Base station power inductor

How does a power inductor work?

The power inductor works with the capacitorto play the role of rectifying the rectangular wave output from the IC to a direct current (further details are explained in Chapter 2). If either one of these components is missing,the output cannot be properly rectified. Now what parameters should you pay attention to when selecting a power inductor?

Are composite inductors the best choice for power?

In summary,composite inductors can be the best choice for powerif there is a need for performance and small size. Composite inductors provide the best saturation,temperature stability,and smallest shielded package for power inductors in the range of 0.47 uH to 150 uH.

How to choose a power inductor?

Therefore,you must choose a power inductor with an Isat that is greater than the maximum current. At the same time,with regard to the temperature increase rated current,the inductor is not immediately damaged even if the rated value is exceeded. Accordingly,you should select an Itemp value which is greater than Iout as a general rule.

What are the characteristics of a power inductor?

The most striking characteristic is the saturation curve. Most power inductor applications have a large component of DC current that flows through the inductor. As the current increases,the magnetic flux increases in the core and the effective magnetic permeability is reduced,causing an inductance drop.

How to compare power inductor performance?

The primary factors for comparing power inductor performance are the 1) inductance value, 2) DC superposition characteristic, 3) temperature characteristic, 4) voltage endurance, and 5) leakage flux. Knowing these factors will enable you to select the power inductor structure which is suited to the required level of performance.

What are power inductors used for?

Power inductors are typically used for energy storagein DC/DC converters or high current noise filter applications,including motor speed control,adjustable lighting,DC power conditioning,and more. Power inductors can be divided further into two groups - shielded and unshielded.

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