



Lansing Heritage Forums > [Technical Reference - Read Only](#) > General

Tapped Autotransformers

Register FAQ Library Members List Calendar Today's Posts Search

User Name: Remember Me?
 Password:



Thread Tools ▾ Search this Thread ▾ Display Modes ▾

04-05-2005, 10:42 AM #1

Techbot
Senior Member



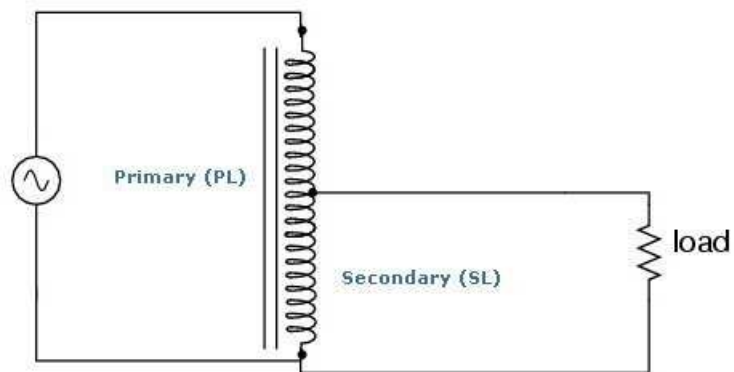
Join Date: Aug 2004
 Location: Lansing Heritage
 Posts: 826

Tapped Autotransformers

Spreadsheet formulas courtesy of [David Smith](#).

Attached Images

Autotransformer



Voltage/Turns Ratio -> =POWER(10,dB/20)
 Example: -6 dB tap -> =POWER(10,-6/20) -> 0.5012

SL as a percentage of PL -> =(POWER(10,dB/20))^2
 Example: -6 dB tap -> =(POWER(10,-6/20))^2 -> 0.2511

Given a 3.0 mH -6 dB tapped autotransformer
 PL = 3.0 mH
 SL = 3.0 mH * 0.2511 -> 0.75 mH

Tap dB	Voltage/Turns Ratio	% of Original Inductance (secondary)
-1	0.8913	79.4%
-2	0.7943	63.1%
-3	0.7079	50.1%
-4	0.6310	39.8%
-5	0.5623	31.6%
-6	0.5012	25.1%
-7	0.4467	20.0%
-8	0.3981	15.8%
-9	0.3548	12.6%
-10	0.3162	10.0%

=POWER(number,power) is a worksheet function in Microsoft Excel

