

The information contained in this drawing is the sole property of Coil Winding Specialist Inc (CWS). Any reproduction in part or whole without written permission of CWS is prohibited.

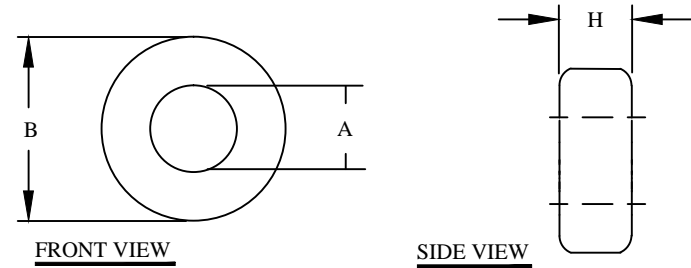
## T225-33 or T225-35

### Features

Low core loss and good results at lower cost.  
Applicable for Power Factor Correction Chokes, DC Chokes and lower or higher Et/N.

REVISION HISTORY						
REV	ECN	DESCRIPTION	SIGN & DATE			
			BY	DATE	AP.	DATE
A		Production release	EO	3/7/13	JL	3/7/13

Electrical Specifications				
Item	Unit/Symbol	Condition	Value	Tol.
A <sub>L</sub>	nH/N <sup>2</sup>	AC flux density of 10 gauss (1 mT) @ 10 kHz	37.0	± 10%
L <sub>e</sub>	cm	N/A	14.60	Typ.
A <sub>e</sub>	cm <sup>2</sup>	N/A	1.420	Typ.
V <sub>e</sub>	cm <sup>3</sup>	N/A	20.700	Typ.
Density	g/cm <sup>3</sup>	N/A	6.3	Typ.
Permeability	μ <sub>0</sub>	N/A	33	± 10%
Permeability with DC BIAS	%μ <sub>0</sub> , μ <sub>0</sub> effective	HDC = 50 Oersted	84, 27.7	Typ.
Temp. Coef. of Permeability	+ppm/°C	N/A	665	Typ.
Coef. of Lin. Expansion	+ppm/°C	N/A	12	Typ.
Thermal Conductivity	mW/cm-°C	N/A	30	Typ.



Case Dimensional Tolerances				
	in	tol.	mm	tol.
B (Outer Diameter)	2.250	0.025	57.20	0.64
A (Inner Diameter)	1.405	0.025	35.70	0.64
H (Height)	0.550	0.030	14.00	0.76
Weight	130.41 g			

$$\text{Temperature Rise } \Delta T(^{\circ}\text{C}) = \left[ \frac{\text{Total Power Dissipation (milliwatts)}}{\text{Surface Area (cm}^2\text{)}} \right]^{0.833}$$

$$\text{Required turns} = \left[ \frac{\text{desired L (nH)}}{A_L \left( \frac{\text{nH}}{\text{N}^2} \right)} \right]^{\frac{1}{2}}$$

$$\text{Peak AC Flux Density: } B_{pk} = \frac{E_{avg} 10^8}{4ANf}$$

$$\text{Magnetizing Force: } H = \frac{0.4\pi NI}{\ell}$$

L = inductance  
nH = nanohenries  
H = oersteds (Oe)  
N = Number of turns  
I = Current (amperes)  
ℓ = Mean Magnetic Path (cm)  
A = Cross-sectional area (cm<sup>2</sup>)  
f = frequency (hertz)  
B<sub>pk</sub> = Gauss (G)

**For additional detail, specifications and charts see:**

[http://www.bytemark.com/products/IPCores\\_index.html](http://www.bytemark.com/products/IPCores_index.html)

Core Loss in mW/cm <sup>3</sup> (extrapolated data from high frequency testing)						
Frequency	60 Hz	1kHz	10kHz	50kHz	100kHz	500kHz
Condition	@ 5000G	@ 1500G	@ 500G	@ 225G	@ 140G	@ 50G
Value	33	73	109	137	119	123

UNLESS OTHERWISE SPECIFIED  
DIMENSIONING AND TOLERANCE PER ANSI Y14.5M  
ALL DIMENSIONS ARE IN INCHES AND [MILLIMETERS].  
TOLERANCE INCHES:  
.XXX=±.005 .XX=±.015 <math>\angle=±0^{\circ}30'</math>  
TOLERANCE METRICS:  
.XXX=±.127 .XX=±.38 <math>\angle=±0^{\circ}30'</math>  
ANGLE PROJECTION   
DO NOT SCALE DRAWING

CODE IDENT	MFG. P/N	DESCRIPTION	ITEM NO.
PARTS LIST			
AUTOCAD	X	<a href="http://www.coilws.com">www.coilws.com</a> <a href="http://www.cwsbytemark.com">www.cwsbytemark.com</a>	CWSBYTEMARK 353 West Grove Ave. Orange, CA. 92865
SOLIDWORKS			
SIGN	DATE		
DRAWN	EO 3/7/13		
CHECKED	JL 3/7/13		
ENGR.	JL 3/7/13	TITLE: Iron Powder Core Material Mix 33 or 35, Yellow/Gray	
APPR.	JL 3/7/13	SIZE DWG. NO. <b>B</b> T225-33 or T225-35	REV <b>A</b>
SCALE		N/A	SHEET 1 OF 1