

Why should you choose Xgl power inductors?

Our compact SMD power inductors achieve maximum energy storage and eliminate EMI in power supplies for automotive, industrial, and commercial electronics. The XGL family features the latest technology in ultra-small, ultra-efficient power inductors.

How does a solar energy storage inductor work?

In this topology, the energy storage inductor is charged from two different directions which generates output AC current. This topology with two additional switching devices compared to topologies with four switching devices makes the grounding of both the grid and PV modules. Fig. 12.

How much energy does a buck boost inductor handle?

A Buck-Boost inductor has to handle all the energy coming toward it -- 50 μ J as per Figure 5.4, corresponding to 50 W at a switching frequency of 1 MHz. Note: To be more precise for the general case of $\eta \leq 1$: the power converter has to handle P_{IN} / η if we use the conservative model in Figure 5.1, but only P_O / η if we use the optimistic model.

How does Linear Technology affect inductor energy storage?

While one inductor's current is increasing, the other's is decreasing. There is also a significant reduction in the required inductor energy storage (approximately 75%). The inductor's volume, and therefore cost, are reduced as well. See Linear Technology's Application Note 77 for complete details.

Why do buck regulators use double duty energy storage inductors?

The energy storage inductor in a buck regulator functions as both an energy conversion element and as an output ripple filter. This double duty often saves the cost of an additional output filter, but it complicates the process of finding a good compromise for the value of the inductor.

Why is a small inductor connected in series with an output diode?

Here, a small inductor is connected in series with output diode DO in order to subside current peaks as the switch is turned on. In addition, the switch dominates power loss in these converters, and the second major is the entire power loss caused due to the three diodes.



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