

Part Number: 6595130121  
 Frequency Range: Dimensions  
 Description: 95 EP CORE  
 Application: Inductive Components  
 Where Used: Closed Magnetic Circuit  
 Part Type: EP Cores  
 Generic Name: EP13

## Mechanical Specifications

Weight: 2.350 (g) per Set

## Part Type Information

EP7, EP10, EP13, EP17, EP20

EP designs reduce the effect of residual air gap upon the effective permeability of the core, hence they minimize coil volume for a given inductance.

-EP 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.



## Mechanical Specifications

Dim	mm	mm tol	nominal inch	inch misc.
A	12.50	± 0.3	0.492	-
B	6.50	± 0.3	0.256	-
C	8.80	± 0.2	0.346	-
D	4.70	± 0.2	0.185	-
E	10.00	± 0.3	0.394	-
F	4.40	± 0.2	0.173	-
G	-	-	-	-
H	-	-	-	-
J	-	-	-	-
K	2.50	min	0.098	min

## Electrical Specifications

Typical Impedance ( $\Omega$ )	

Electrical Properties	
$A_L$ (nH)	1800 ±25%
$A_e$ (cm <sup>2</sup> )	0.19700
$\sum I/A$ (cm <sup>-1</sup> )	11.80
$l_e$ (cm)	2.32
$V_e$ (cm <sup>3</sup> )	0.45700
$A_{min}$ (cm <sup>2</sup> )	.148

### 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.

$\sum I/A$  - 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

## 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
-	-



## Ferrite Material Constants

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

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

See next page for further material specifications.



# 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, 6595130121  
Printed: 2013-07-03



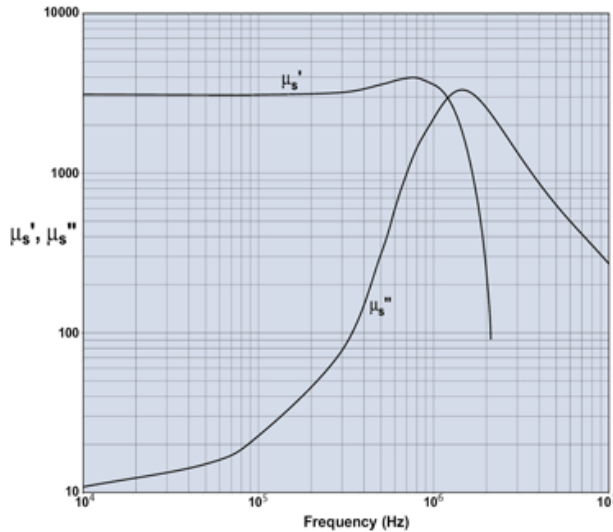
A low loss MnZn ferrite material for power applications up to 200 kHz with low temperature variation. New type 95 Material is a low loss power material, which features less power loss variation over temperature (25-120°C) at moderate flux densities for operation below 200 kHz.

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

## 95 Material Characteristics

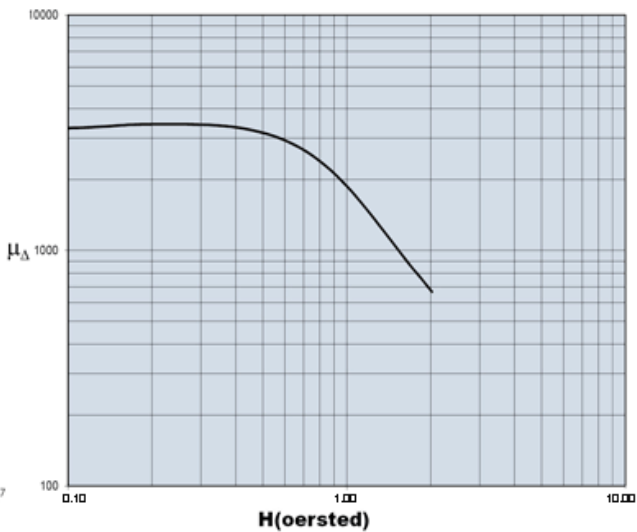
Property	Unit	Symbol	Value
Initial Permeability @ B < 10gauss		$\mu_i$	3000
Flux Density @ Field Strength	gauss oersted	B H	5000 5
Residual Flux Density	gauss	$B_r$	800
Coercive Force	oersted	$H_c$	0.13
Loss Factor @ Frequency	$10^{-6}$ MHz	$\tan\delta/\mu_i$	3.0 0.1
Temperature Coefficient of Initial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

### Complex Permeability vs. Frequency

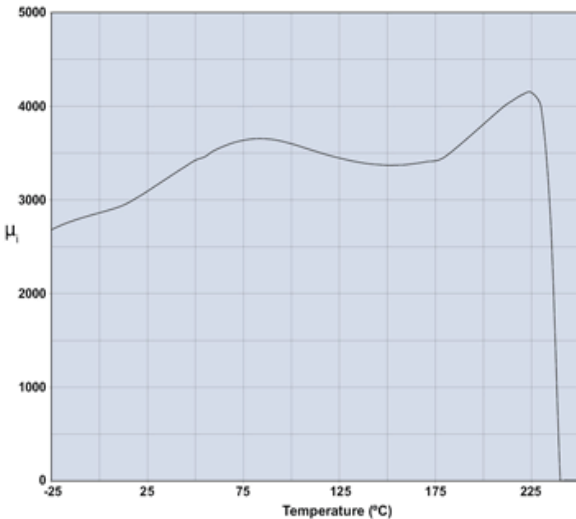


Measured on an 18/10/6mm toroid using HP 4284A and HP4291A.

### Incremental Permeability vs. H

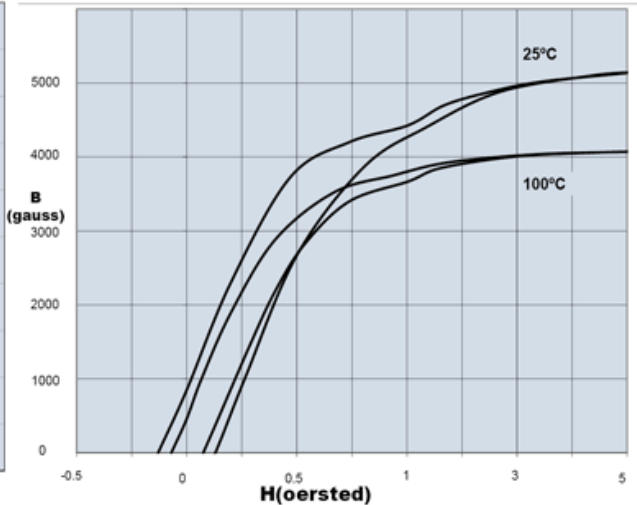


### Initial Permeability vs. Temperature



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

### Hysteresis Loop

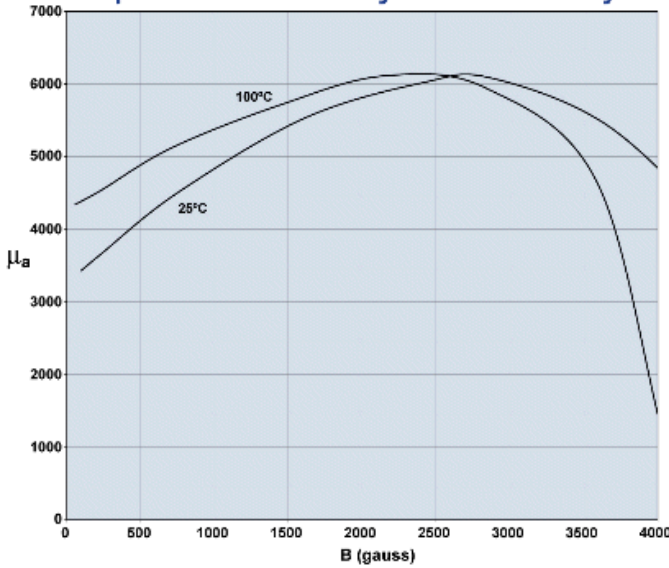


Measured on an 18/10/6mm toroid at 10kHz.



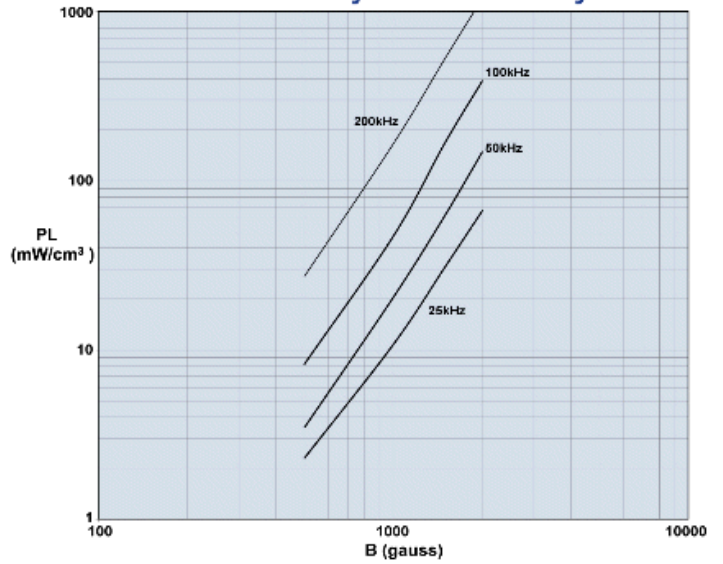
A low loss MnZn ferrite material for power applications up to 200kHz with low temperature variation.

**Amplitude Permeability vs. Flux Density**



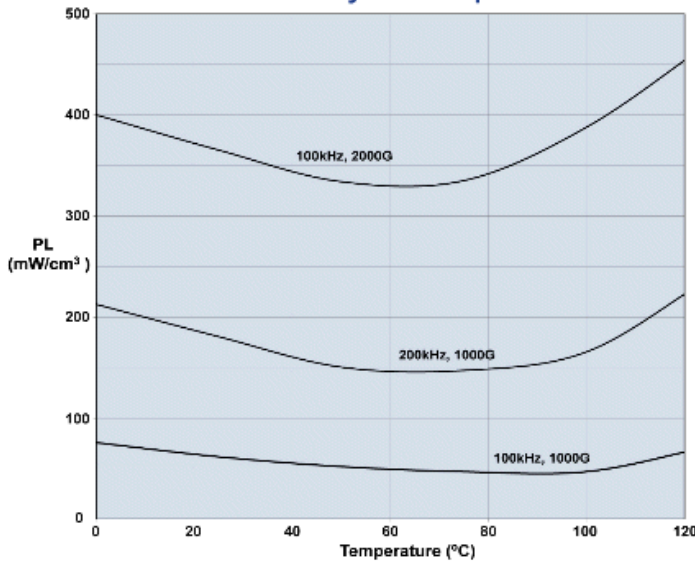
Measured on an 18/10/6mm toroid at 10kHz.

**Power Loss Density vs. Flux Density**



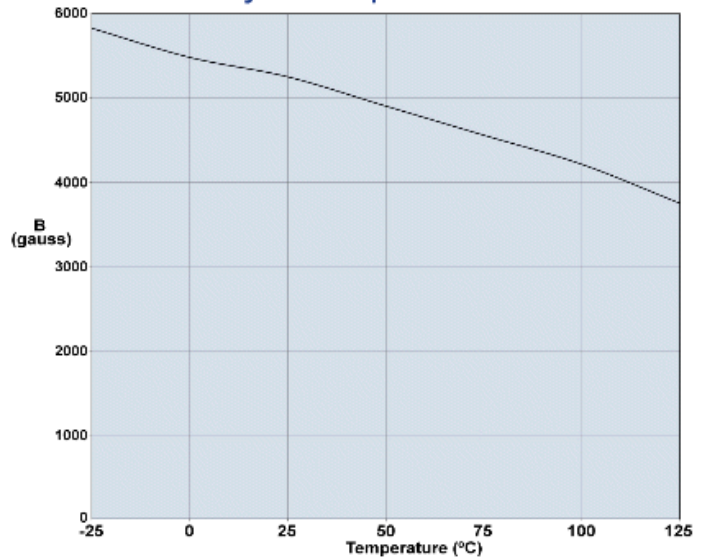
Measured on an 18/10/6mm toroid using the Clarke Hess 258 VAW at 100°C.

**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 «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:

- Конкурентоспособные цены и скидки постоянным клиентам.
- 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.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

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



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)