

Part Number: 2661540202
 Frequency Range: Higher Frequencies 200-1000 MHz (61 material)
 Description: 61 ROUND CABLE CORE
 Application: Suppression Components
 Where Used: Cable Component
 Part Type: Round Cable EMI Suppression Cores

Mechanical Specifications

Weight: 8.300 (g)

Part Type Information

Fair-Rite offers a broad selection of ferrite EMI suppression cable cores in several materials with guaranteed minimum impedance specifications.

-All cable cores have been burnished to remove the sharp edges.

-The column 'H' (Oe) gives for each cable core 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-turns) product. For the effect of the dc bias on the impedance of the core material, see the figures 18-23 in the application note 'How to choose Ferrite Components for EMI Suppression'.

-Suppression cable cores are controlled for impedances only. Minimum impedance values are specified for the + marked frequencies. The minimum impedance is typically the listed impedance less 20%.

-Single turn impedance tests for 31, 43 and 46 material cores are performed on the 4193A Vector Impedance Meter. The 61 material parts are tested on the 4191A RF Impedance Analyzer. Cores are tested with the shortest Practical wire length.

-For smaller suppression parts, refer to the EMI Suppression Bead section of our catalog.

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

-The 'C' dimension, the core length, can be modified to suit specific applications.

-Our Expanded Cable and Suppressor Kit (part number 0199000005) Contains a selection of these suppression cores.

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



Mechanical Specifications

| Dim | mm | mm tol | nominal inch | inch misc. |
|-----|-------|-----------|-----------------|---------------|
| A | 14.30 | ±0.45 | 0.562 | - |
| B | 6.35 | ±0.25 | 0.250 | - |
| C | 13.80 | -0.70 | 0.530 | - |
| D | - | - | - | - |
| E | - | - | - | - |
| F | - | - | - | - |
| G | - | - | - | - |
| H | - | - | - | - |
| J | - | - | - | - |
| K | - | - | - | - |

Electrical Specifications

| Typical Impedance (Ω) | |
|--------------------------------|-----|
| 100 MHz | 100 |
| 250 MHz+ | 145 |
| 500 MHz+ | 185 |
| 1000 MHz | 260 |

| Electrical Properties | |
|-----------------------|-----|
| H(Oe) | .43 |

Land Patterns

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

Winding Information

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

Reel Information

| Tape Width | Pitch | Parts 7 " | Parts 13 " | Parts 14 " |
|------------|-------|-----------|------------|------------|
| 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 ½ turn is defined as a single pass through a hole.

Σ 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.

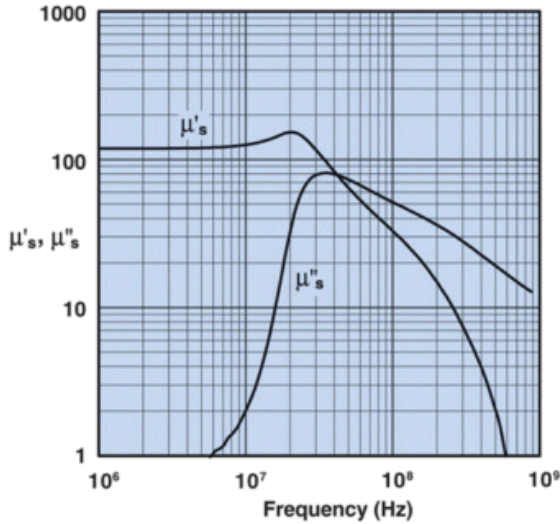
EMI suppression beads, beads on leads, SM beads, wound beads, multi-aperture cores, round cable snap-its, rods, antenna/RFID rods, and toroids are all available in 61 material.

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

61 Material Characteristics:

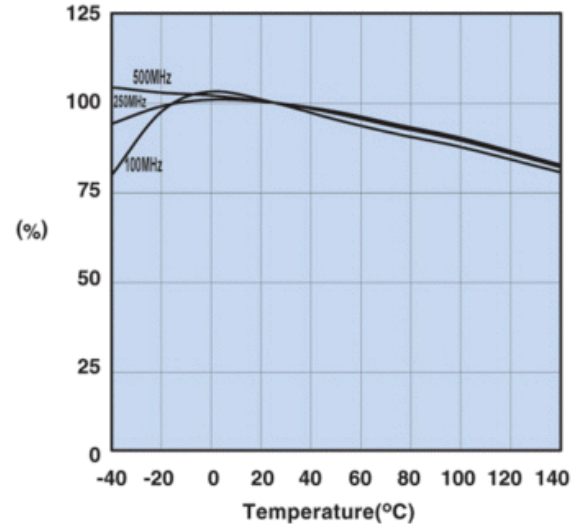
| Property | Unit | Symbol | Value |
|--|------------------|---------------------|-----------------|
| Initial Permeability @ B < 10 gauss | | μ_i | 125 |
| Flux Density @ Field Strength | gauss oersted | B H | 2350 15 |
| Residual Flux Density | gauss | B_r | 1200 |
| Coercive Force | oersted | H_c | 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



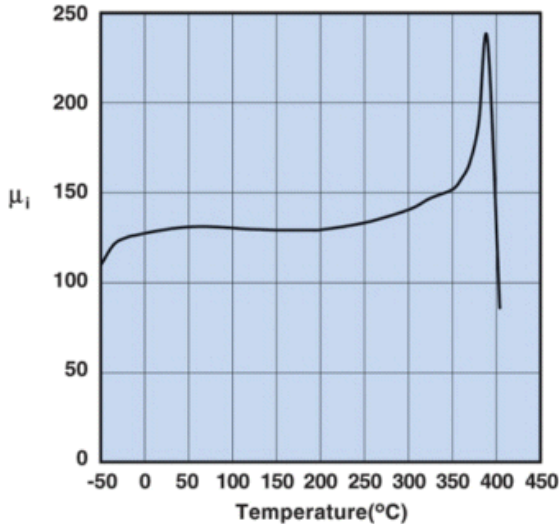
Measured on a 19/10/6mm toroid using the HP 4284A and the HP 4291A.

Percent of Original Impedance vs. Temperature



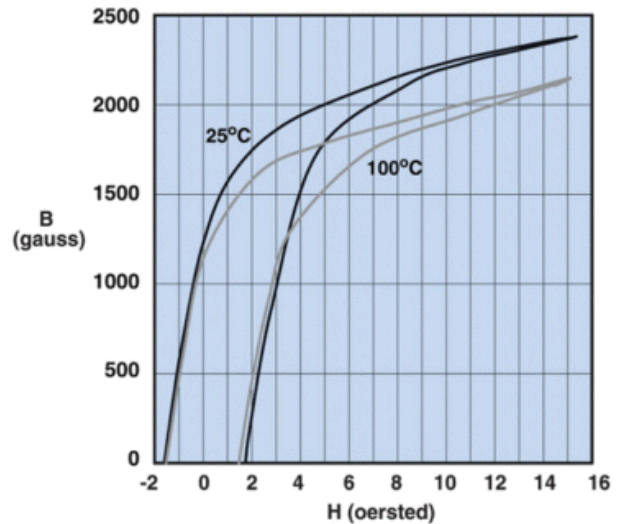
Measured on a 2661000301 using the HP4291A.

Initial Permeability vs. Temperature



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

Hysteresis Loop



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



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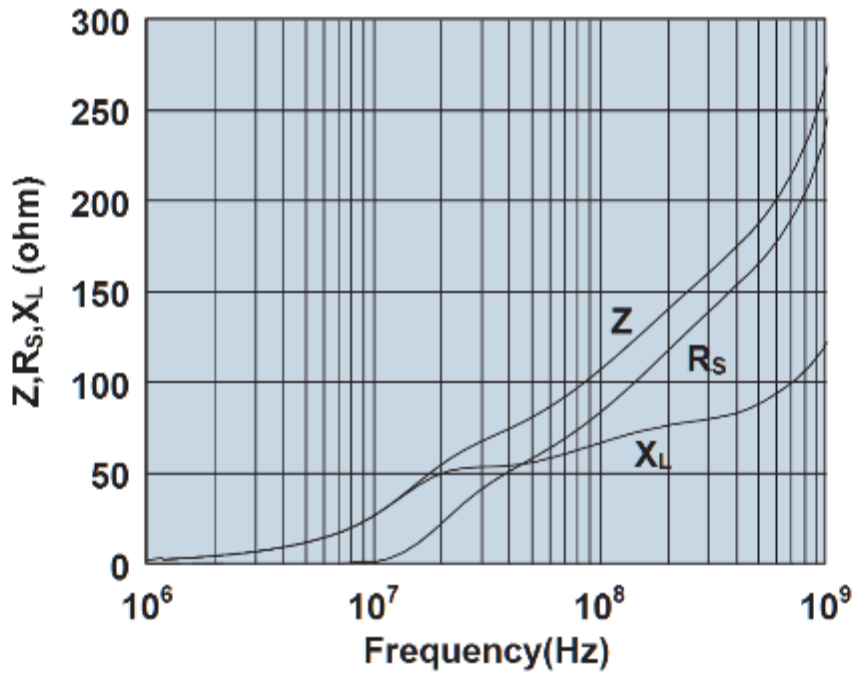
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RoHS
Material
Declaration

2661540202



Impedance, reactance, and resistance vs. frequency.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
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- Входной контроль качества.
- Наличие сертификата ISO.

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Конструкторский отдел помогает осуществить:

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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