



SolarTech Power Solutions

**Mainly installed 12v to 220v
inverter**



Overview

The post is about 12V DC to 220V AC inverter circuit designed with few easily available components. Inverters are often needed at places where it is not possible to get AC supply from the Mains. An inverter circuit is used to convert the DC. The post is about 12V DC to 220V AC inverter circuit designed with few easily available components. Inverters are often needed at places where it is not possible to get AC supply from the Mains. An inverter circuit is used to convert the DC power to AC power. Inverter Circuit are very much helpful to produce high voltage using low voltage DC supply.

The following components are required for making this Inverter project. 1. IC CD4047 2. IRFZ44 Power MOSFET – 2 3. 12-0-12/1A Secondary Transformer 4. 22KΩ Variable Resistor 5. 100Ω/10W Resistors – 2 6. 0.22µF Capacitors 7. 12V Sealed Lead Acid Battery.

The Circuit Diagram shown above is the tested 12V DC to 220V AC Inverter Circuit. It uses 2 power IRFZ44 MOSFETs for driving the output power and the 4047 IC as an astable multivibrator operating at a frequency of around 50 Hz. The 10 and 11 pin outputs of the IC directly drive power MOSFETs that are used in push-pull configuration. Use suitable heat sinks.

The IC CD4047 is configured in astable multivibrator mode with the help of variable resistor RV1 and capacitor C1. By varying the value of RV1 we can get a different range of output pulse at Q and Q' pins of CD4047. Consequently, there is a variation in the output voltage at the transformer. The n-channel power MOSFETs IRFZ44 Drain pins are connected.

The circuit was simulated using Proteus. The simulation gave the desired result as shown in the screenshot below. You can also check this circuit: 12V to 24V Voltage Doubler Circuit

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