

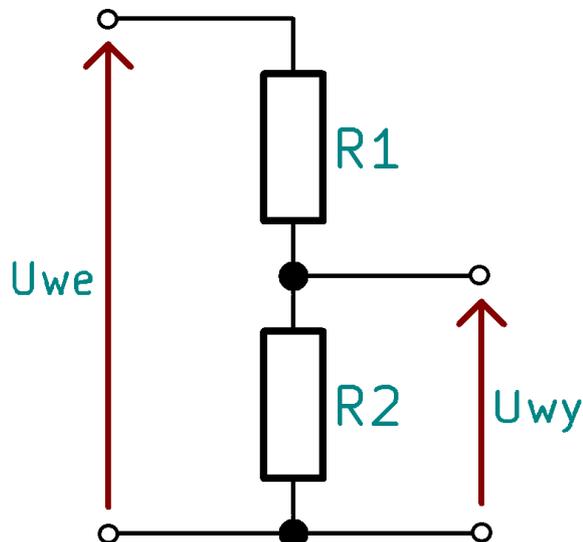


# Kursy Elektroniki

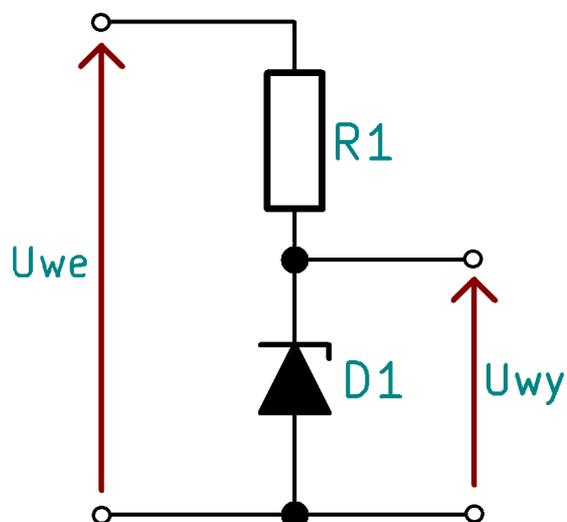
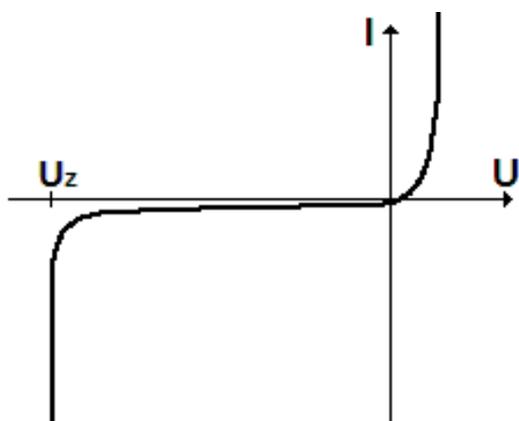
## zajęcia piąte

Dzielnik napięcia:

$$U_{wy} = \frac{R_2}{R_1 + R_2} U_{we}$$

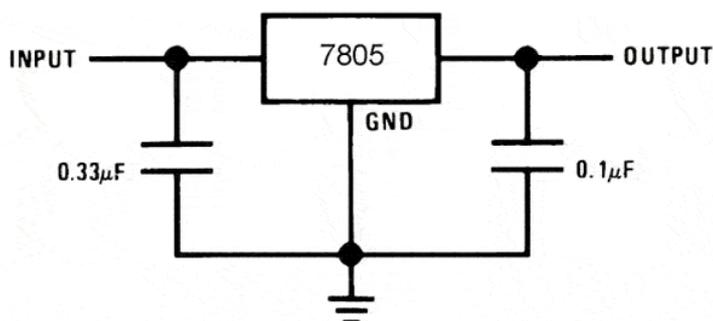
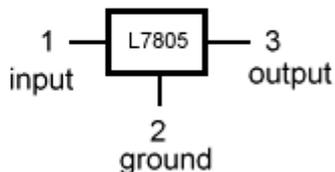
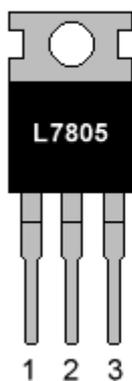


Dioda Zenera:

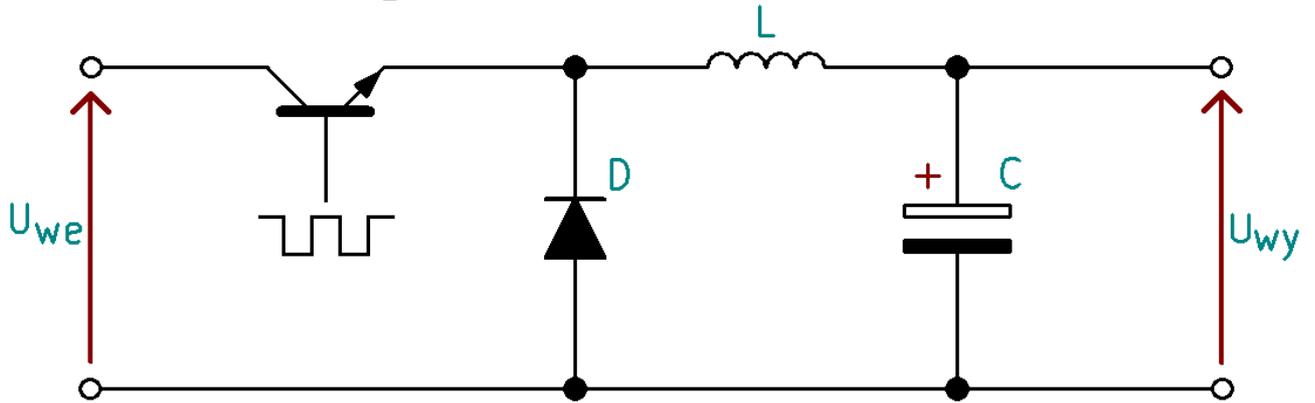


Stabilizator napięcia L78xx:

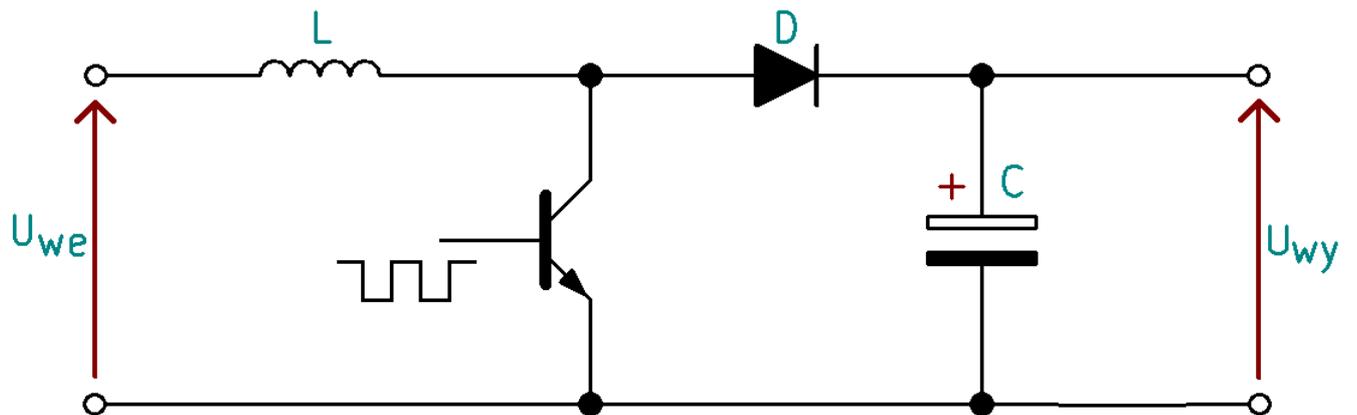
L7805 PINOUT DIAGRAM



Przetwornica step-down (buck):

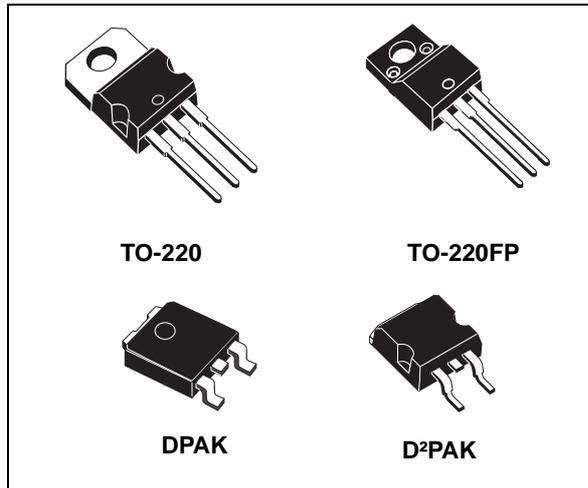


Przetwornica step-up (boost):



## Positive voltage regulator ICs

Datasheet - production data



### Description

The L78 series of three-terminal positive regulators is available in TO-220, TO-220FP, D<sup>2</sup>PAK and DPAK packages and several fixed output voltages, making it useful in a wide range of applications.

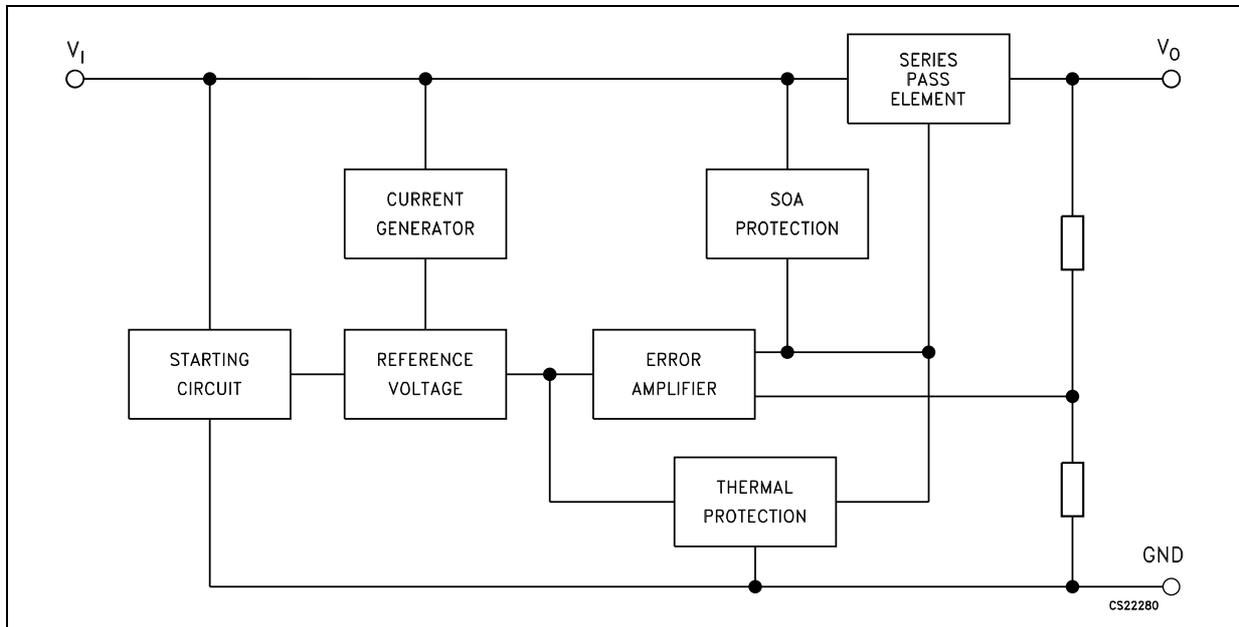
These regulators can provide local on-card regulation, eliminating the distribution problems associated with single point regulation. Each type embeds internal current limiting, thermal shutdown and safe area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1 A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltage and currents.

### Features

- Output current up to 1.5 A
- Output voltages of 5; 6; 8; 8.5; 9; 12; 15; 18; 24 V
- Thermal overload protection
- Short circuit protection
- Output transition SOA protection
- 2 % output voltage tolerance (A version)
- Guaranteed in extended temperature range (A version)

# 1 Diagram

Figure 1. Block diagram



## 2 Pin configuration

Figure 2. Pin connections (top view)

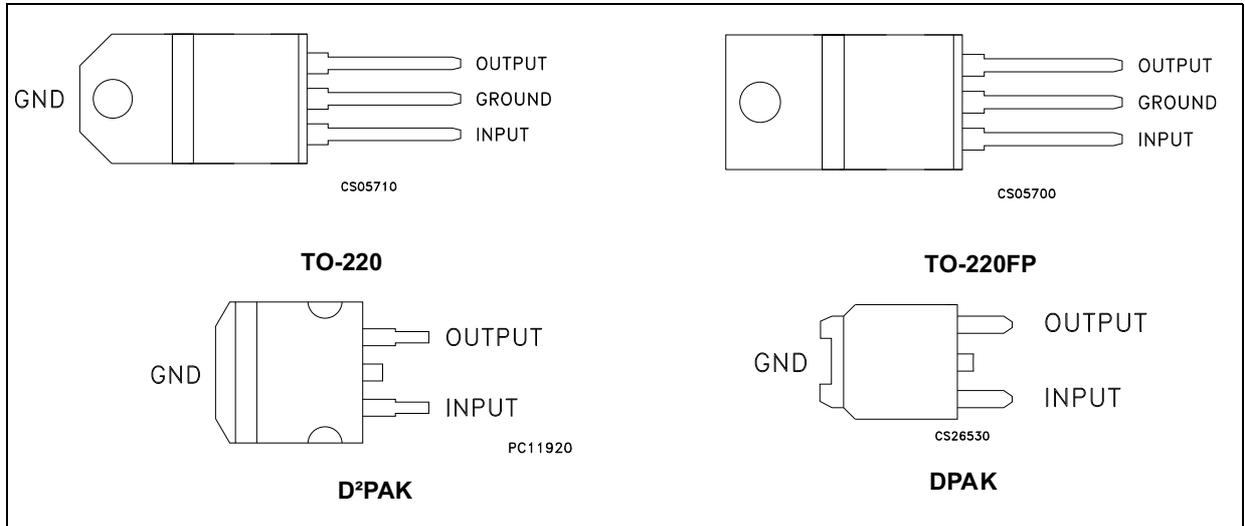
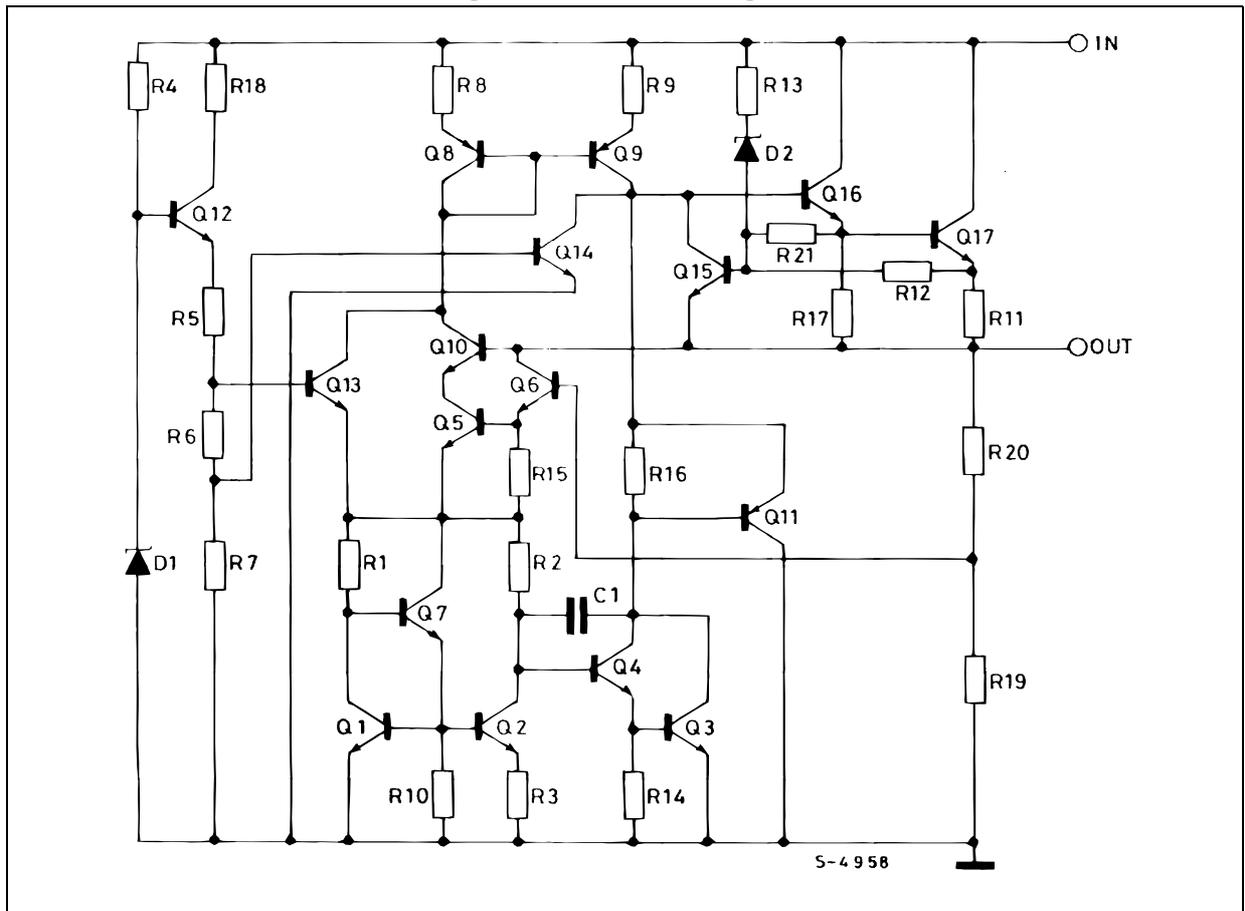


Figure 3. Schematic diagram



### 3 Maximum ratings

Table 1. Absolute maximum ratings

Symbol	Parameter		Value	Unit
V <sub>I</sub>	DC input voltage	for V <sub>O</sub> = 5 to 18 V	35	V
		for V <sub>O</sub> = 20, 24 V	40	
I <sub>O</sub>	Output current		Internally limited	
P <sub>D</sub>	Power dissipation		Internally limited	
T <sub>STG</sub>	Storage temperature range		-65 to 150	°C
T <sub>OP</sub>	Operating junction temperature range	for L78xxC, L78xxAC	0 to 125	°C
		for L78xxAB	-40 to 125	

Note: Absolute maximum ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.

Table 2. Thermal data

Symbol	Parameter	D <sup>2</sup> PAK	DPAK	TO-220	TO-220FP	Unit
R <sub>thJC</sub>	Thermal resistance junction-case	3	8	5	5	°C/W
R <sub>thJA</sub>	Thermal resistance junction-ambient	62.5	100	50	60	°C/W

Figure 4. Application circuits

