

Base station power supply survey and design basics





Overview

What is a preferred power supply architecture for DSL applications?

A preferred power supply architecture for DSL applications is illustrated in Fig. 2. A push-pull converter is used to convert the 48V input voltage to +/-12V and to provide electrical isolation. Synchronous buck converters powered off of the +12V rail generate various low-voltage outputs.

What is a low profile power supply?

Low profile power supply design usually includes printed circuit board (planar) power transformers and output inductors and surface mount input and output capacitors. Multiple output power supplies are often implemented with a multi-output flyback converter.

What is a stabilized supply?

The design of stabilized supplies has been simplified dramatically by the introduction of voltage regulator ICs such as the L78xx and L79xx - three-terminal series regulators which provide a very stable output and include current limiter and thermal protection functions. Figures 16, 17 and 18 show how these circuits are used.

What is a 3G base station converter?

In a 3G Base Station application, two converters are used to provide the +27V distribution bus voltage during normal conditions and power outages.



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May 25, 2025 · Building better power supplies for 5G base stations Authored by: Alessandro Pevere, and Francesco Di Domenico, both at Infineon Technologies



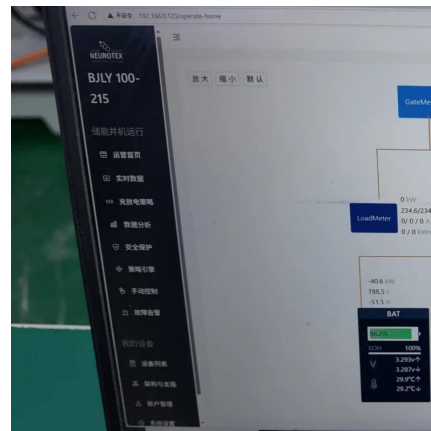
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