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## T200-40B

## **Features**

Good results of general power conversion and line filter administration. Applicable (at <50kHz) for Power Factor Correction Chokes, DC Chokes and lower Et/N. Also applies for 60 Hz differential-mode EMI Line Chokes, and light dimmer chokes.

Electrical Specifications								
Item	Unit/Symbol	Condition	Value	Tol.				
$A_{L}$	nH/N <sup>2</sup>	AC flux density of 10 gauss (1 mT) @ 10 kHz	142.0	± 10%				
Le	cm	N/A	13.00	Тур.				
Ae	cm <sup>2</sup>	N/A	2.320	Тур.				
Ve	cm <sup>3</sup>	N/A	30.000	Тур.				
Density	g/cm <sup>3</sup>	N/A	6.9	Typ.				
Permeability	$\mu_0$	N/A	60	± 10%				
Permeability with DC BIAS	%μ <sub>0</sub> , μ <sub>0</sub> effective	HDC = 50 Oerstesd	62, 37.2	Тур.				
Temp. Coef. of Permeability	+ppm/°C	N/A	950	Тур.				
Coef. of Lin. Expansion	+ppm/°C	N/A	11	Тур.				
Thermal Conductivity mW/cm-°C		N/A	36	Тур.				

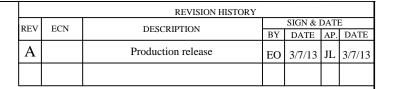
$$Temperature \ Rise: \Delta T(^{\circ}C) = \left[\frac{Total \ Power \ Dissipation \ (milliwatts)}{Surface \ Area \ (cm^{2})}\right]^{0.833}$$

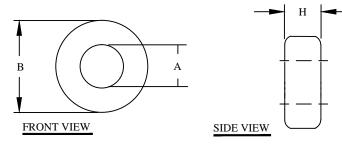
Required turns = 
$$\left[\frac{\text{desired L (nH)}}{A_L \left(\frac{nH}{N^2}\right)}\right]^{\frac{1}{2}}$$

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

Magnetizing Force: 
$$H = \frac{0.4\pi\,N\,I}{\ell}$$

Core Loss in mW/cm³ (extrapolated data from high frequency testing)						
Frequency	60 Hz	1kHz	10kHz	50kHz	100kHz	500kHz
Condition	@ 5000G	@ 1500G	@ 500G	@ 225G	@ 140G	@ 50G
Value	29	62	93	130	127	223





Case Dimensional Tolerances						
	in	tol.	mm	tol.		
B (Outer Diameter)	2.000	0.025	50.80	0.64		
A (Inner Diameter)	1.250	0.025	31.80	0.64		
H (Height)	1.000	0.030	25.40	0.76		
Weight 207.00 g						

## For additional detail, specifications and charts see:

http://www.bytemark.com/products/IPCores index.html

<pre>\( = \text{Mean Magnetic Path (cm)} \) A = Cross-sectional area (cm²) f = frequency (hertz)</pre>			CODE			DESCRIPTION			ITEM NO.
$B_{nk} = Gauss(G)$			PARTS LIST						
B <sub>pk</sub> – Gauss (G)		AUTOCAD		Х	www.coilws.com		CW	NSBYTEMARK	
		SOLIDWORKS					353 West Grove Ave Orange CA		
	UNLESS OTHERWISE SPECIFIED	SIGN		DATE	www.cwsb	ww.cwsbytemark.com		92865	
	DIMENSIONING AND TOLERANCE PER ANSI Y14.5M	DRAWN	ЕО	3/7/13	TITLE: Iron	Powder Core Material Mix 4			40
	ALL DIMENSIONS ARE IN INCHES AND [MILIMETERS].	CHECKED	JL	3/7/13	non.		n/Yello		40,
	TOLERANCE INCHES: .XXX=±.005 .XX=±.015		JL	3/7/13	SIZE IDWG. NO.	Gicc	11/ 1 C11	) vv	DEC/
	.XXX=±.127 .XX=±.38 <\( =±0.30 \)	APPR.	JL	3/7/13	B W. NO.	T200-40B			A REV
ANGLE PROJECTION 🕀 🖅						~		0-40D 13	
	DO NOT SCALE DRAWING				SCALE	N/A		SHEET 1 C	OF 1
						CAD EII	Г.		

EP FORM0005 REV 3 10/01 CAD-FILE:

L = inductancenH = nanohenries

H = oersteds (Oe) N = Number of turns

I = Current (amperes)