

Figure 4

Part Number: 2644247101
 Frequency Range: Connector Plates
 Description: 44 MULTI-HOLE PLATE
 Application: Suppression Components
 Where Used: Cable Component
 Part Type: Connector EMI Suppression Plates

Mechanical Specifications

Weight: .740 (g)

Part Type Information

To provide suppression of conducted EMI at critical interfaces Fair-Rite has available a line of suppression plates that can be used with many types of connectors. All connector plates are supplied in the NiZn 44 grade ideally suited for this application because of its high impedance along with a high resistivity.

-Connector plates are controlled for impedances only. Minimum impedance values are specified for the + marked frequencies. The minimum impedance is typically the listed typical impedance less 20%. Single turn impedance tests are performed on the 4193A Vector Impedance Analyzer, using the shortest practical wire length.

-The 'C' Dimension can be modified to suit specific applications.

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

-Explanation of Part Numbers: Digit 1&2 = product class and 3&4 = the 44 material grade.



Mechanical Specifications

| Dim | mm | mm tol | nominal inch | inch misc. |
|-----|-------|-----------|-----------------|---------------|
| A | 12.52 | ±0.13 | 0.493 | - |
| B | 4.94 | ±0.14 | 0.194 | - |
| C | 3.05 | ±0.13 | 0.120 | - |
| D | 2.54 | ±0.13 | 0.100 | - |
| E | 2.54 | ±0.10 | 0.100 | - |
| F | 1.22 | ±0.07 | 0.048 | - |
| G | - | - | - | - |
| H | - | - | - | - |
| J | - | - | - | - |
| K | - | - | - | - |

Electrical Specifications

| Typical Impedance (Ω) | |
|--------------------------------|----|
| 25 MHz+ | 23 |
| 100 MHz+ | 40 |

| Electrical Properties | |
|-----------------------|--|
| | |

Land Patterns

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

Winding Information

| Turns Tested | Wire Size | 1st Wire Length | 2nd Wire 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 |
|---------|--------|
| 10 | 2 |

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.

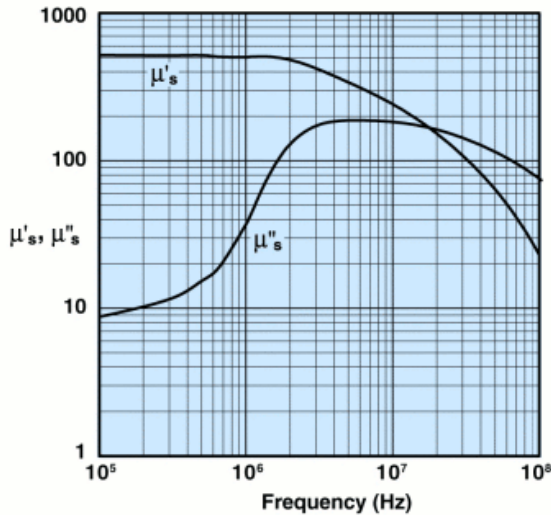
See next page for further material specifications.



44 Material Characteristics:

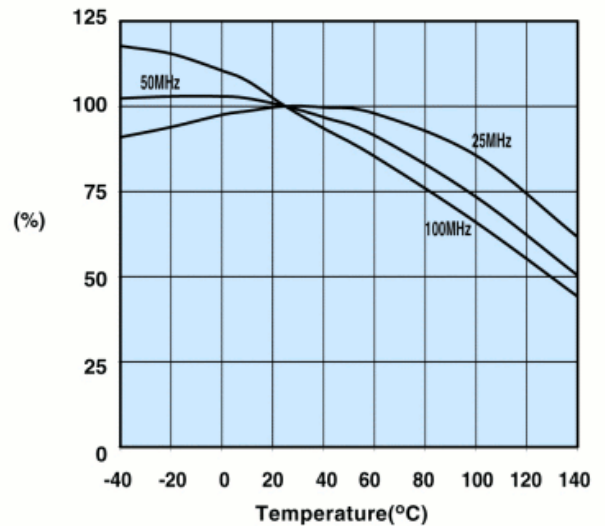
| Property | Unit | Symbol | Value |
|--|------------------|---------------------|-----------------|
| Initial Permeability @ B < 10 gauss | | μ_i | 500 |
| Flux Density @ Field Strength | gauss oersted | B H | 3000 10 |
| Residual Flux Density | gauss | B_r | 1100 |
| Coercive Force | oersted | H_c | 0.45 |
| Loss Factor @ Frequency | 10^{-6} MHz | $\tan \delta \mu_i$ | 125 1.0 |
| Temperature Coefficient of Initial Permeability (20 -70°C) | %/°C | | 0.75 |
| Curie Temperature | °C | T_c | >160 |
| Resistivity | Ω cm | ρ | 1×10^9 |

Complex Permeability vs. Frequency



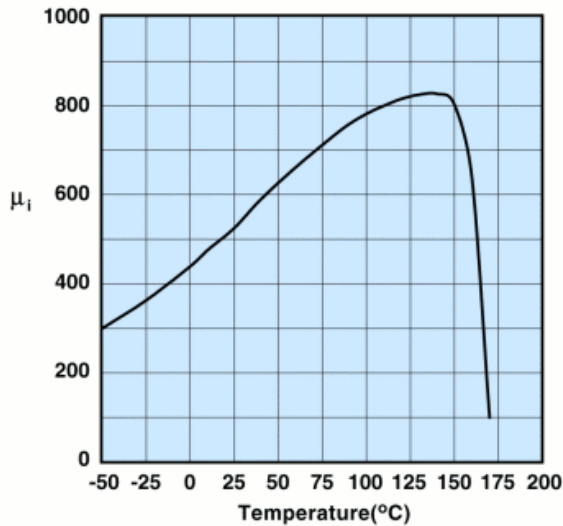
Measured on a 17/10/6mm toroid using the HP 4284A and the HP 4291A.

Percent of Original Impedance vs. Temperature



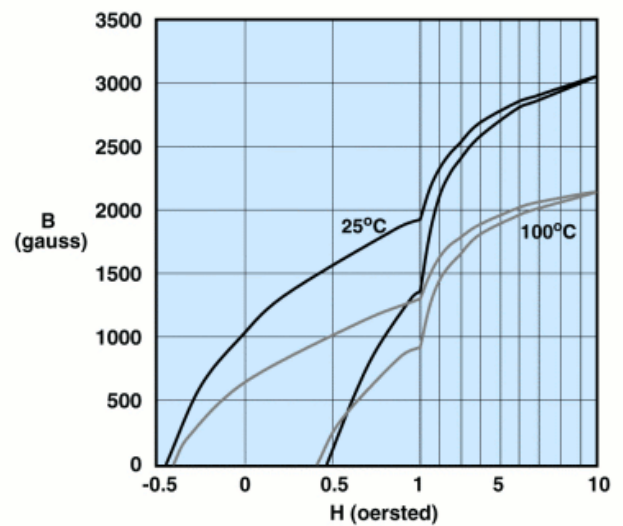
Measured on a 2644000301 using the HP4291A.

Initial Permeability vs. Temperature



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

Hysteresis Loop



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



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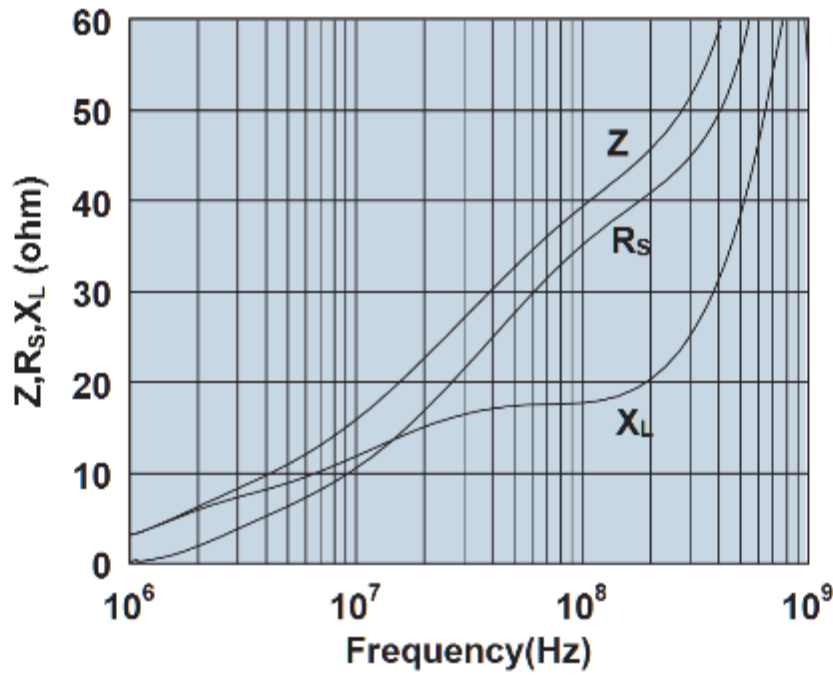
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Fair-Rite Product's Catalog
Part Data Sheet, 2644247101
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RoHS
Material
Declaration

2644247101



Impedance, reactance, and resistance vs. frequency.



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- Подбор аналогов;
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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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