

Figure 1
Common-Mode Bead

Land Pattern
for Fig. 1
E = Z

Part Number: 2744041447
Frequency Range: Broadband Frequencies 10-300 MHz (44 material)
Description: CMS2.9/5.6/4.7-44 44 COMMON MODE SM BEAD
Application: Suppression Components
Where Used: Board Component
Part Type: SM Beads (Common-Mode)
Preferred Part: ✓

Part Type Information

Mechanical Specifications

Weight: 0.30 (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	2.85	±0.20	0.112	-	1.000 0.040	4.000 0.158	1.800 0.071	3.000 0.118	2.540 0.100	-	-	-	-
B	5.60	±0.20	0.220	-	Reel Information Tape Width mm: 12, Pitch mm: 8, Parts 7" Reel: -, Parts 13" Reel: 2400, Parts 14" Reel: -					Pkg Size -			
C	5.00	-0.60	0.185	-						Connector Plate # Holes: -, # Rows: -			
D	1.35	±0.50	0.053	-	Cable Information Max Diameter: -, Max Dimension: -, Solid Equivalent: -, Flat Cable Cores: -								
E	2.54	±0.10	0.100	-									
F	-	-	-	-									
G	-	-	-	-									
H	-	-	-	-									
J	-	-	-	-									
K	-	-	-	-									

Electrical Specifications

Typical Impedance (Ω)	
10 MHz	12
25 MHz†	20
100 MHz†	33
250 MHz	41
300 MHz	-

Electrical Properties	
Max Rdc(mΩ)	1.10

Ferrite Material Constants

Specific Heat	0.25 cal/g°C
Thermal Conductivity	10x10 ⁻³ cal/sec/cm ² °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.

44 Material Specifications:

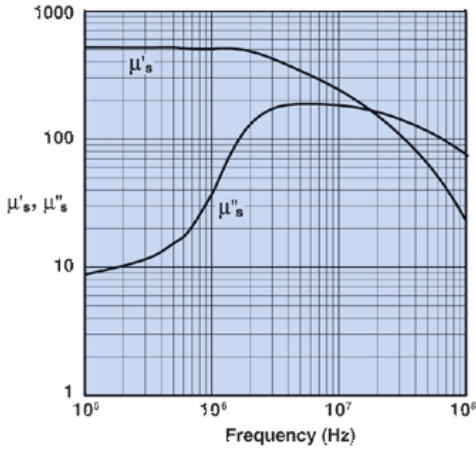
A NiZn ferrite developed to combine a high suppression performance, from 30 MHz to 500 MHz, with a very high dc resistivity.

SM beads, PC beads, wound beads, round cable snap-its, and connector EMI suppression plates are all available in 44 material.

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 ⁻⁵ MHz	tan δ/μ _i	125 1.0

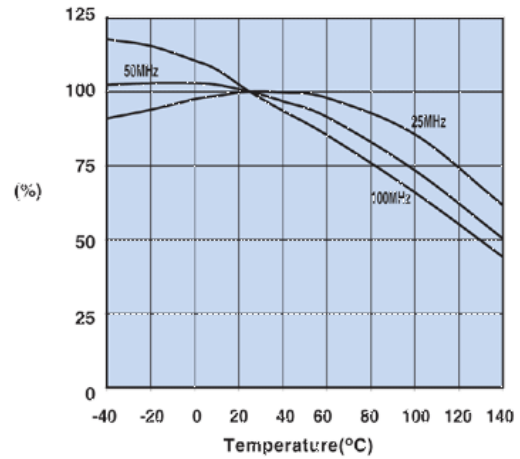
Temperature Coefficient of Initial Permeability (20-70°C)	%/°C		0.75
Curie Temperature	°C	T_c	>160
Resistivity	Ω cm	ρ	1×10^{-9}

Complex Permeability vs. Frequency



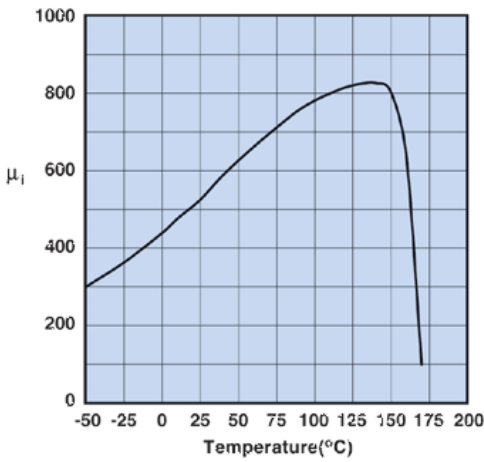
Measured on a 17/10/6mm toroid using the HP 4284A and the HP 4291A.

Percent of Original Impedance vs. Temperature



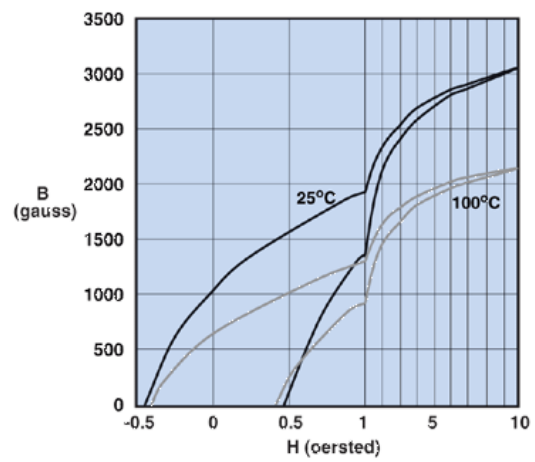
Measured on a 2644000301 using the HP4291A.

Initial Permeability vs. Temperature



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

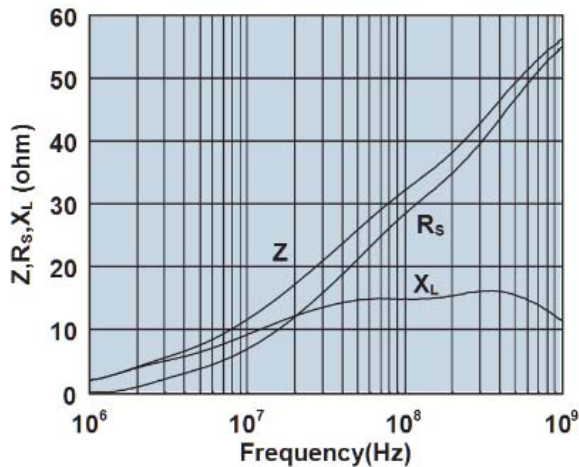
Hysteresis Loop



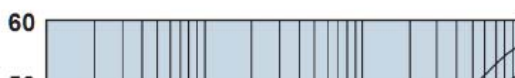
Measured on a 17/10/6mm toroid at 10kHz.

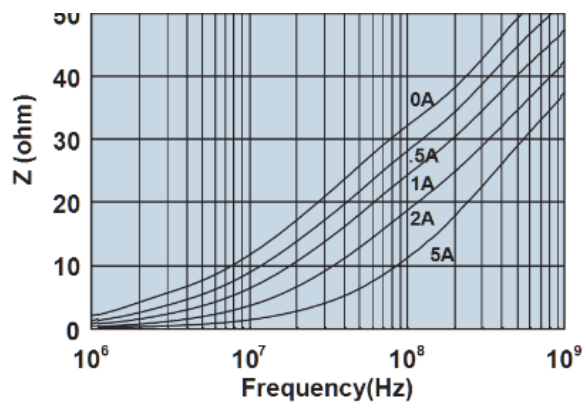
Impedance Curve

2744041447



Impedance, reactance, and resistance vs. frequency.





Impedance vs. frequency with dc bias.