TS350r1
L1

Designer Brian Cornell
Program Analysis
Circuit DC Inductor
Design by
Design for TS350r1
File name: ts350r1-out_inductor

Program name ---------- = TS350r1
Circuit symbol---------- = L1
Inductance---------- = 0.0013800 Henrys
DC output current---------- = 3.043 amps
AC durrent delta---------- = 1.261 amps
Number of turns ---------- = 100
Wire size ---------- = 22 AWG
Number of strands ---------- = 2
Ripple frequency ---------- = 60.00 hertz
Total gap dimension ---------- = N/A
Maximum temperature ---------- = 50.00 degrees C
Minimum temperature ---------- = -20.00 degrees C
Permeability of the material ---------- = 147 mu
Magnetic material---------- = Magnetics High Flux

Core Data

Core configuration---------- = High Flux Toroidal Core
Core file number---------- = HF-58547
Magnetic path length---------- = 8.1500 cm
Core weight ---------- = 43.81 grams
Copper weight ---------- = 47.43 grams
Mean length turn---------- = 4.5616 cm
Iron area---------- = 0.6720 cm sq
Window area ---------- = 2.9241 cm sq
Area product---------- = 1.964960 cm 4TH
Core geometry---------- = 0.11578000 cm 5TH
Surface area---------- = 58.4689 cm sq
Stacking factor ---------- = 1.0

Window utilization---------- = 0.273
Current density---------- = 473.0 amps/cm sq

Fringing flux ---------- = N/A
AC flux density ---------- = 0.1433 tesla
Maximum flux density ---------- = 0.8349 tesla
Watts per kilogram ---------- = 0.0209
Core loss ---------- = 0.0009 watts
Winding disipation ---------- = 1.1400 watts

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Winding weight ---------- = 26.2728 grams
Total loss ---------- = 1.1409 watts
Watt density ---------- = 0.0195 W/cm sq
Temperature rise ---------- = 17.4 degrees C
Magnetizing force ---------- = 56.7928 oersteds
Magnetizing force ---------- = 45.2070 AT/cm

Winding resistance ---------- = 0.1214 ohms
Winding resistance at temp ---------- = 0.1440 ohms
Winding dc voltage drop ---------- = 0.4413 volts
Maximum temperature ---------- = 67.4193 degrees C
Minimum temperature ---------- = -2.5807 degrees C

Core gapped permeability ---------- = 147.00 u
Core material permeability ---------- = 147 u
Inductance calculated ---------- = 0.0015224 henrys

Program By Kg Magnetics Inc.