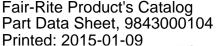


Ferrite Components for the Electronics Industry

Fair-Rite Products Corp. PO Box J,One Commercial Row, Wallkill, NY 12589-0288 Phone: (888) 324-7748 www.fair-rite.com









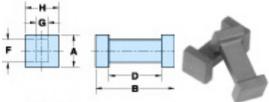


Figure 2

Part Number:

9843000104

Frequency Range: High Frequency Designs

Description: 43 BOBBIN RECTANGULAR

Application: Inductive Components

Where Used: Open Magnetic Circuit

Part Type: Bobbins

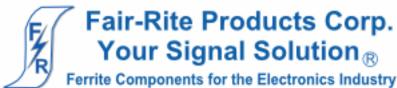
Mechanical Specifications

Weight: 3.000 (g)

Part Type Information

Bobbins are an economical and well-proven core design for many applications where relatively low but stable inductance values are required.

- -For higher frequency designs, use small bobbins in 43 material.
- -For power applications, bobbins in 77 material are specified for AL and dc bias limits.
- -Bobbins in Figures 2-5 can be supplied with a uniform coating of thermo-set plastic coating which can withstand a minimum breakdown of 500Vrms. This coating will change the dimensions a maximum of 0.5mm (.020"). The last digit of the thermo-set plastic coated part is an '8'.
- -The listed dimensions are for assembled bobbins without thermo-set plastic.
- -Bobbins are tested for AL value at 1kHz < 10 gauss.
- -For any bobbin requirement not listed in the catalog, please contact our customer service group for availability and pricing.
- -Explanation of Part Numbers: Digits 1&2 = product class, 3&4 = material grade, last digit 8 = coated bobbin.



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Fair-Rite Product's Catalog Part Data Sheet, 9843000104 Printed: 2015-01-09









Mechanical Specifications

Dim	mm	mm	nominal	inch
		tol	inch	misc.
А	8.05	±0.20	0.317	-
В	19.00	±0.40	0.750	-
С	-	-	-	-
D	12.70	±0.25	0.500	-
Е	-	-	-	-
F	5.55	+0.25	0.225	-
G	2.70	+0.25	0.111	-
Н	8.05	±0.20	0.317	-
J	-		-	-
K	-	-	-	-

Electrical Specifications

Typical Impedance (Ω)			
Electrical Properties			
A _L (nH)	38.0 ±10%		
A _L min. @ NI (At)	-		
N/AWG 50/28			
A _w (cm ²)	.33		

Land Patterns

V	W	Х	Υ	Z
-	-	-	-	-
-	-	-	-	-

Winding Information

Turns	Wire	1st Wire	2nd Wire
Tested	Size	Length	Length
-	-	-	-

Reel Information

Tape Width	Pitch			
mm -	mm -	Reel -	Reel -	Reel -

Package Size

Pkg Size
-
(-)

Connector Plate

# Holes	# Rows
-	-

Legend

+ Test frequency

Preferred parts, the suggested choice for new designs, have shorter lead times and are more readily available.

The column H(Oe) gives for each bead the calculated dc bias field in oersted for 1 turn and 1 ampere direct current. The actual dc H field in the application is this value of H times the actual NI (ampere-turn) product. For the effect of the dc bias on the impedance of the bead material, see figures 18-23 in the application note How to choose Ferrite Components for EMI Suppression.

A 1/2 turn is defined as a single pass through a hole.

∠I/A - Core Constant

A_e: Effective Cross-Sectional Area

 A_{I} - Inductance Factor $\left(\frac{L}{N^2}\right)$

I e: Effective Path Length

Ve: Effective Core Volume

NI - Value of dc Ampere-turns

N/AWG - Number of Turns/Wire Size for Test Coil



Fair-Rite Product's Catalog Part Data Sheet, 9843000104 Printed: 2015-01-09







Ferrite Material Constants

Specific Heat 0.25 cal/g/°C

Coefficient of Linear Expansion 8 - 10x10⁻⁶/°C

Compressive Strength 42 kgf/mm²

Young's Modulus 15x10³ kgf/mm²

Specific Gravity $\approx 4.7 \text{ g/cm}^3$

The above quoted properties are typical for Fair-Rite MnZn and NiZn ferrites.

See next page for further material specifications.

Fair-Rite Products Corp. Your Signal Solution® Ferrite Components for the Electronics Industry

Fair-Rite Products Corp. PO Box J,One Commercial Row, Wallkill, NY 12589-0288 Phone: (888) 324-7748 www.fair-rite.com

This NiZn is our most popular ferrite for suppression of conducted EMI from 20 MHz to 250 MHz. This material is also used for inductive applications such as high frequency common-mode chokes.

EMI suppression beads, beads on leads, SM beads, multi-aperture cores, round cable EMI suppression cores, round cable snap-its, flat cable EMI suppression cores, flat cable snap-its, miscellaneous suppression cores, bobbins, and toroids are all available in 43 material. Fair-Rite Product's Catalog Part Data Sheet, 9843000104

Printed: 2015-01-09



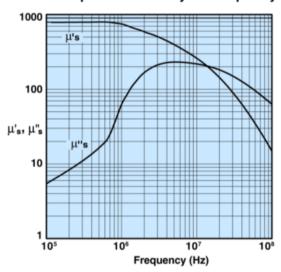




43 Material Characteristics:

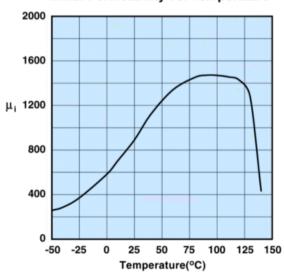
Property	Unit	Symbol	Value
Initial Permeability ® B < 10 gauss		$\mu_{\rm i}$	800
Flux Density	gauss	В	2900
@ Field Strength	oersted	н	10
Residual Flux Density	gauss	B _r	1300
Coercive Force	oersted	H _e	0.45
Loss Factor	10-6	tan δ/μ;	250
@ Frequency	MHz		1.0
Temperature Coefficient of Initial Permeability (20 -70°C)	%/°C		1.25
Curie Temperature	°C	T _c	>130
Resistivity	Ωcm	ρ	1x10 ⁵

Complex Permeability vs. Frequency



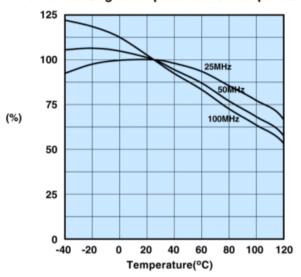
Measured on a 17/10/6mm toroid using the HP 4284A and the HP 4291A.

Initial Permeability vs. Temperature



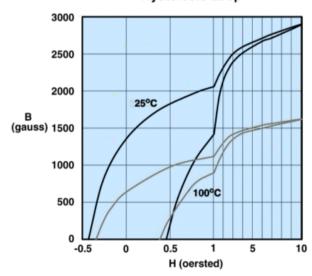
Measured on a 17/10/6mm toroid at 100kHz.

Percent of Original Impedance vs. Temperature



Measured on a 2643000301 using the HP4291A.

Hysteresis Loop



Measured on a 17/10/6mm toroid at 10kHz.