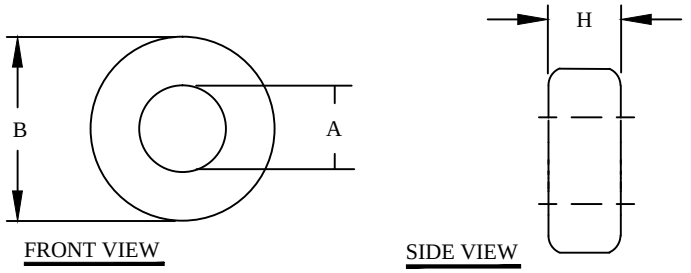
T72-2

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

Features

Good results of low permeability for lower AC flux density at no additional gap-loss.
Applicable (at ≥50kHz) for Power Factor Correction Chokes, and Resonant Inductors.

Electrical Specifications				
Item	Unit/Symbol	Condition	Value	Tol.
A_L	nH/N^2	AC flux density of 10 gauss (1 mT) @10 kHz	12.8	± 5%
L_e	cm	N/A	4.01	Typ.
A_e	cm^2	N/A	0.349	Typ.
V_e	cm^3	N/A	1.400	Typ.
Density	g/cm^3	N/A	5.0	Typ.
Permeability	μ_0	N/A	10	± 5%
Permeability with DC BIAS	$\%\mu_0$, $\mu_0$effective	HDC = 50 Oerstesd	100, 10.0	Typ.
Temp. Coef. of Permeability	+ppm/°C	N/A	95	Typ.
Coef. of Lin. Expansion	+ppm/°C	N/A	10	Typ.
Thermal Conductivity	mW/cm-°C	N/A	10	Typ.



FRONT VIEW SIDE VIEW

Case Dimensional Tolerances				
	in	tol.	mm	tol.
B (Outer Diameter)	0.720	0.020	18.30	0.51
A (Inner Diameter)	0.280	0.020	7.11	0.51
H (Height)	0.260	0.020	6.60	0.51
Weight 7.00 g				

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

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

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

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

L = inductance
nH = nanohenries
H = oersteds (Oe)
N = Number of turns
I = Current (amperes)
ℓ = Mean Magnetic Path (cm)
A = Cross-sectional area (cm^2)
f = frequency (hertz)
B_{pk} = Gauss (G)

Core Loss in mW/cm^3 (extrapolated data from high frequency testing)						
Frequency	60 Hz	1kHz	10kHz	50kHz	100kHz	500kHz
Condition	@ 5000G	@ 1500G	@ 500G	@ 225G	@ 140G	@ 50G
Value	19	32	32	28	19	12

For additional detail, specifications and charts see:

http://www.bytemark.com/products/IPCores_index.html

CODE IDENT	MFG. P/N	DESCRIPTION	ITEM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED		
DIMENSIONING AND TOLERANCE PER ANSI Y14.5M		
ALL DIMENSIONS ARE IN INCHES AND [MILIMETERS].		
TOLERANCE INCHES: .XXX=±.005 .XX=±.015 ∠=±0°30'		
TOLERANCE METRICS: .XXX=±.127 .XX=±.38 ∠=±0°30'		
ANGLE PROJECTION		
DO NOT SCALE DRAWING		
AUTOCAD	X	
SOLIDWORKS		
SIGN	DATE	
DRAWN EO	3/7/13	
CHECKED JL	3/7/13	
ENGR. JL	3/7/13	
APPR. JL	3/7/13	

www.coilws.com
www.cwsbytemark.com

CWSBYTEMARK
353 West Grove Ave. Orange, CA. 92865

TITLE: Iron Powder Core Material Mix 40, Green/Yellow

SIZE	DWG. NO.	REV
B	T72-2	A

SCALE N/A SHEET 1 OF 1

CAD–FILE: