

# 3.3V 250mA Linear Voltage Regulator - L4931-3.3 TO-92

PRODUCT ID: 2166

**\$0.95**

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1

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## DESCRIPTION

## TECHNICAL DETAILS

## DESCRIPTION

Need a nice little 3.3V regulator? We rather like the very-low-dropout L4931 from ST! This little guy will help you get your 4-20V battery or wall adapter down to a nice clean 3.3V with 2% regulation. Perfect for just about all electronics! This is a TO-92 package version, with up to 250mA current capability, and has internal current limiting + thermal shut-down protection which makes it sturdy and pretty much indestructible - at least electronics-wise (we're pretty sure a hammer might work...)

This regulator has a very low 0.4V linear drop-out, way better than the 780X series' 2V. That means you must give it at least 3.7V to get a clean 3.3V out. This regulator is often used to get a clean 3.3V DC from a 5V power supply or Lithium polymer/ion battery. There is a constant 'quiescent' current draw of 1mA (which increases up to 5mA as you draw 250mA) so it's good for portable and battery-powered projects

This regulator can provide up to 250 mA peak as long as you do not overheat the package. The higher your input voltage and output current, the more heat it will generate. Without an extra heatsink, you can burn off up to 0.6W. [We like this calculator for determining your heat sink requirements](#) It's a TO-92 package, so use 200°C/Watt junction-to-air thermal resistance. The wattage of your set up is =  $(InputVoltage - 3.3V) * AverageCurrentInAmps$ . E.g. a 9V battery and 0.2 Amp of **average** output current means the regulator is burning off  $(9 - 3.3)*0.2 = 1.14$  Watts! That's way too much for the little package, it will overheat. Instead, reduce your average current to 0.1A (for 0.57W) or you could use a 5V power supply for  $(5-3.3)*0.2 = 0.34W$ , both of which would not require a heatsink.

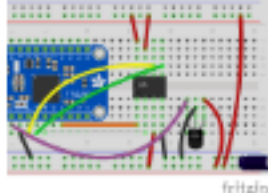
This regulator requires [at least 2 2uF electrolytic capacitors on both input and output for stability](#). [10uF will do the job nicely](#).

## TECHNICAL DETAILS

- [Datasheet](#)
- Dimensions: 21mm x 5mm x 5mm / 0.8" x 0.2" x 0.2"
- Pin Length: 16mm / 0.6"

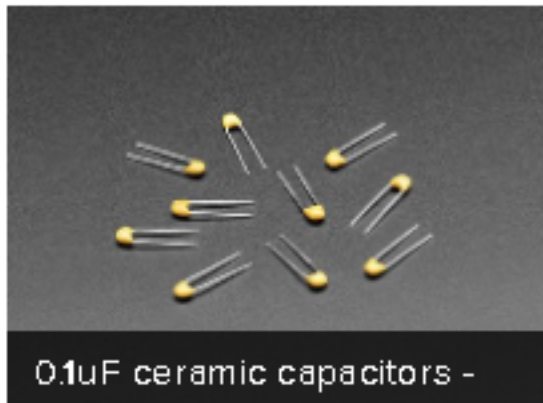


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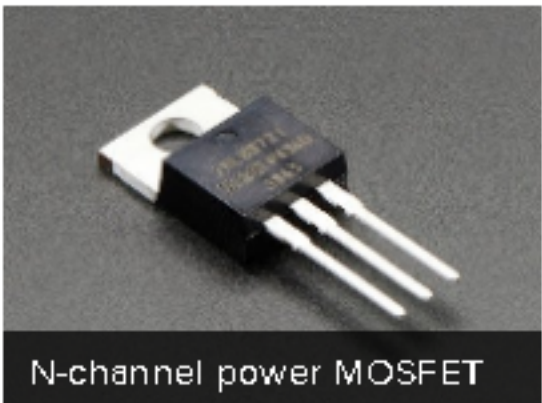
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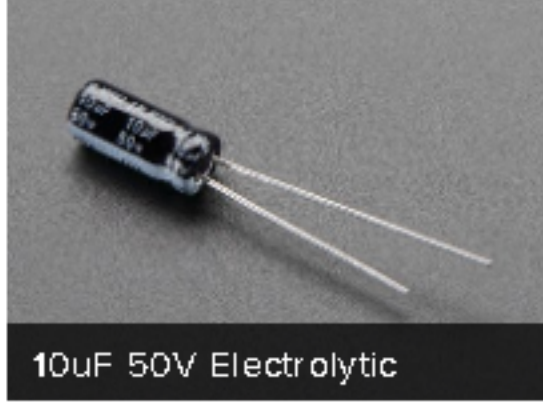
0.1uF ceramic capacitors -



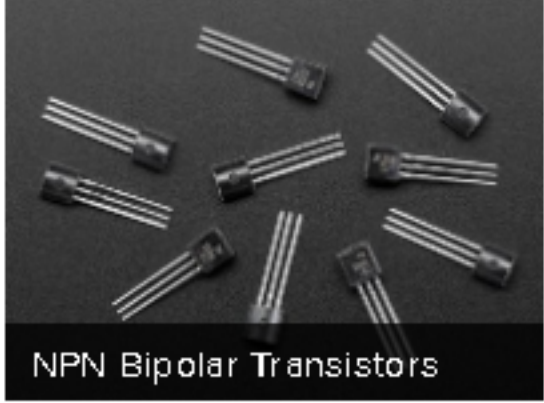
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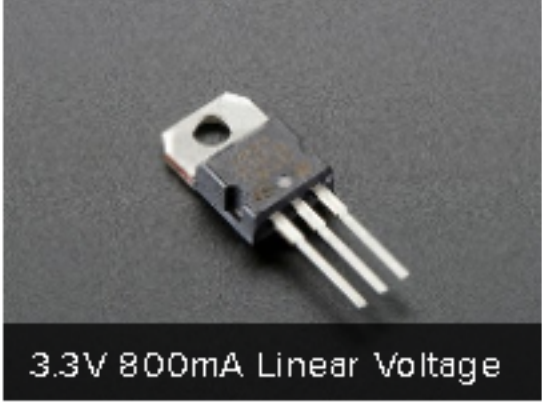
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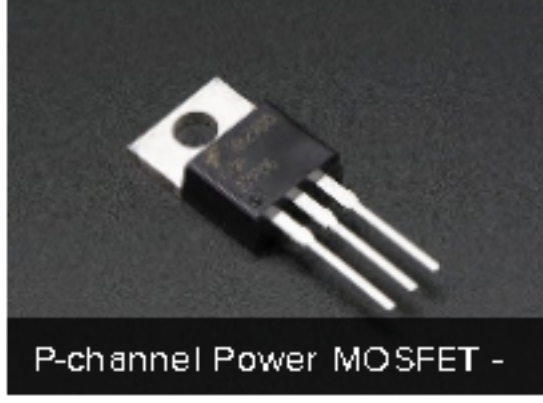
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NPN Bipolar Transistors



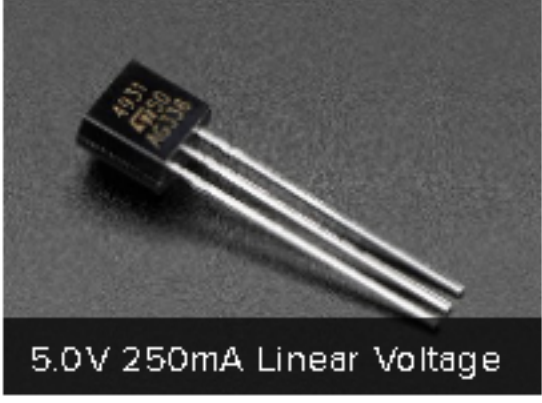
3.3V 800mA Linear Voltage



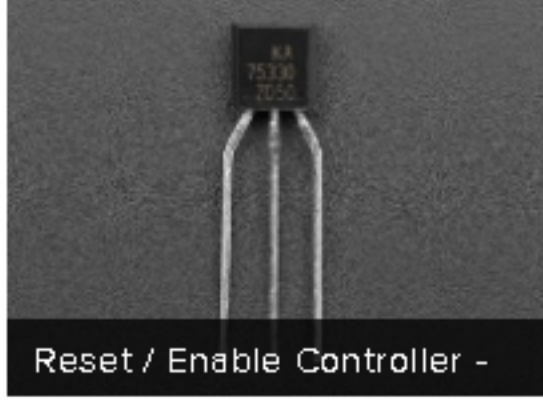
P-channel Power MOSFET -



5V 1.5A Linear Voltage



5.0V 250mA Linear Voltage



Reset / Enable Controller -

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