Subject: testing chokes
Posted by PakProtector on Wed, 05 Jan 2005 23:03:53 GMT
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Hey-Hey!!!,I am prepering to test a choke for DC tolerance and self resonance.For pure AC inductance, I am going to use 60cps because it is easy. A resistor in series, to determine AC current(from teh department of redundancy department). {V-inductor/V-resistor} times {R/2Pi60}=inductance in Hy.An adjustable current regulator with DC voltage supply greater than V-ac peak-to-peak ought to allow me to determine its DC tolerance. Say a 40 vac signal and a 200VDC supply feeding the current regualtor. Might have heat issues with the CCS, but that's OK, I can deal with that.Any suggestions at improving this method?regards,Douglas

Subject: Re: testing chokes
Posted by Wayne Parham on Thu, 06 Jan 2005 04:34:14 GMT
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Sounds like you're on track. I'd use Ohms law to determine impedance and then the inductive

frequencies in the expected range of the coil and average the results. DC resistance will be easy.

Subject: Re: testing chokes
Posted by Manualblock on Thu, 06 Jan 2005 13:15:43 GMT
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Say guys; Can you all explain the term Self Resonance please.

Subject: Self resonance
Posted by Wayne Parham on Fri, 07 Jan 2005 07:20:00 GMT
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All components have inductive and capacitive reactance, so in effect, all components are resonators. Even a resistor has inductive and capacitive values. For that matter, so do conductors. At RF frequencies, the reactive properties of circuit board traces can be a problem, and sometimes path routing is critical.The connection leads from every component are separated by a distance, so there are two conductors separated by space. That forms a very small capacitor. When a voltage differential is applied across the device, an electrostatic field sets up in the dielectric of the air.The wire leads into the device also act as inductors. When current flows

through the device, a magnetic field is setup around the conductors. That gives the device inductive reactance.So no matter what the device is, it has values of capacitance, inductance and resistance. There is a frequency where the device acts as a resonator, without any other components attached. This is the self-resonant frequency of the device. It's usually a very high frequency.

Subject: Re: Self resonance/Excellent,thanks
Posted by Manualblock on Fri, 07 Jan 2005 12:35:35 GMT
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