

Part Number: 3061990841
Frequency Range: Low Permeability, 61 ($\mu_i=125$) material
Description: 61 ROD
Application: Inductive Components
Where Used: Open Magnetic Circuit
Part Type: Antenna/RFID Rods

Mechanical Specifications

Weight: .130 (g)

Part Type Information

These rods are designed for use in antenna and RFID transponder applications. Rods are available in three materials to cover a frequency range from 50 kHz to 25 MHz. Suggested frequency ranges: 78 material < 200 kHz, 61 material 0.2 -5.0 MHz and 61 material > 5.0 MHz.

-See www.fair-rite.com/newfair/catalog_rodinfo.htm graphs for temperature information for these rods.

-Rods can be supplied with a Parylene C coating. Parylene coated rods have a '4' as the last digit. Parylene C is RoHS compliant.

-For any rod requirement not listed here, feel free to contact our customer service group for availability and pricing.

-The Antenna/RFID Kit (part number 0199000024) contains a selection of these rods.

-Explanation of Part Numbers: Digits 1&2 = product class, 3&4 = material grade, the last digit 1 = uncoated rod and 4 = Parylene coated rod.

Mechanical Specifications

Dim	mm	mm tol	nominal inch	inch misc.
A	1.50	±0.025	0.059	-
B	-	-	-	-
C	15.00	±0.45	0.591	-
D	-	-	-	-
E	-	-	-	-
F	-	-	-	-
G	-	-	-	-
H	-	-	-	-
J	-	-	-	-
K	-	-	-	-

Electrical Specifications

Typical Impedance (Ω)	
Electrical Properties	
U_{ROD}	35
$A_e(\text{cm}^2)$	0.01770

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
-	-

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 ½ turn is defined as a single pass through a hole.

$\Sigma L/A$ - Core Constant

A_e - Effective Cross-Sectional Area

A_L - Inductance Factor ($\frac{L}{N^2}$)

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

l_e - Effective Path Length

V_e - Effective Core Volume

NI - Value of dc Ampere-turns



Ferrite Material Constants

Specific Heat	0.25 cal/g/°C
Thermal Conductivity	3.5 - 4.5 mW/cm - °C
Coefficient of Linear Expansion	8 - 10x10 ⁻⁶ /°C
Tensile Strength	4.9 kgf/mm ²
Compressive Strength	42 kgf/mm ²
Young's Modulus	15x10 ³ kgf/mm ²
Hardness (Knoop)	650
Specific Gravity	≈ 4.7 g/cm ³

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

See next page for further material specifications.



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.

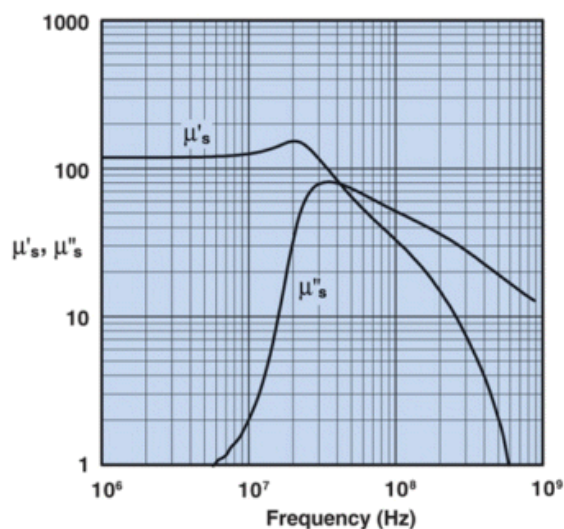
EMI suppression beads, beads on leads, SM beads, wound beads, multi-aperture cores, round cable snap-its, rods, antenna/RFID rods, and toroids are all available in 61 material.

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

61 Material Characteristics:

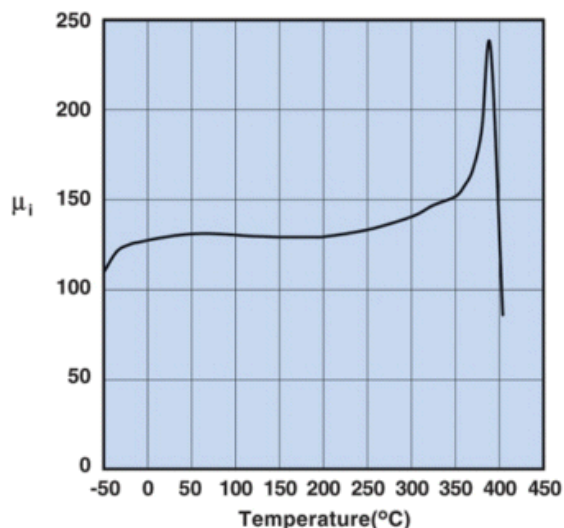
Property	Unit	Symbol	Value
Initial Permeability @ B < 10 gauss		μ_i	125
Flux Density @ Field Strength	gauss oersted	B H	2350 15
Residual Flux Density	gauss	B_r	1200
Coercive Force	oersted	H_c	1.8
Loss Factor @ Frequency	10^{-6} MHz	$\tan \delta / \mu_i$	30 1.0
Temperature Coefficient of Initial Permeability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

Complex Permeability vs. Frequency



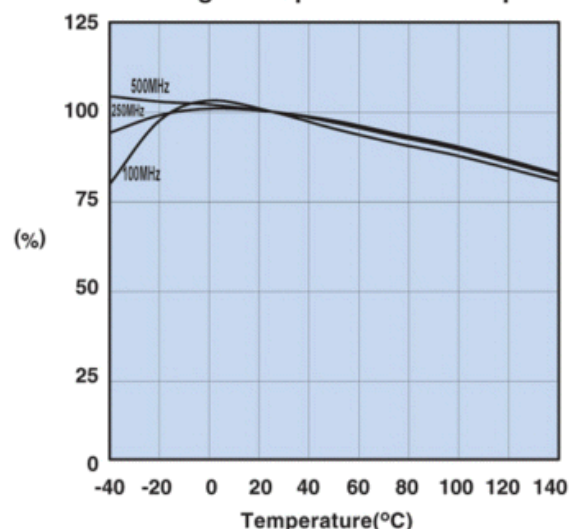
Measured on a 19/10/6mm toroid using the HP 4284A and the HP 4291A.

Initial Permeability vs. Temperature



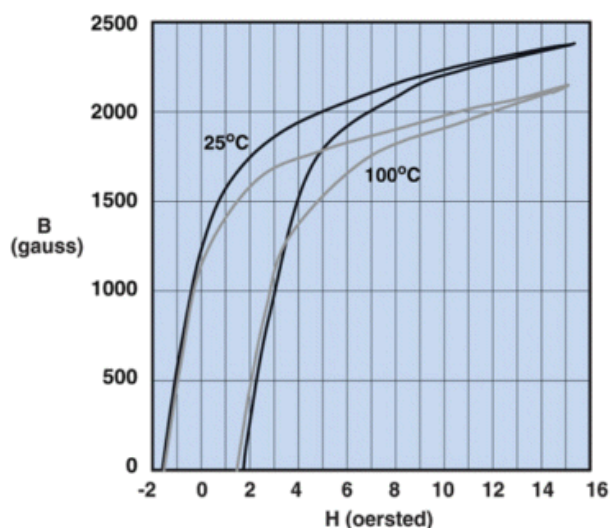
Measured on a 19/10/6mm toroid at 100kHz.

Percent of Original Impedance vs. Temperature



Measured on a 2661000301 using the HP4291A.

Hysteresis Loop



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



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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