T51-26C

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 ²	AC flux density of 10 gauss (1 mT) @10 kHz	83.0	± 10%				
Le	cm	N/A	2.79	Тур.				
Ae	cm ²	N/A	0.223	Тур.				
V _e	cm ³	N/A	0.622	Тур.				
Density	g/cm ³	N/A	7.0	Typ.				
Permeability μ_0		N/A	75	± 10%				
Permeability with DC BIAS	%μ ₀ , μ ₀ effective	HDC = 50 Oerstesd	51, 38.3	Тур.				
Temp. Coef. of Permeability	+ppm/°C	N/A	825	Тур.				
Coef. of Lin. Expansion	+ppm/°C	N/A	12	Тур.				
Thermal Conductivity mW/cm-°C		N/A	42	Тур.				

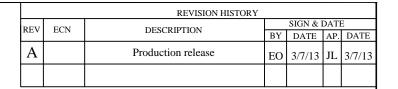
$$Temperature \ Rise: \Delta T(^{\circ}C) = \left[\frac{Total \ Power \ Dissipation \ (milliwatts)}{Surface \ Area \ (cm^{2})}\right]^{0.833}$$

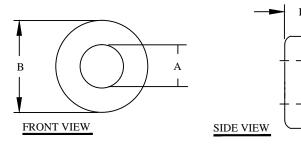
$$Required turns = \left[\frac{desired L (nH)}{A_L \left(\frac{nH}{N^2}\right)}\right]^{\frac{1}{2}}$$

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/cm ³ (extrapolated data from high frequency testing)							
Frequency	60 Hz	1kHz	10kHz	50kHz	100kHz	500kHz	
Condition	@ 5000G	@ 1500G	@ 500G	@ 225G	@ 140G	@ 50G	
Value	32	60	75	89	83	139	





Case Dimensional Tolerances							
	in	tol.	mm	tol.			
B (Outer Diameter)	0.500	0.020	12.70	0.51			
A (Inner Diameter)	0.200	0.020	5.08	0.51			
H (Height)	0.250	0.020	6.35	0.51			
Weight 4.35 g							

For additional detail, specifications and charts see:

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

ℓ = Mean Magnetic Path (cm) A = Cross-sectional area (cm ²)			CODE			N	DESCRIPTION		ION	ITEM NO.
f = frequency (hertz)			PARTS LIST						1110.	
$B_{pk} = Gauss(G)$		AUTOCAD		Х			CW	CWSBYTEMARK		
		SOLID	SOLIDWORKS www.coilws.com			252 West Grove Ave Or				
	UNLESS OTHERWISE SPECIFIED	SIGN		DATE	www.cwsbytemark.com		1 92865		ilge, CA.	
	DIMENSIONING AND TOLERANCE PER ANSI Y14.5M		EO	3/7/13	TITLE:	Iron I	Powder Co			
	ALL DIMENSIONS ARE IN INCHES AND [MILIMETERS].	CHECKED	ЛL	3/7/13		non i	Powder Core Material Mix Yellow/White			20,
	TOLERANCE INCHES: .XXX=±.005 .XX=±.015 <\(\) =±0'30' TOLERANCE METRICS:		JL	3/7/13	OUZE I	DINO NO	1 (11)	T CHOW/ WILLC		
	.XXX=±.127 .XX=±.38 <\(=±0.30 \)	APPR.	JL	3/7/13	B	DWG. NO. T51-26C				REV A
	ANGLE PROJECTION 🔷 🚭						131 200			
DO NOT SCALE DRAWING					SCALE		N/A		SHEET 1 O	F 1
	·						040 511	_	•	

EP FORM0005 REV 3 10/01 CAD-FILE:

L = inductancenH = nanohenries

H = oersteds (Oe)N = Number of turns

I = Current (amperes)