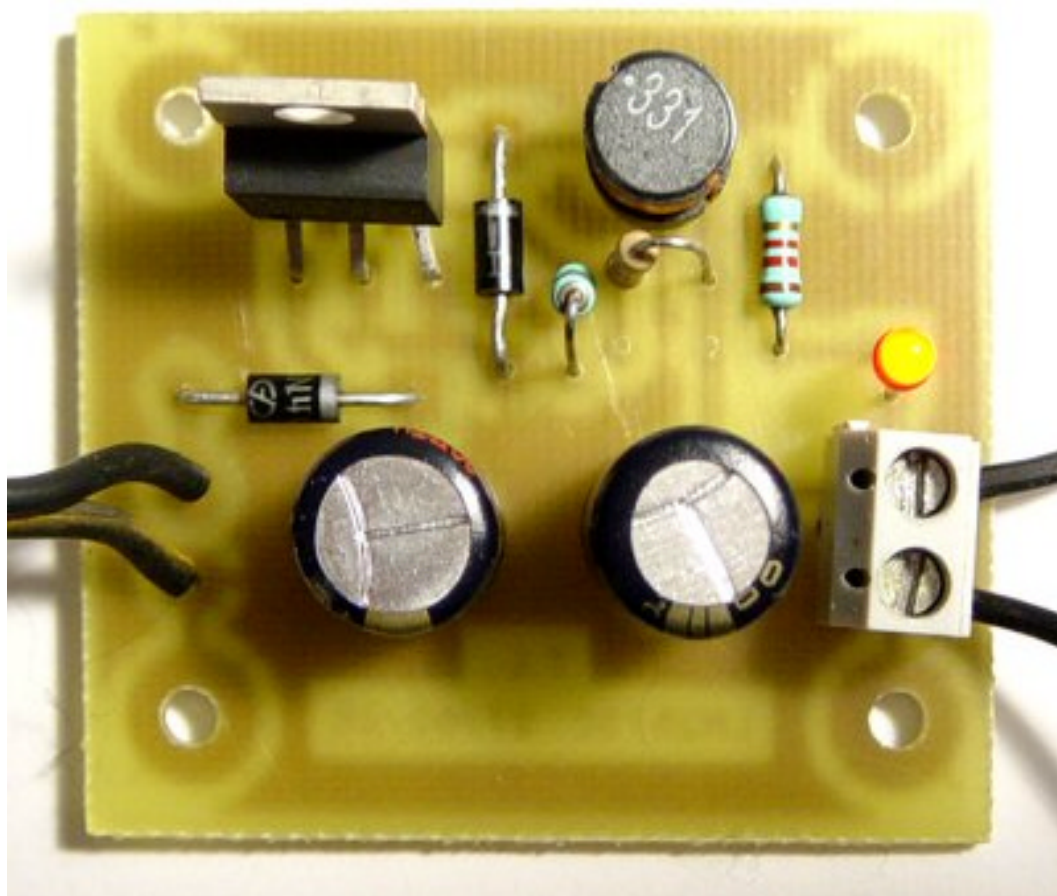


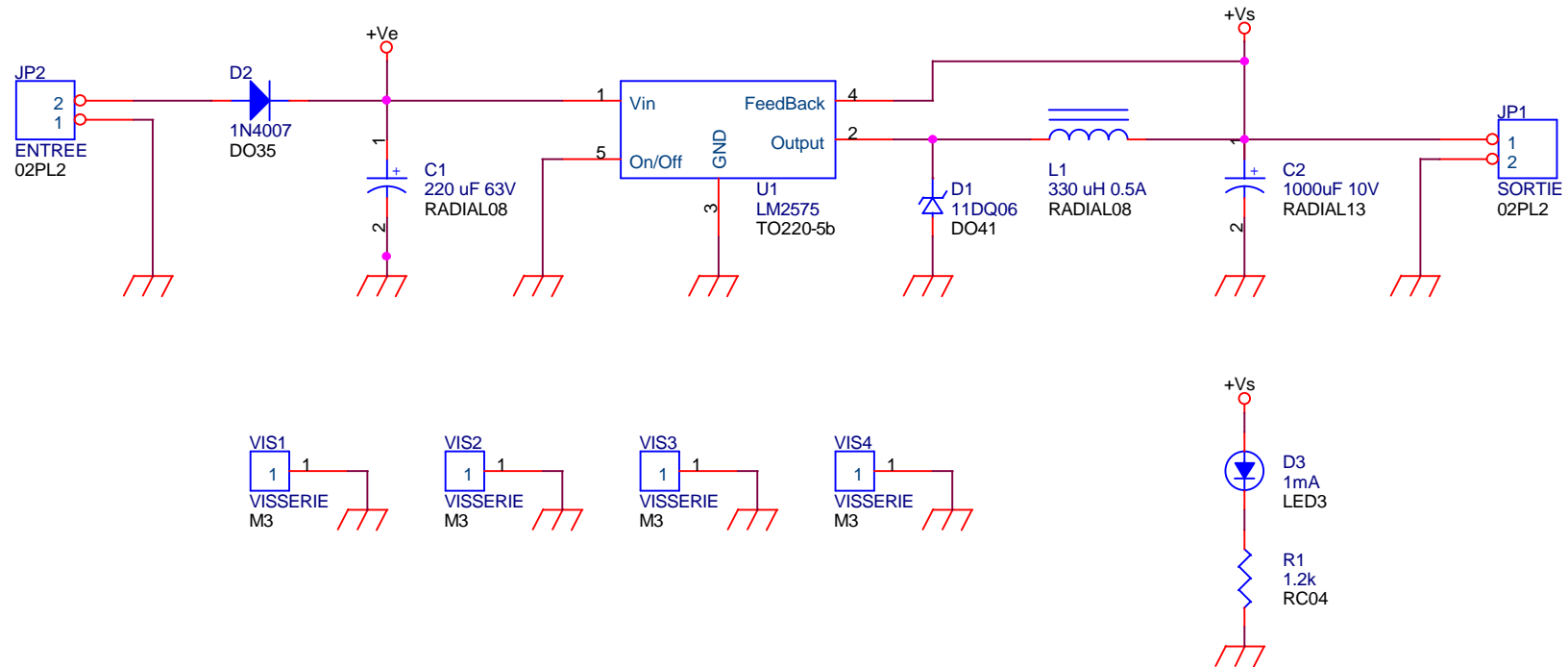
Figure 3.14. Vue de carte électronique version ajustable images-maquettes\lm2575c-12.jpg).

**Alimentation à découpage + V****Revised: Saturday, November 09, 2002****IUT2 \ [DIV372] \ ALIM2575      Revision: 1**

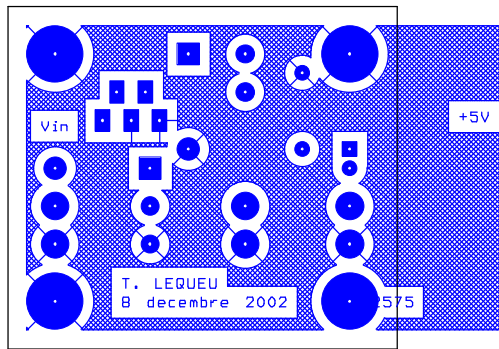
Référence	Qu.	Désignation	Fournisseur	Code Cde.	U.d.V.	Prix U.	Prix T.
C1	1	μF V FC	Radiospares	315-0962	5	, €	, €
C3,C2	2	μF V FC	Radiospares	315-0344	5	, €	, €
D1	1	11DQ04	Radiospares	395-6350	10	, €	, €
JP1, JP2	2	Borniers 2 plot	Radiospares	131-8920	10	, €	, €
L1	1	300 uH 2A	Radiospares	308-8772	1	, €	, €
U1	1	LM2575	Radiospares	246-7382	1	, €	, €
VIS1,VIS2, VIS3,VIS4	4	Visserie M3	IUT GEII		1	, €	, €
Divers	32	Circuit imprimé SF x mm	Radiospares	159-6091	600	, €	, €
Divers					1		, €

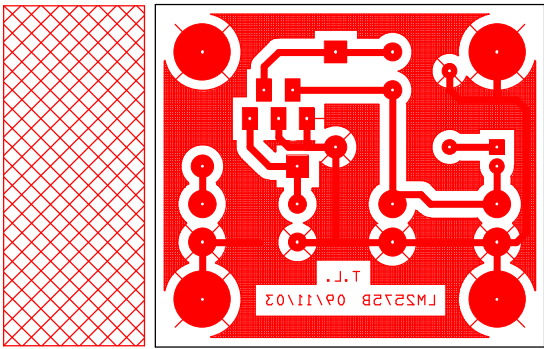
TOTAL H.T. :	, €
dont TVA : 19,60%	, €
<b>TOTAL T.T.C. :</b>	, €

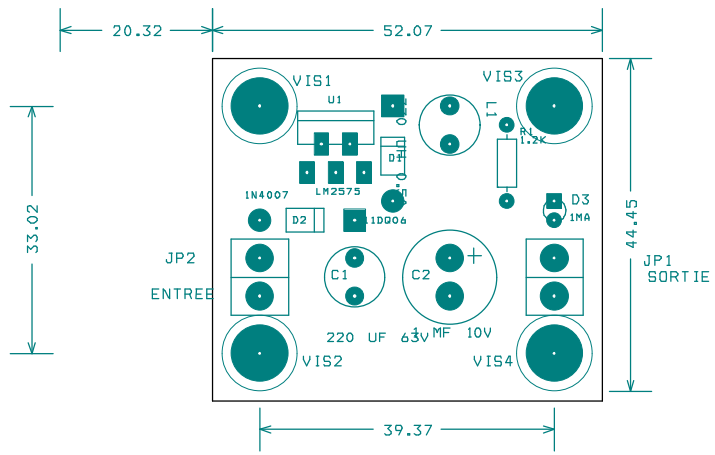
"Remplacez vos régulateurs 3 pattes"  
 Pages 34, revue N° 269, Electronique Pratique, octobre 2002.  
 REVUE358.htm

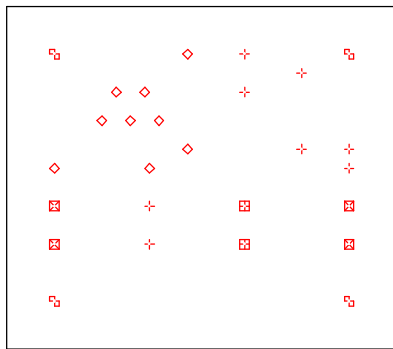


Auteur : Thierry LEQUEU		
Title Alimentation à découpage +5V		
Size A	Document Number IUT2 \ [DIV372] \ ALIM2575 \ LM2575B	Rev 3
Date: Tuesday, July 06, 2004	Sheet 1	of 1









DRILL CHART				
SYM	DIAM	TOL	QTY	NOTE
+	0.787 mm		8	
◇	0.991 mm		9	
⊠	1.000 mm		4	
⊞	1.194 mm		2	
⊞	3.200 mm		4	
TOTAL			27	



# LM1575/LM2575/LM2575HV SIMPLE SWITCHER® 1A Step-Down Voltage Regulator

## General Description

The LM2575 series of regulators are monolithic integrated circuits that provide all the active functions for a step-down (buck) switching regulator, capable of driving a 1A load with excellent line and load regulation. These devices are available in fixed output voltages of 3.3V, 5V, 12V, 15V, and an adjustable output version.

Requiring a minimum number of external components, these regulators are simple to use and include internal frequency compensation and a fixed-frequency oscillator.

The LM2575 series offers a high-efficiency replacement for popular three-terminal linear regulators. It substantially reduces the size of the heat sink, and in many cases no heat sink is required.

A standard series of inductors optimized for use with the LM2575 are available from several different manufacturers. This feature greatly simplifies the design of switch-mode power supplies.

Other features include a guaranteed  $\pm 4\%$  tolerance on output voltage within specified input voltages and output load conditions, and  $\pm 10\%$  on the oscillator frequency. External shutdown is included, featuring 50  $\mu\text{A}$  (typical) standby current. The output switch includes cycle-by-cycle current limiting, as well as thermal shutdown for full protection under fault conditions.

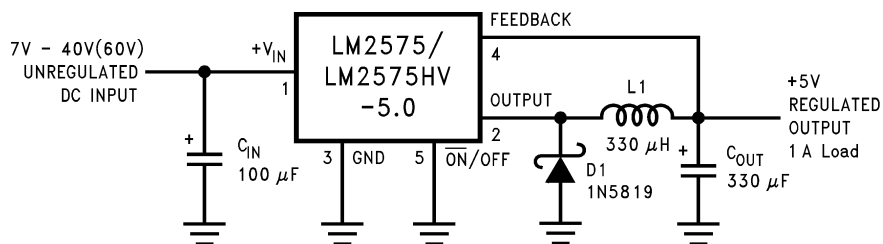
## Features

- 3.3V, 5V, 12V, 15V, and adjustable output versions
- Adjustable version output voltage range, 1.23V to 37V (57V for HV version)  $\pm 4\%$  max over line and load conditions
- Guaranteed 1A output current
- Wide input voltage range, 40V up to 60V for HV version
- Requires only 4 external components
- 52 kHz fixed frequency internal oscillator
- TTL shutdown capability, low power standby mode
- High efficiency
- Uses readily available standard inductors
- Thermal shutdown and current limit protection
- P+ Product Enhancement tested

## Applications

- Simple high-efficiency step-down (buck) regulator
- Efficient pre-regulator for linear regulators
- On-card switching regulators
- Positive to negative converter (Buck-Boost)

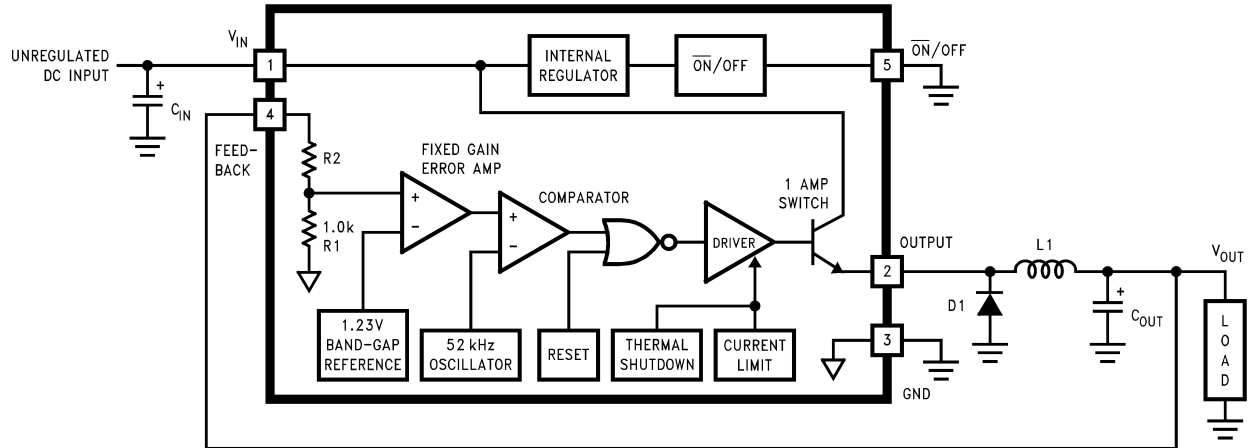
## Typical Application (Fixed Output Voltage Versions)



**Note:** Pin numbers are for the TO-220 package.

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## Block Diagram and Typical Application



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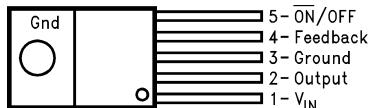
3.3V, R2 = 1.7k  
 5V, R2 = 3.1k  
 12V, R2 = 8.84k  
 15V, R2 = 11.3k  
 For ADJ. Version  
 R1 = Open, R2 = 0Ω

**Note:** Pin numbers are for the TO-220 package.

FIGURE 1.

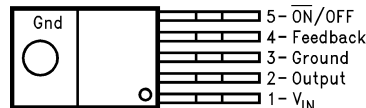
## Connection Diagrams (XX indicates output voltage option. See Ordering Information table for complete part number.)

### Straight Leads 5-Lead TO-22 (T)



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### Bent, Staggered Leads 5-Lead TO-220 (T)



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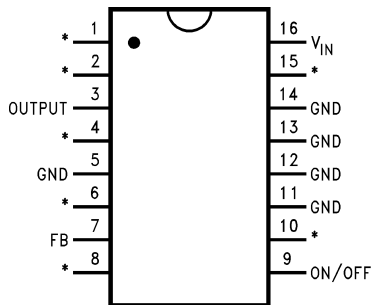


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**Top View**  
 LM2575T-XX or LM2575HVT-XX  
 See NS Package Number T05A

**Side View**  
 LM2575T-XX Flow LB03 or  
 LM2575HVT-XX Flow LB03  
 See NS Package Number T05D

### 16-Lead DIP (N or J)

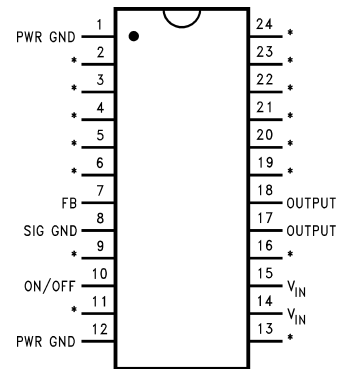


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**Top View**  
 LM2575N-XX or LM2575HVN-XX  
 See NS Package Number N16A  
 LM1575J-XX-QML  
 See NS Package Number J16A

\*No Internal Connection

### 24-Lead Surface Mount (M)

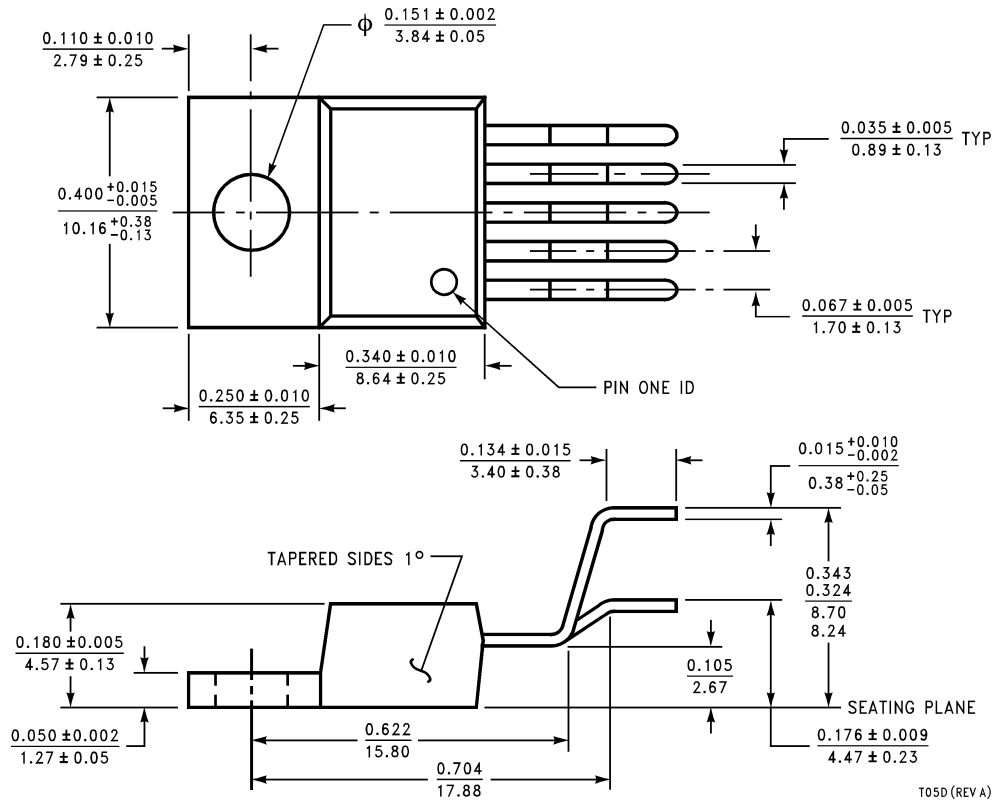


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**Top View**  
 LM2575M-XX or LM2575HVM-XX  
 See NS Package Number M24B

\*No Internal Connection

**Physical Dimensions** inches (millimeters) unless otherwise noted (Continued)




**Bent, Staggered 5-Lead TO-220 (T)**  
**Order Number LM2575T-3.3 Flow LB03, LM2575HVT-3.3 Flow LB03,**  
**LM2575T-5.0 Flow LB03, LM2575HVT-5.0 Flow LB03,**  
**LM2575T-12 Flow LB03, LM2575HVT-12 Flow LB03,**  
**LM2575T-15 Flow LB03, LM2575HVT-15 Flow LB03,**  
**LM2575T-ADJ Flow LB03 or LM2575HVT-ADJ Flow LB03**  
**NS Package Number T05D**

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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