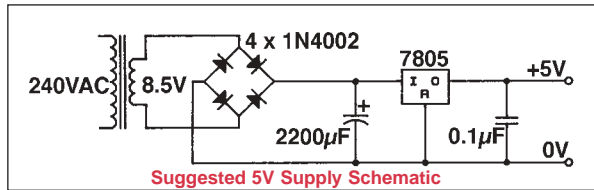


VOLTAGE REGULATOR CIRCUIT DATA

Regulators provide a power source which remains very close to a fixed value, independent of the load placed on it, provided that the current drawn doesn't exceed the rating of the device. Note: The minimum and maximum output voltage specifications for fixed voltage regulators indicate the values which can be expected with variations in load on the device. The same specifications for adjustable regulators indicate the range of voltage output which can be achieved through external componentry.

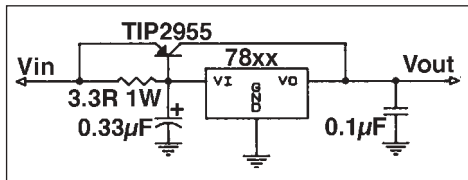
Basic 1A regulated circuit with fixed regulator

The 78xx series of voltage regulators require the input pin to be at least 2.5 volts above the output voltage. When a bridge rectifier is used, the DC voltage before the regulator is going to be 1.414 x the AC secondary voltage of the transformer. For good regulation ensure that there is at least 3 volts on the input pin over and above the output voltage of the regulator. Note the maximum input voltage to the regulator should not exceed 35V.



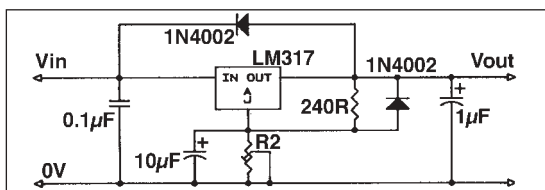
Boosting current output of voltage regulator

When more than one amp of current is required there are a number of options available. One way is to put in a more expensive higher current regulator and the other is to boost the one amp device with a bypass transistor. The following circuit shows the necessary configuration to boost the output to 4A.



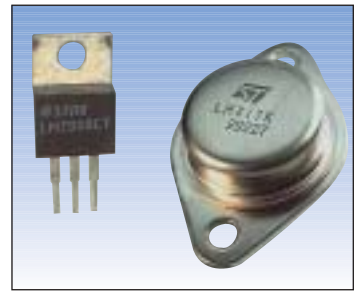
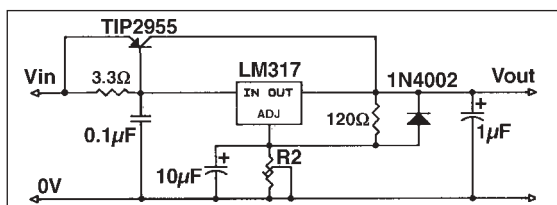
Basic voltage regulator using LM317T or LM350T

When a variable power supply is required, this circuit is an ideal solution. The diodes are not essential but are recommended to give short circuit protection. The maximum input voltage to the regulator should not exceed 40V.



Current boosted regulator using LM317T or LM350T

This circuit provides a high current capacity variable power supply, delivering 1.2 to 37V at up to 4A. Note the addition of the bypass transistor. Once again the maximum input voltage to the regulator should not exceed 40V.



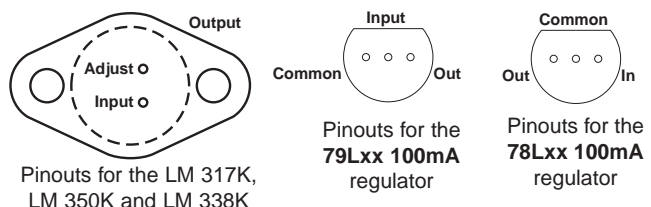
FIXED VOLTAGE REGULATORS

Device	Package	Polarity Type	Output Voltage		Max. Output Current
			Min	Nominal	
78L05	TO-92	positive	4.8	5.0	5.2 100mA
78L12	TO-92	positive	11.5	12.0	12.5 100mA
78L15	TO-92	positive	14.4	15.0	15.6 100mA
79L05	TO-92	negative	-4.8	-5.0	-5.2 100mA
79L12	TO-92	negative	-11.5	-12.0	-12.5 100mA
79L15	TO-92	negative	-14.4	-15.0	-15.6 100mA
7805T	TO-220	positive	4.8	5.0	5.2 1A
7806T	TO-220	positive	5.7	6.0	6.3 1A
7808T	TO-220	positive	7.7	8.0	8.3 1A
7809T	TO-220	positive	8.6	9.0	9.4 1A
7812T	TO-220	positive	11.5	12.0	12.5 1A
7815T	TO-220	positive	14.4	15.0	15.6 1A
7824T	TO-220	positive	23	24.0	25 1A
7905T	TO-220	negative	-4.8	-5.0	-5.2 1A
7906T	TO-220	negative	-5.7	-6.0	-6.3 1A
7908T	TO-220	negative	-7.7	-8.0	-8.3 1A
7912T	TO-220	negative	-11.5	-12.0	-12.5 1A
7915T	TO-220	negative	-14.4	-15.0	-15.6 1A
7924T	TO-220	negative	-23	-24.0	-25 1A
LM336Z	TO-92	positive	4.9	5.0	5.1 10mA

ADJUSTABLE REGULATORS

Device	Package	Polarity Type	Output Voltage		Max. Output Current
			Min	Nominal	
LM317T	TO-220	positive	2	-	30 1A
LM317K	TO-3	positive	2	-	30 3A
LM338K	TO-3	positive	1.2	-	32 5A
LM350K	TO-3	positive	1.2	-	32 3A
LM337K	TO-3	negative	-30	-	-2 3A
LM337T	TO-220	negative	-30	-	-2 1A
LM723CN	DIL dual selectable	±2	-	-	±37 150mA

REGULATOR PIN OUT DATA



Package	Tab	Pin 1	Pin 2	Pin 3
78xx	Common	Output	Common	Input
79xx	Input	Output	Input	Common
LM317T	Output	Input	Output	Adjust
LM350T	Output	Input	Output	Adjust
LM337	Input	Output	Input	Adjust