TRANSFORMER WINDING SHEET

Design Name:		Designer:	
Date/Time:	11/03/15 15:08:31	Project:	ETD59_1kW
Notes:			

Core Family:	ETD Ferrite
Geometry:	ETD59
Material Name:	3C85-HF-100C
Core Weight (Grams):	260.0

Core Manufacturer:	PHILIPS	Core Distributor:	
Core PN:		Bobbin PN:	
Wire Manufacturer:		Xformer Manufacturer:	

Frequency (Hertz):	100.0k
Number of Windings:	3
Number of Layers:	6
Auto Margin for Lead Exit:	no

WINDING DESCRIPTION, RATINGS, AND CHARACTERISTICS

Winding Number:	1	2	3
Volts Average (Volts):	165.0	41.25	165.0
Wire Type:	HF	Foil	HF
Wire Size (AWG):	18	10	18
Wire Height (cm):	0.1120	12.70m	0.1120
Wire Width (cm):	0.1120	4.297	0.1120
Turns:	16	4	16
Number of Layers:	0.8889	4.000	0.8889
Turns per Layer:	18.00	1.000	18.00
Wire Strands:	2	1	2
Start ID:	3	1	3
Finish ID:	4	2	4
Pitch:	1	1	1
Starting Position:	left	left	left
Layer Insulation (cm):	2.540m	2.540m	2.540m
Layer Insulation Mat'l:			
Wrapper Insulation (cm):	5.080m	5.080m	5.080m
Wrapper Insulation Mat'l:			
End Margins (cm):	25.40m	25.40m	25.40m
Lead Material:			
Lead Insulation:			
Lead Gauge (AWG/Thk):			
Lead Length:			
Lead Termination:			
Lead Color:			

TRANSFORMER PERFORMANCE SUMMARY

Design Name:		Designer:	
Date/Time:	11/03/15 15:09:45	Project:	ETD59_1kW
Notes:			

TRANSFORMER DESCRIPTION

Core Family:	ETD Ferrite	Core Weight (Grams):	260.0
Geometry:	ETD59	Total Gap (cm):	0
Material Name:	3C85-HF-100C	Spacer Thickness (cm):	0
Manufacturer:	PHILIPS	Window Fill (%):	28.36

CORE DESCRIPTION

Eff. Core Area (cm^2):	3.680	Min. Core Area (cm^2):	3.680
Winding Length (cm):	4.500	Winding Height (cm):	1.152
Avail. Window (cm^2):	5.186	Area Product (cm^4):	19.09
Min. Core Gap (cm):	0	Volume (cm^3):	51.50
Inside Diameter (cm):	2.165	Surface Area (cm^2):	195.0
Mean Length Turn (cm):	10.42	Winding Shape:	Round
Max. Permeability:	3.300k	Max. B, linear u (Teslas):	0.1500
Sat. Flux Density (Teslas):	0.3200	Res. Flux Density (Teslas):	0.1000
Mean Mag. Path Len. (cm):	13.90		

TRANSFORMER PERFORMANCE DATA

Flux Swing Type:	full wave	Input Waveform:	pulse
Duty Ratio (Pct.):	49.00%	Current Rise/Fall (Pct.):	50.00m%
Output Power (Watts):	990.0	Magnetizing Ind. (Henry):	2.809m
Pk. Flux Density (Teslas):	70.06m	Core Loss (Watts):	2.551
AC Flux Density (Teslas):	70.06m	Copper Loss (Watts):	2.962
Ambient Temp. (deg C):	55.00	Core AwAc (cm^4):	19.09
Temp. Rise (deg C):	20.07	Frequency (Hertz):	100.0k
Volts/Turn:	10.31		

USER DEFINED PERFORMANCE DATA

Trise	20.07	Winding fill %	28.36
Tlevel	0	Total Weight (Pounds):	0.6998
Copper Loss	2.962	Core Loss	2.551
Bac(max) (Teslas):	0.1000	Bac (Teslas):	70.06m
Output Power	990.0	Calculator	4.000
Gap	0	Lmag	2.809m
Max Strands	2.000	Min. Turns	1.000
drive winding	1.000	Core weight	260.0
Efficiency	99.44	Round Coef.	0.9900
Winding pitch	1.000	Primary Turns	16.95
Idens(max)	100.0k	Bp(max)	100.0k
Vdrop2	0.2931	Ploss	0.8793
Vterminal	164.4	Jn	182.3
CuWt	0.3053		

WINDING DESCRIPTION, RATINGS, AND CHARACTERISTICS

Winding Number:	1	2	3
Primary or Secondary:	sec	pri	sec
Volts Specified (Volts):	165.0	40.00	165.0
Volts Average (Volts):	165.0	41.25	165.0
AC Current (Amps):	3.000	25.00	3.000
DC Current (Amps):	0	0	0
AC Resistance (Ohms):	94.91m	1.966m	97.70m
DC Resistance (Ohms):	15.58m	1.265m	17.96m
Power Loss, Copper (Watts):	0.8542	1.229	0.8793
Current Density (Amp/cm^2):	182.3	458.1	182.3
Wire Type:	HF	Foil	HF
Wire Size (AWG):	18	10	18
Wire Height (cm):	0.1120	12.70m	0.1120
Wire Width (cm):	0.1120	4.297	0.1120
Wire Strands:	2	1	2
Turns:	16	4	16
Number of Layers:	0.8889	4.000	0.8889
Turns per Layer:	18.00	1.000	18.00
Start ID:	3	1	3
Finish ID:	4	2	4
Pitch:	1	1	1
Layer Insulation (cm):	2.540m	2.540m	2.540m

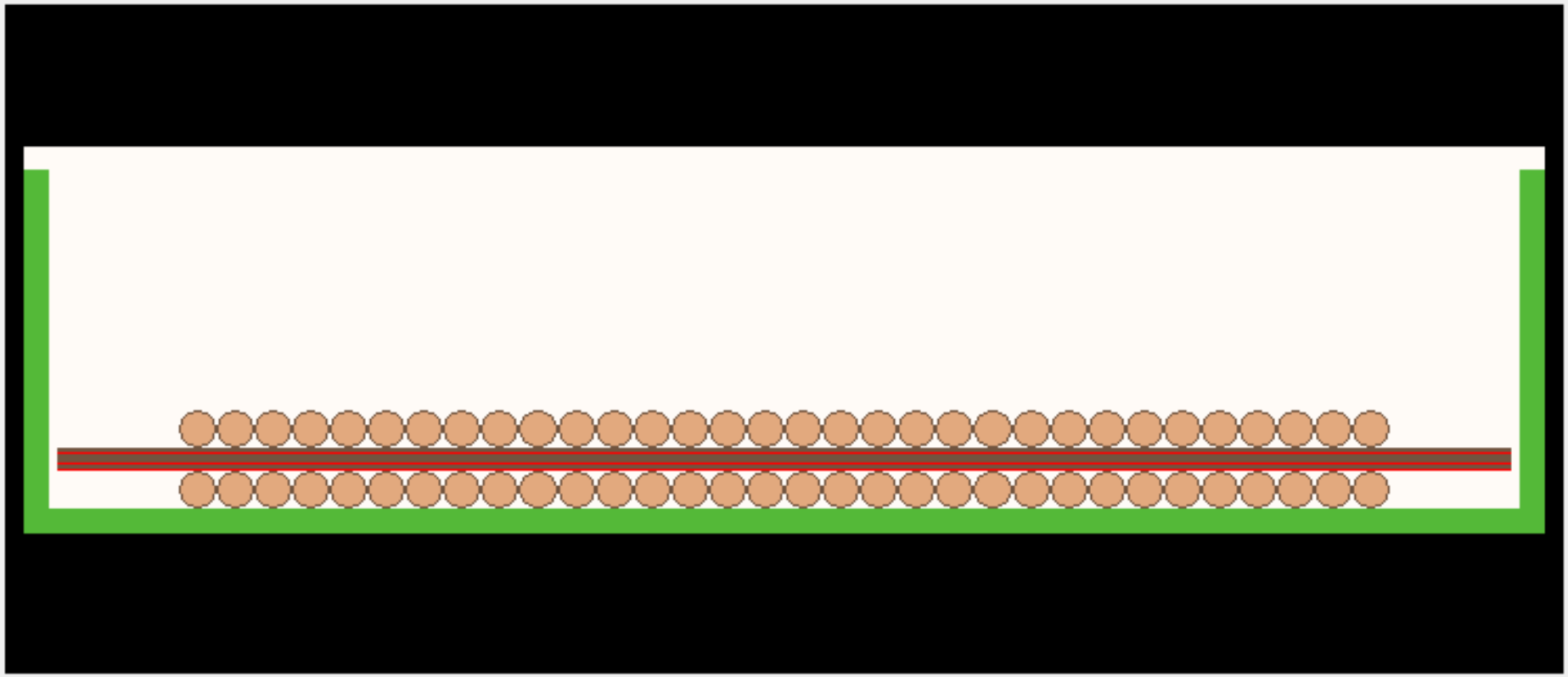
Wrapper Insulation (cm):	5.080m	5.080m	5.080m
End Margins (cm):	25.40m	25.40m	25.40m
Leakage Ind. Next (Henry):	464.7n	30.98n	0
Leakage(L->Sector) (Henry):	0	0	0
Leakage(Sector<-L) (Henry):	0	0	0
Winding Capacitance (Farad):	1.224p	406.0p	1.256p
Capacitance to Next (Farad):	461.1p	483.4p	0
IR Drop	0.2847	49.15m	0.2931
Copper Loss	0.8542	1.229	0.8793
Loaded Voltage	164.4	40.00	164.4
Current Density2	182.3	458.1	182.3
Winding Weight	16.79	15.05	19.52

DESIGN CONSTRAINTS

Max Window Fill (%):	50.00	Max Temp. Rise (deg C):	50.00
Max Pk. Flux Dens. (Teslas):	10.00	Max AC Flux Dens. (Teslas):	0.1000
Max Cur. Dens.(Amp/cm^2):	100.0k	Waveform:	square
Auto Margin for Lead Exit:	no	Pitch (dia/turn):	1
K Conduction:	3.990	K Convection:	710.0
K Insulation:	2.000m	K Dielectric:	3.000
Thermal Model Level:	0	Rac Method	B&L

SPICE MODEL AND SYMBOL NAMES

Spice Model Name:	not saved
Spice Symbol Name:	not saved



Add sector

Auto Width

Delete sector

Current Sector

Number of Sectors

1

1

Scale to fit screen

Disable Redraw

Sector Dimensions

Space Before 76.20m

Space After 76.20m

Bobbin Thickness 76.20m

Width (%) 100

Width (cm) 4.348

Refresh Fields

Options

Transformer

Inductor

Ipri = 0

Isec = 0

Export ...

Drawing Characteristics

Core Set Color

Bobbin Set Color

Wire Set Color

Insulation Set Color

Help

Close