

TRANSFORMER DESIGN SOFTWARE

The software can be used for designing small transformers working on

Line Frequency (50 / 60 Hz)

High Frequency (10 to 500 KHz) for use in SMPS.

Line Frequency transformers are divided into two categories,

1. Ordinary Transformers for use in Linear Power Supplies, Inverters etc.
2. Auto Transformers for Voltage Control etc.

upto a capacity of 5000 VA using CRGO / CRNO (E-I) laminations.

Ordinary Transformers can be designed in the following variations,

- # Step Up
- # Step Down
- # Tapped Secondary
- # Tapped Primary
- # Multiple Secondaries

Auto Transformers can be designed in the following variations,

- # Step Up
- # Step Down

High Frequency transformers are designed using Ferrites to be used in Switched Mode Power Supplies (SMPS) & can be designed for the following applications (the Inductor values are also calculated alongwith)

- # Flyback converter
- # Forward converter
- # Push Pull converter

There is a provision to create a Library of Custom Core Types also.

The software is available on a CD & comes with a hardware lock which connects at the parallel port.

Minimum system requirement is P100, 24 MB RAM, 10 MB free disk space, CD-ROM drive, Color Monitor, Parallel Port with Microsoft Windows 95 or higher.

Developed By
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Transformer Design - C:\DEPLGGN\DESIGN\Transformers\12V 03A.trd

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Calculations for Ordinary Transformer

12V,0.3A 04-11-2001

Input Voltage = 220 Primary Centre Tapped No. of secondary windings = 1

Secondary Voltages & Currents

1 12 V 0.3 A CT TAPS 0.0,0.0,0.0

Entries Complete Proceed

Winding Particulars

Core Size - 12A CRNO E-I lamination
Stack height - 0.6" (Turns / Volt = 20.6)

Primary - 42 swg 4533 turns
Secondary # 1 - 28 swg 254 turns

Comments

12volt 0.3 amp transformer

Frequency Selection

50 Hz
60 Hz

Core Material Selection

CRGO
CRNO

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Transformer Design - C:\DEPLGGN\DESIGN\Transformers\multi op forward.trd

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Transformer Design - SMPS

Multi output forward transformer 11-11-2001

Input Voltage Min. = 170 Max. = 270 Freq. (KHz) = 40 No. of sec. windings = 2

Secondary Voltages & Currents

1 5 V 2 A
2 12 V 0.1 A

Entries Complete Proceed

Transformer Winding Particulars

Pot Core type - 26x16 HP3C grade
Primary - 34 swg 101 turns
Demag - 44 swg 101 turns
Secondary # 1 - 22 swg 9 turns
Secondary # 2 - 38 swg 19 turns

Comments

This is a multi output forward transformer design

Converter Type Selection

Flyba
Forw
Push F

Inductor Windi

Inductor # 1 - 0.45 m 35 turns, 20 swg, 1.4
Inductor # 2 - 21.5 m 262 turns, 35 swg, 1.

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