



**Fair-Rite Products Corp.**  
Your Signal Solution®

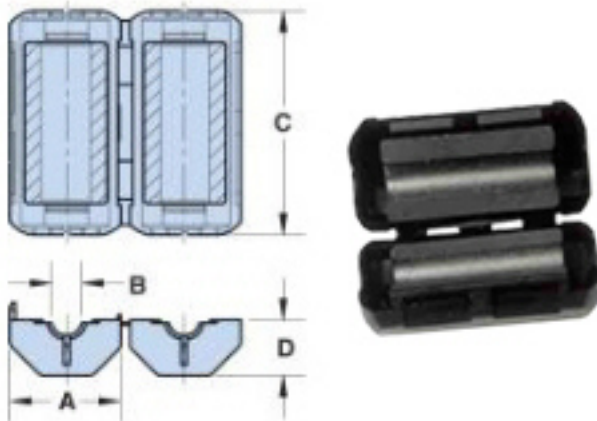


Figure 1

Part Number: 0461167281  
Frequency Range: Higher Frequencies 200-1000 MHz (61 material)  
Description: 61 ROUND CABLE CORE ASSEMBLY  
Application: Suppression Components  
Where Used: Cable Component  
Part Type: Round Cable Snap-Its  
Preferred Part: ✓

## Mechanical Specifications

Weight: 33.000 (g)

## Part Type Information

Round cable snap-its can easily accommodate round cables or bundled wires with diameters from 2.5 mm (.100") to 25.4 mm (1.000"). These assemblies are available in four ferrite material classes to suppress differential or common-mode conducted EMI from 1 MHz into the GHz region. The polypropylene cases are meeting the RoHS restrictions of hazardous substances and have a flammability rating of UL94 V-0.

-Round cable snap-it assemblies are controlled for impedances only. The impedances listed are typical values. Minimum impedance values are specified for the + marked frequencies. The minimum guaranteed impedance is the listed impedance less 20%.

-Single turn impedance tests for the 31, 43 and 44 material are performed on the 4193A Vector Impedance Analyzer. The 61 material parts are tested on the 4191A RF Impedance Analyzer. Cores are tested with the shortest practical wire length.

-Many of the snap-it parts have round core equivalents. See Round Cable EMI Suppression Cores section of our catalog.

-'B' Dimension is the core Dimension.

-Round Cable Snap-it Kits are available for each of the four suppression materials. 31 Snap-It Kit (0199000030), 43 Snap-It Kit (0199000031), 46 Core and Snap-It Kit (0199000032) and 61 Snap-It Kit (0199000033).

-Explanation of Part Numbers: Digits 1 & 2 = product class and 3 & 4 = material grade.



## Mechanical Specifications

Dim	mm	mm tol	nominal inch	inch misc.
A	23.70	-	0.933	-
B	10.15	-	0.400	-
C	39.40	-	1.550	-
D	11.70	-	0.460	-
E	-	-	-	-
F	-	-	-	-
G	-	-	-	-
H	-	-	-	-
J	-	-	-	-
K	-	-	-	-

## Electrical Specifications

Typical Impedance ( $\Omega$ )	
100 MHz	175
250 MHz+	275
500 MHz+	375
1000 MHz	400

Electrical Properties	

## Land Patterns

V	W ref	X	Y	Z
-	-	-	-	-
-	-	-	-	-

## Winding Information

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

## Reel Information

Tape Width mm	Pitch mm	Parts 7 " Reel	Parts 13 " Reel	Parts 14 " Reel
-	-	-	-	-

## Package Size

Pkg Size
- (-)

## Connector Plate

# Holes	# Rows
-	-

$\sum I/A$  - Core Constant

$A_e$

$A_L$

$(\frac{L}{N^2})$

$I_e$

$V_e$



## Ferrite Material Constants

Specific Heat .....	0.25 cal/g/°C
Thermal Conductivity .....	$10 \times 10^{-3}$ cal/sec/cm/°C
Coefficient of Linear Expansion .....	$8 - 10 \times 10^{-6}/^{\circ}\text{C}$
Tensile Strength .....	4.9 kgf/mm <sup>2</sup>
Compressive Strength .....	42 kgf/mm <sup>2</sup>
Young's Modulus .....	$15 \times 10^3$ kgf/mm <sup>2</sup>
Hardness (Knoop) .....	650
Specific Gravity .....	$\approx 4.7$ g/cm <sup>3</sup>

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

See next page for further material specifications.



## 61 Material Characteristics:

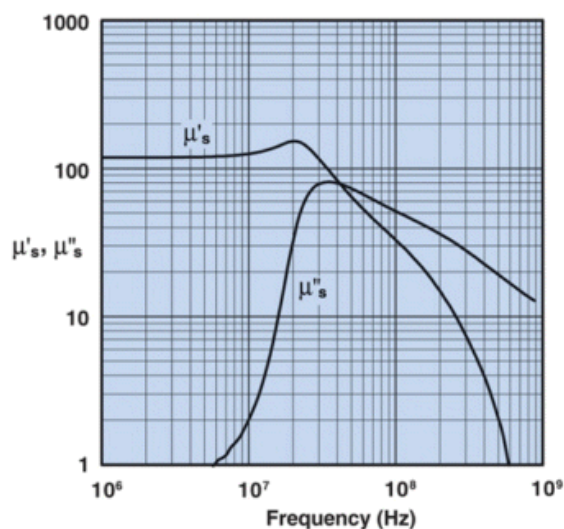
Property	Unit	Symbol	Value
Initial Permeability @ B < 10 gauss		$\mu_i$	125
Flux Density @ Field Strength	gauss oersted	B H	2350 15
Residual Flux Density	gauss	$B_r$	1200
Coercive Force	oersted	$H_c$	1.8
Loss Factor @ Frequency	$10^{-6}$ MHz	$\tan \delta / \mu_i$	30 1.0
Temperature Coefficient of Initial Permeability (20 -70°C)	%/°C		0.10
Curie Temperature	°C	$T_c$	>300
Resistivity	$\Omega$ cm	$\rho$	$1 \times 10^{-8}$

A high frequency NiZn ferrite developed for a range of inductive applications up to 25 MHz. This material is also used in EMI applications for suppression of noise frequencies above 200 MHz.

EMI suppression beads, beads on leads, SM beads, wound beads, multi-aperture cores, round cable snap-its, rods, antenna/RFID rods, and toroids are all available in 61 material.

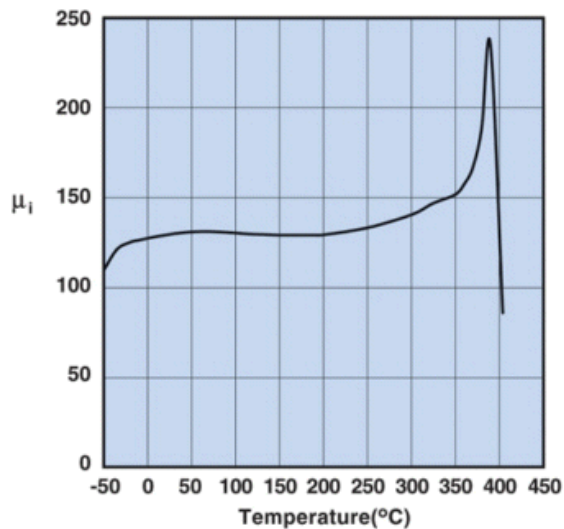
*Strong magnetic fields or excessive mechanical stresses may result in irreversible changes in permeability and losses.*

### Complex Permeability vs. Frequency



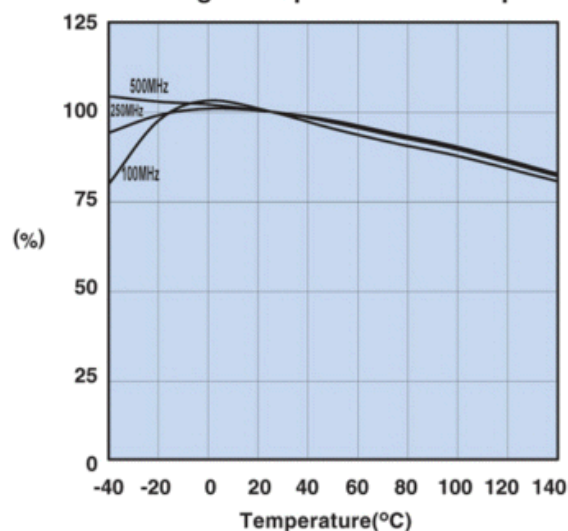
Measured on a 19/10/6mm toroid using the HP 4284A and the HP 4291A.

### Initial Permeability vs. Temperature



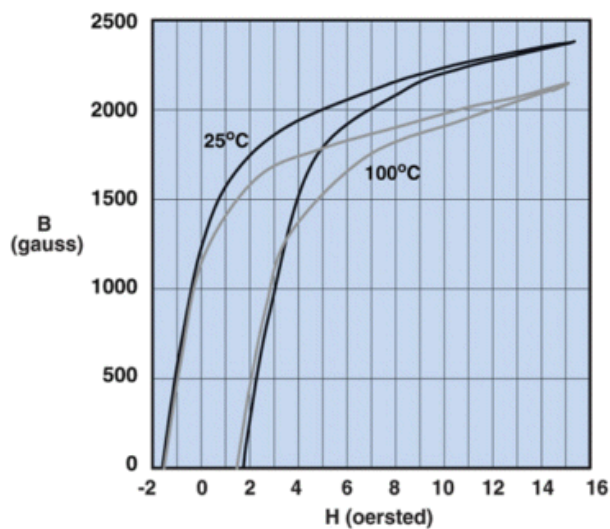
Measured on a 19/10/6mm toroid at 100kHz.

### Percent of Original Impedance vs. Temperature



Measured on a 2661000301 using the HP4291A.

### Hysteresis Loop



Measured on a 19/10/6mm toroid at 10kHz.