Subject: Re: PS Transformers
Posted by Damir on Sat, 29 Jul 2006 14:52:16 GMT
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Well, the formulae is expressed with turns ratio - the number of turns (Np and Ns) are unchanging constant, both in ideal and real transformer.In ideal PT, turns ratio (Ns/Np) is equal to the voltage ratio (Us/Up); the real transformer is a little more complicated. But, for our purposes (usually we don`t know Np and Ns), measured "off-load" voltages and their ratio (Us/Up) is equal to the turns ratio.Note that "step-up" transformation "adds" Rp to the secondary multiplied with square of the turns ratio - with higher Us (and higher voltage/turns ratio) Rt is purely dominated by Rp and not with Rs! For example, we have 550-0-550V PT needed for LC supply (and "targeted" 430V DC)... say, our Rs is only 5 Ohms...but we must add (Us/Up)^2 * Rp, and (550/117)^2*Rp = 22*Rp.It means that every Ohm of the primary DCR is 22 Ohms "transformed" to the secondary side.