

Part Number: 2631102002
Frequency Range: Lower & Broadband Frequencies 1-300 MHz (31 material)
Description: CS26/13/29-31 31 ROUND CABLE CORE
Application: Suppression Components
Where Used: Cable Component
Part Type: Round Cable EMI Suppression Cores
Preferred Part: ✓

Part Type Information

Mechanical Specifications

Weight: 55.00 (g)

[View Chart Legend](#)

| Dim | mm | mm tol | nominal inch | inch misc. | Land Patterns | | | | | Winding Information | | | | |
|-----|-------|--------|--------------|------------|-------------------|---------------|------------------|----------------|------------------|---------------------|-----------|-----------------|-----------------|---|
| | | | | | V | W (ref) | X | Y | Z | Turns Tested | Wire Size | 1st Wire Length | 2nd Wire Length | |
| A | 25.90 | ±0.75 | 1.020 | - | - | - | - | - | - | - | - | - | - | - |
| B | 12.80 | ±0.25 | 0.505 | - | Reel Information | | | | | Pkg Size | | | | |
| C | 28.60 | ±0.80 | 1.125 | - | Tape Width mm | Pitch mm | Parts 7" Reel | Parts 13" Reel | Parts 14" Reel | Connector Plate | | | | |
| D | - | - | - | - | - | - | - | - | - | # Holes | # Rows | | | |
| E | - | - | - | - | Cable Information | | | | | | | | | |
| F | - | - | - | - | Max Diameter | Max Dimension | Solid Equivalent | | Flat Cable Cores | | | | | |
| G | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| H | - | - | - | - | | | | | | | | | | |
| J | - | - | - | - | | | | | | | | | | |
| K | - | - | - | - | | | | | | | | | | |

Electrical Specifications

| Typical Impedance (Ω) | |
|-----------------------|-----|
| 1 MHz | 31 |
| 5 MHz | 79 |
| 10 MHz* | 103 |
| 25 MHz* | 156 |
| 100 MHz* | 260 |
| 250 MHz | 280 |

| Electrical Properties | |
|-----------------------|----|
| H(Oe) | 22 |

Ferrite Material Constants

| | |
|---------------------------------------|---|
| Specific Heat | 0.25 cal/g ^o C |
| Thermal Conductivity | 10x10 ⁻³ cal/sec/cm ^o C |
| Coefficient of Linear Expansion | 8 - 10x10 ⁻⁶ / ^o 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.

A MnZn ferrite designed specifically for EMI suppression applications from as low as 1 MHz up to 500 MHz. This material does not have the dimensional resonance limitations associated with conventional MnZn ferrite materials.

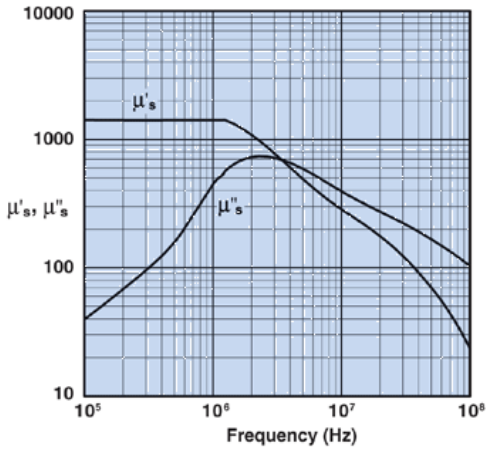
Round cable EMI suppression cores, round cable snap-its, flat cable EMI suppression cores, and flat cable snap-its are all available in 31 material.

31 Material Specifications:

| Property | Unit | Symbol | Value |
|--|-------------------------|----------------------|-----------|
| Initial Permeability @ B < 10 gauss | | μ _i | 1500 |
| Flux Density @ Field Strength | gauss oersted | B H | 3400 5 |
| Residual Flux Density | gauss | B _r | 2500 |
| Coercive Force | oersted | H _c | 0.35 |
| Loss Factor @ Frequency | 10 ⁻² MHz | tan δ/μ _i | 20 0.1 |
| Temperature Coefficient of Initial Permeability (20 -70°C) | %/ ^o C | | 1.6 |

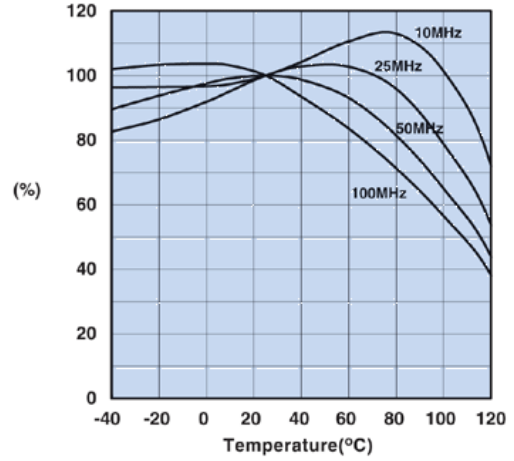
| | | | |
|-------------------|------|----------------|-------------------|
| Curie Temperature | °C | T _c | >130 |
| Resistivity | Ω cm | ρ | 3x10 ³ |

Complex Permeability vs. Frequency



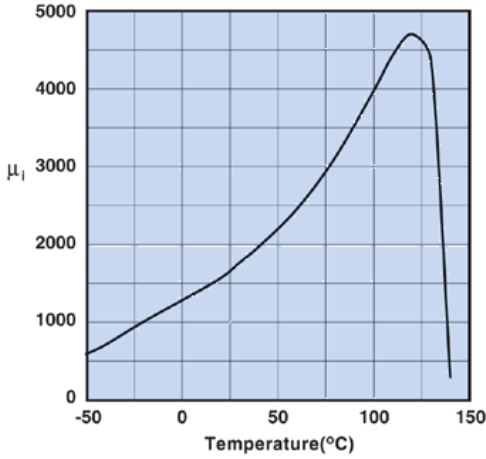
Measured on a 17/10/6mm toroid at 25°C using the HP 4284A and the HP 4291A.

Percent of Original Impedance vs. Temperature



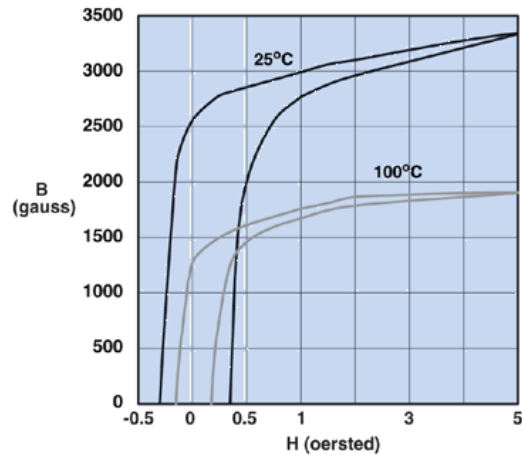
Measured on a 2631000301 using the HP4291A.

Initial Permeability vs. Temperature



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

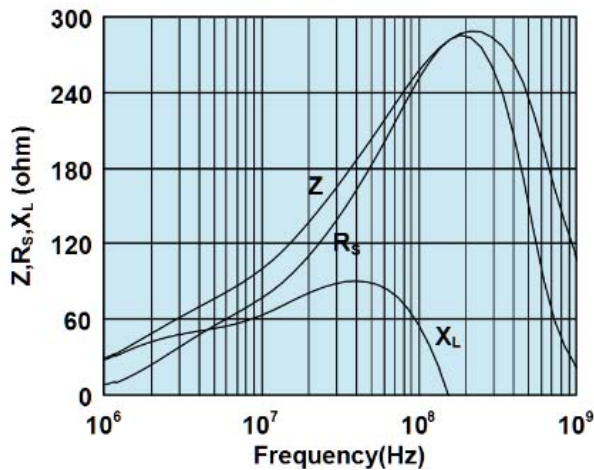
Hysteresis Loop



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

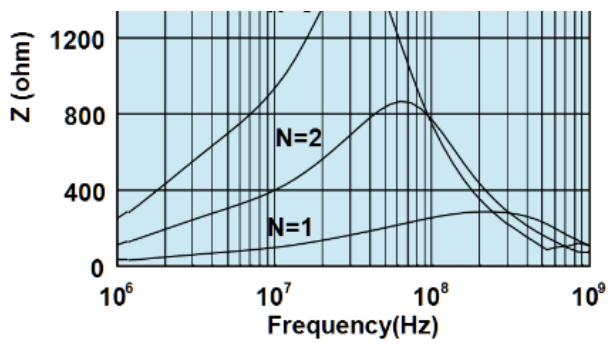
Impedance Curve

2631102002



Impedance, reactance, and resistance vs. frequency.





Impedance vs. frequency with one, two, and three turns.