Fair-Rite Products Corp.
Your Signal Solution®
Ferrite Components for the Electronics Industry
Fair-Rite Products Corp. PO Box J,One Commercial Row, Wallkill, NY 12589-0288
Phone: (888) 324-7748 www.fair-rite.com

Fair-Rite Product's Catalog
Part Data Sheet, 5695362321
Printed: 2013-07-03

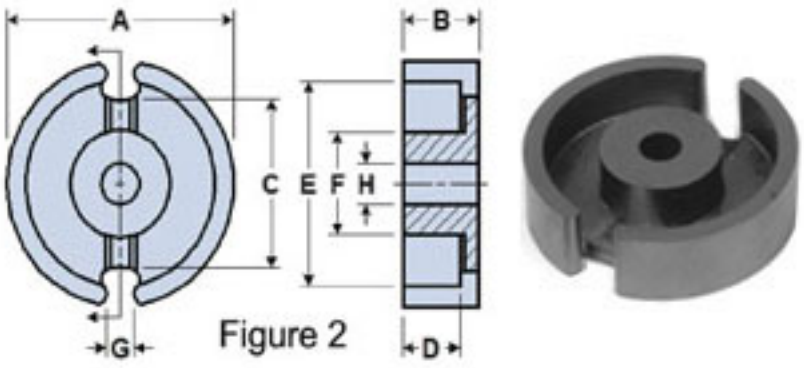


Figure 2

| | |
|---|---|
| Part Number: | 5695362321 |
| Frequency Range: | Dimensions |
| Description: | 95 POT CORE |
| Application: | Inductive Components |
| Where Used: | Closed Magnetic Circuit |
| Part Type: | Pot Cores |
| Generic Name: | P36/22 |

## Mechanical Specifications

| | |
|---|---|
| Weight: | 54.000 (g) per Set |

## Part Type Information

P9/5S, P11/7S, P14/8, P18/11, P22/13, P26/16, P30/19, P36/22

Pot cores have found application in all types of inductive devices. The core configuration provides a high degree of self-shielding. It also facilitates gapping to enhance utility for a variety of magnetic designs.

-Pot cores can be supplied with the center post gapped to a mechanical dimension or an AL value.

-AL value is measured at 1 kHz, B < 10 gauss.

-Weight indicated is per pair or set.

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## Mechanical Specifications

| Dim | mm | mm tol | nominal inch | inch misc. |
|---|---|---|---|---|
| A | 35.60 | ±0.6 | 1.402 | - |
| B | 10.90 | ±0.2 | 0.429 | - |
| C | 26.20 | ±0.6 | 1.031 | - |
| D | 7.60 | ±0.3 | 0.299 | - |
| E | 29.50 | min | 1.161 | min |
| F | 15.90 | ±0.3 | 0.626 | - |
| G | 5.15 | ±0.4 | 0.203 | - |
| H | 5.45 | ±0.25 | 0.215 | - |
| J | - | - | - | - |
| K | - | - | - | - |

## Electrical Specifications

| Typical Impedance (Ω) | |
|---|---|
| | |

| Electrical Properties | |
|---|---|
| $A_L$ (nH) | 10000 ±25% |
| Ae($cm^2$) | 1.84000 |
| Σl/A($cm^{-1}$) | 2.90 |
| $l_e$ (cm) | 5.53 |
| $V_e$ ($cm^3$) | 9.78000 |
| $A_{min}$ ($cm^2$) | 1.640 |

## 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 |
|---|---|
| - | - |

### 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.

Σl/A - Core Constant
$l_e$: Effective Path Length
$A_e$: Effective Cross-Sectional Area
$V_e$: Effective Core Volume
$A_L$ - Inductance Factor $\left(\frac{L}{N^2}\right)$
NI - Value of dc Ampere-turns
N/AWG - Number of Turns/Wire Size for Test Coil

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# Ferrite Material Constants

| | |
|---|---|
| Specific Heat | 0.25 cal/g/°C |
| Thermal Conductivity | **3.5 - 4.5 mW/cm** - °C |
| Coefficient of Linear Expansion | 8 - $10 \times 10^{-6}$/°C |
| Tensile Strength | 4.9 kgf/mm$^2$ |
| Compressive Strength | 42 kgf/mm$^2$ |
| Young's Modulus | $15 \times 10^3$ kgf/mm$^2$ |
| Hardness (Knoop) | 650 |
| Specific Gravity | $\approx$ 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.

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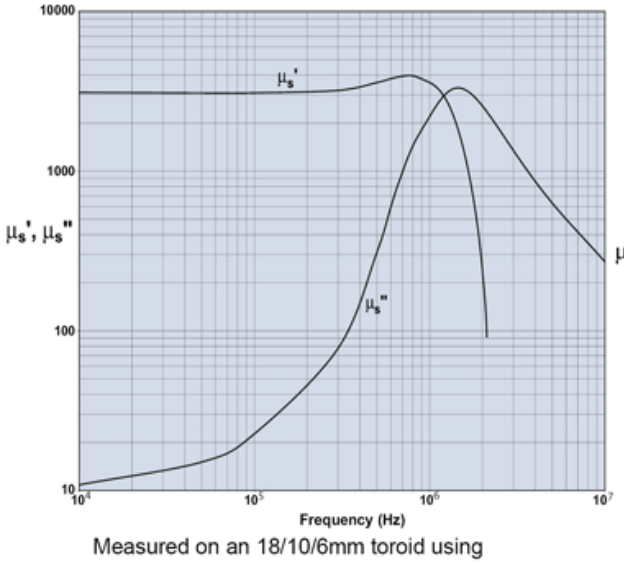
**A low loss MnZn ferrite material for power applications up to 200 kHz with low temperature variation. New type 95 Material is a low loss power material, which features less power loss variation over temperature (25-120°C) at moderate flux densities for operation below 200 kHz.**

Shapes available in 95 material are Toroids, U cores, Pot Cores, RM, PQ, EFD, EP.

## 95 Material Characteristics

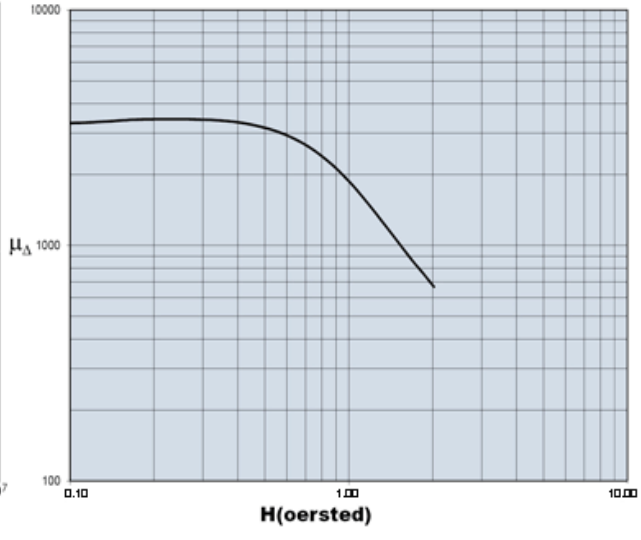
| Property | Unit | Symbol | Value |
|---|---|---|---|
| Initial Permeability @ B < 10gauss | | $\mu_i$ | 3000 |
| Flux Density @ Field Strength | gauss oersted | B H | 5000 5 |
| Residual Flux Density | gauss | $B_r$ | 800 |
| Coercive Force | oersted | $H_c$ | 0.13 |
| Loss Factor @ Frequency | $10^{-6}$ MHz | $\tan\delta/\mu_i$ | 3.0 0.1 |
| Temperature Coefficient of Initial Permeability (20 - 70ºC) | % / °C | | 0.4 |
| Curie Temperature | °C | $T_c$ | > 220 |
| Resistivity | ohm-cm | ρ | 200 |

### Complex Permeability vs. Frequency

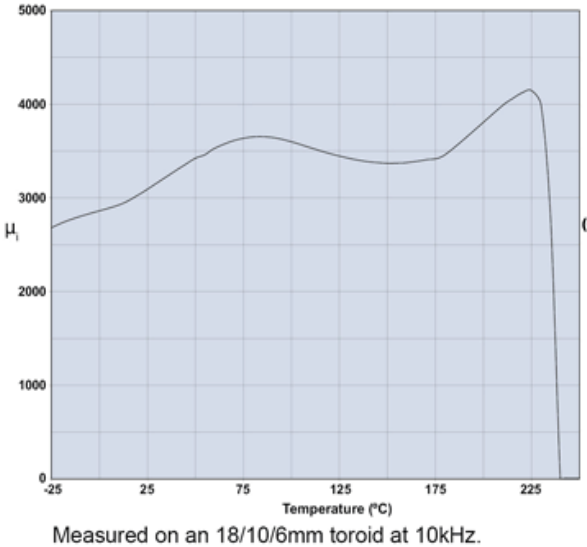



Measured on an 18/10/6mm toroid using HP 4284A and HP4291A.

### Incremental Permeability vs. H

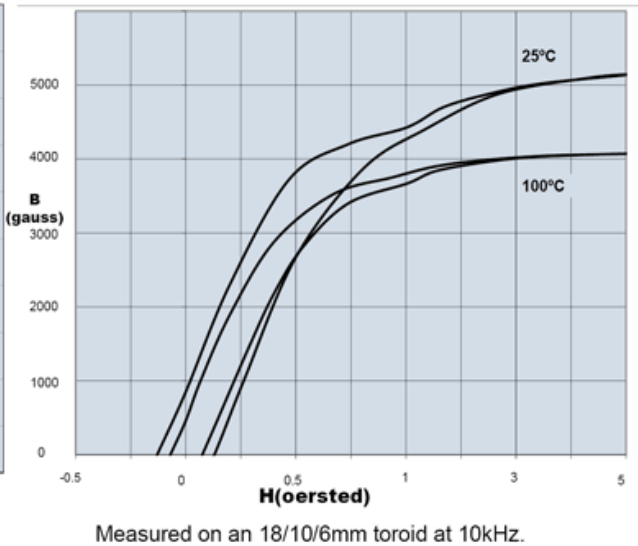



### Initial Permeability vs. Temperature




Measured on an 18/10/6mm toroid at 10kHz.

### Hysteresis Loop



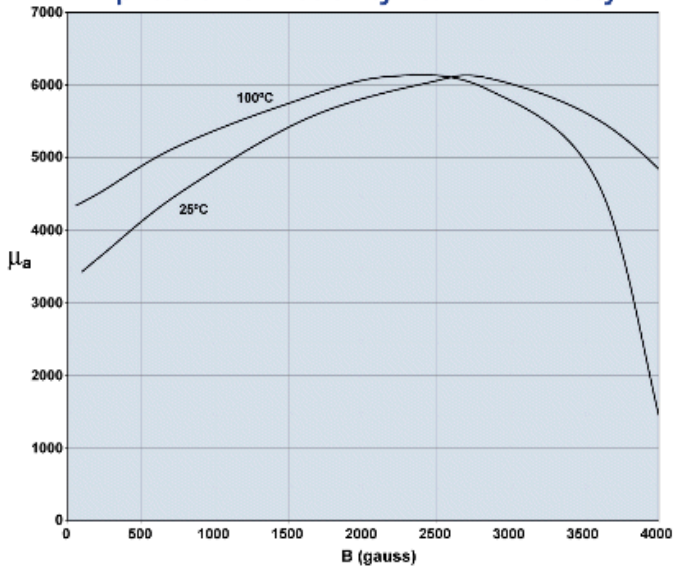

Measured on an 18/10/6mm toroid at 10kHz.

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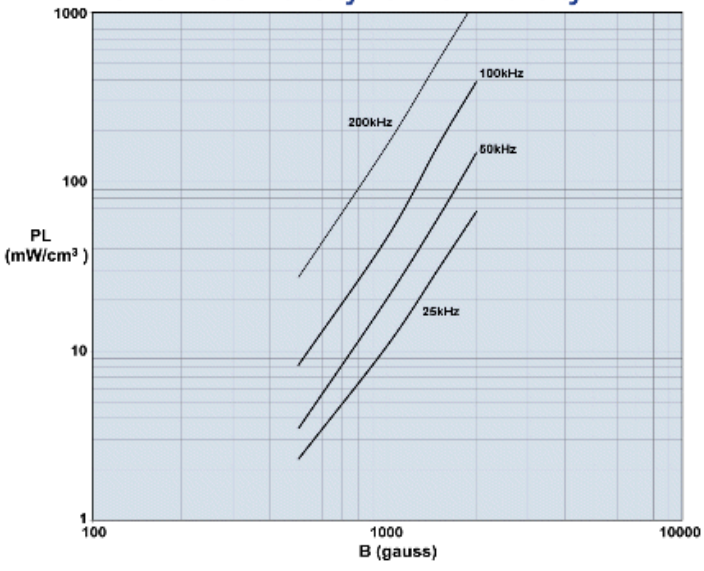
**A low loss MnZn ferrite material for power applications up to 200kHz with low temperature variation.**

## Amplitude Permeability vs. Flux Density



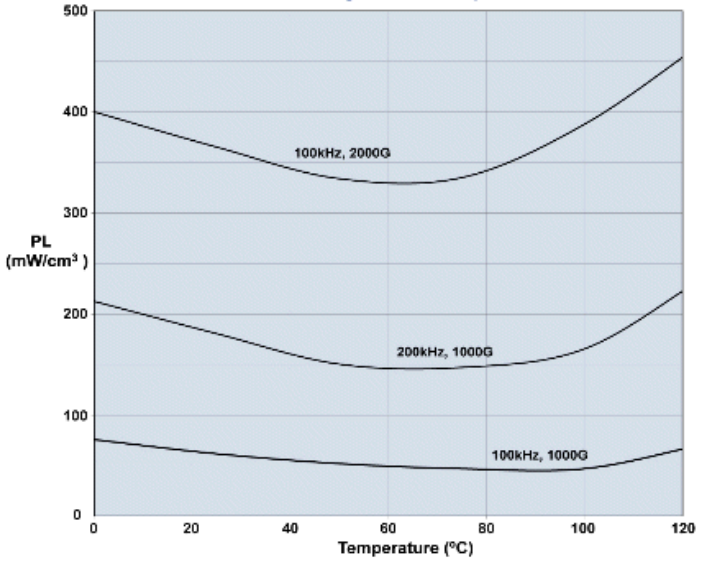

Measured on an 18/10/6mm toroid at 10kHz.

## Power Loss Density vs. Flux Density



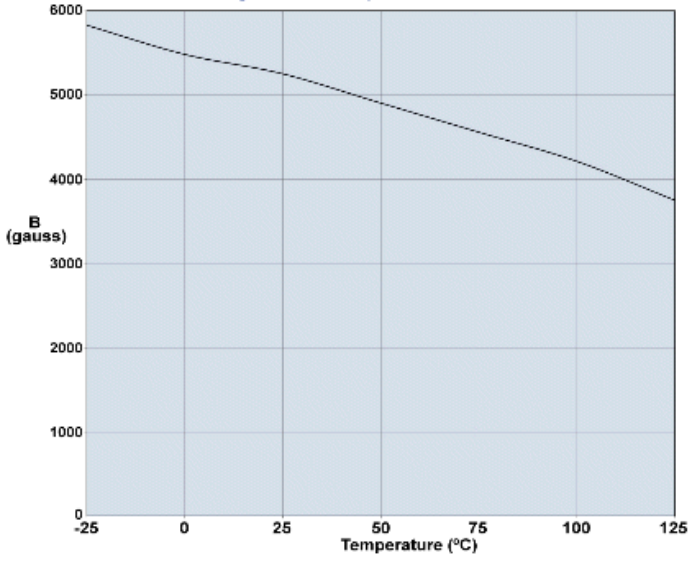

Measured on an 18/10/6mm toroid using the Clarke Hess 258 VAW at 100°C.

## Power Loss Density vs. Temperature




Measured on an 18/10/6mm toroid using the Clarke Hess 258 VAW at 100°C.

## Flux Density vs. Temperature




Measured on an 18/10/6mm toroid at 10kHz and H=5 oersted.

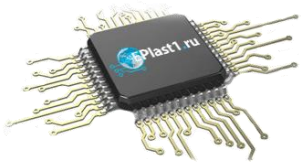
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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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