

Production of tl474 sine wave inverter





Overview

Can a pure sine wave inverter be used for low power applications?

Research has been carried out on producing cost-effective and efficient pure sine wave inverter in recent times and this paper proposes a design that is highly useful for low power based applications.

What is a sine wave inverter?

A sine wave inverter is a device which converts battery power into a 220 V AC or a 120 V AC sine wave output. There are 3 basic types of inverters: square wave inverter, modified sine wave inverter and a pure sine wave inverter. The voltage waveform output from a square wave inverter is square wave.

How does the tl494 generate a PWM signal?

The TL494 generates a PWM signal by comparing an internally generated saw-tooth wave with an error signal. Common applications for this chip are DC/DC converters, where an output voltage is programmed by resistors in the error feedback path that is referenced to some DC voltage signal.

How to design a pure sine wave inverter?

To design a pure sine wave inverter from the scratch, we require the following circuit stages: A basic 50 Hz or 60 Hz inverter circuit. An op amp comparator using IC 741 or by configuring IC 555. Two sets of triangle waveform, one slow (low frequency) and the other fast (high frequency).



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current (AC) of a pure sine waveform. To produce a pure sine wave output, the inverter must employ a sophisticated amplification circuitry.

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