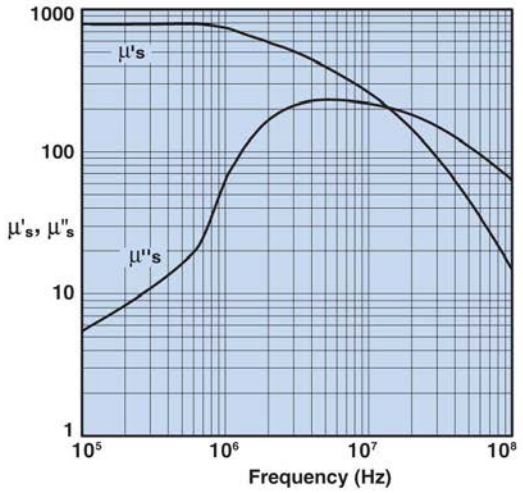
1. 43 Material Characteristics

This NiZn is our most popular ferrite for suppression of conducted EMI from 20 MHz to 250 MHz. This material is also used for inductive applications such as high frequency common-mode chokes.
EMI suppression beads, beads on leads, SM beads, multi-aperture cores, round cable EMI suppression cores, split round EMI suppression cores, round cable snap-its, flat cable EMI suppression cores, flat cable snap-its, miscellaneous suppression cores, bobbins, and toroids are all available in 43 material.

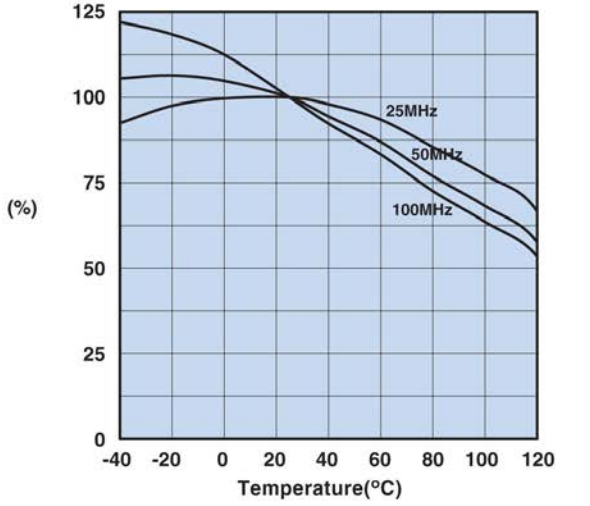
Property	Unit	Symbol	Value
Initial Permeability @ B < 10 gauss		μ_i	800
Flux Density @ Field Strength	gauss oersted	B H	2900 10
Residual Flux Density	gauss	B_r	1300
Coercive Force	oersted	H_c	0.45
Loss Factor @ Frequency	10^{-6} MHz	Tanδ/μ_i	250 1.0
Temperature Coefficient of Initial Permeability (20 -70°C)	%/°C		1.25
Curie Temperature	°C	T_c	>130
Resistivity	Ω cm	ρ	$1x10^5$
Frequency range	MHz		20 - 300

Complex Permeability vs. Frequency



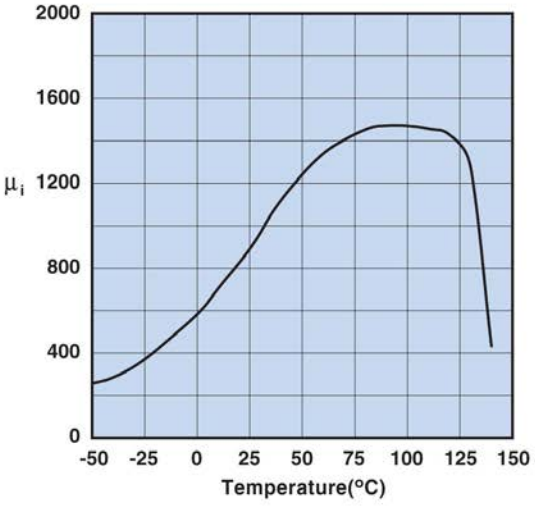
Measured on a 17/10/6mm toroid
using the HP 4284A and the HP 4291A.

Percent of Original Impedance vs. Temperature



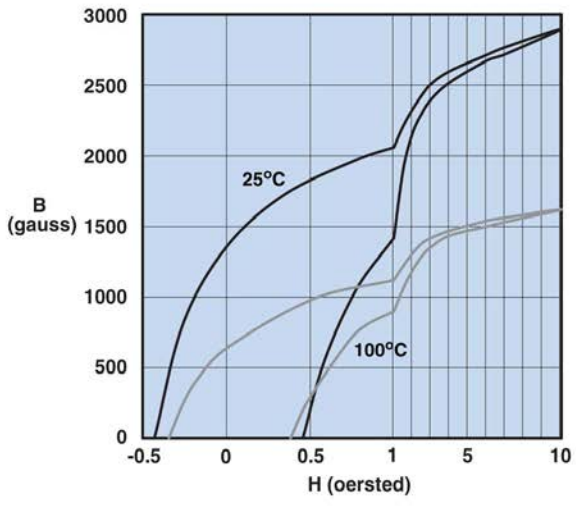
Measured on a 2643000301 using the HP4291A.

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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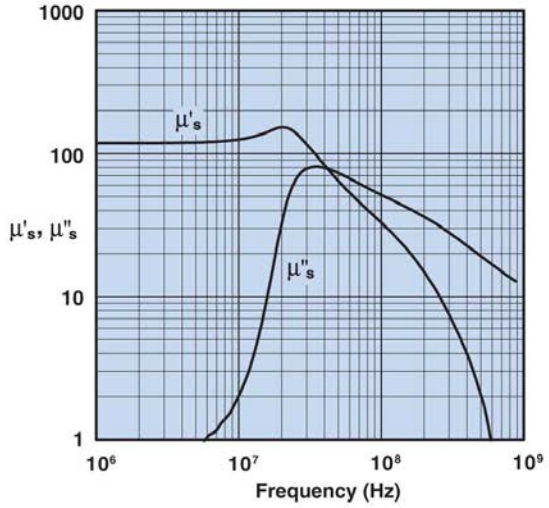
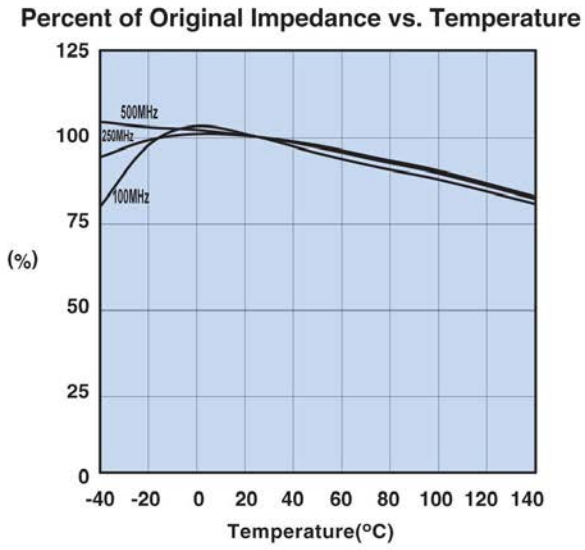
2. 61 Material Characteristics

A high frequency NiZn ferrite developed for a range of inductive applications up to 25 MHz. This material is also used in EMI applications for suppression of noise frequencies above 200 MHz.
EMI suppression beads, beads on leads, SM beads, wound beads, multi-aperture cores, round cable EMI suppression cores, round cable snap-its, rods, antenna/RFID rods, and toroids are all available in 61 material.
Strong magnetic fields or excessive mechanical stresses may result in irreversible changes in permeability and losses.

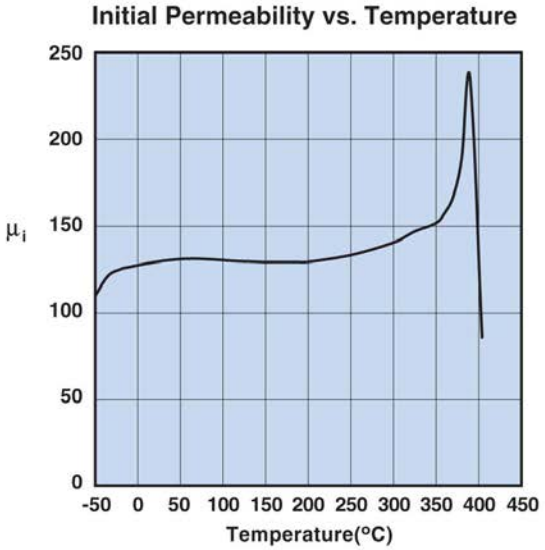
Property	Unit	Symbol	Value
Initial Permeability @ B < 10 gauss		μ_i	125
Flux Density @ Field Strength	gauss oersted	B H	2350 15
Residual Flux Density	gauss	B_r	1200
Coercive Force	oersted	H_c	1.8
Loss Factor @ Frequency	10^{-6} MHz	$Tan\delta/\mu_i$	30 1.0
Temperature Coefficient of Initial Permeability (20 -70°C)	%/°C		0.10
Curie Temperature	°C	T_c	>300
Resistivity	Ω cm	ρ	$1x10^8$
Frequency range	MHz		>250



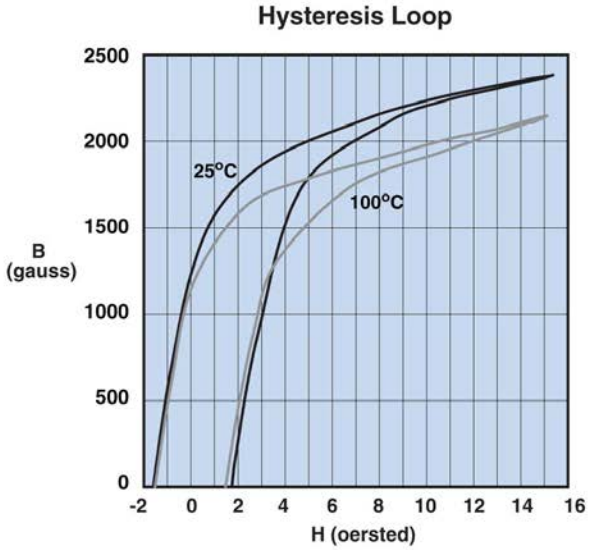
Measured on a 19/10/6mm toroid using the HP 4284A and the HP 4291A.



Measured on a 2661000301 using the HP4291A.



Measured on a 19/10/6mm toroid at 100kHz.



Measured on a 19/10/6mm toroid at 10kHz.

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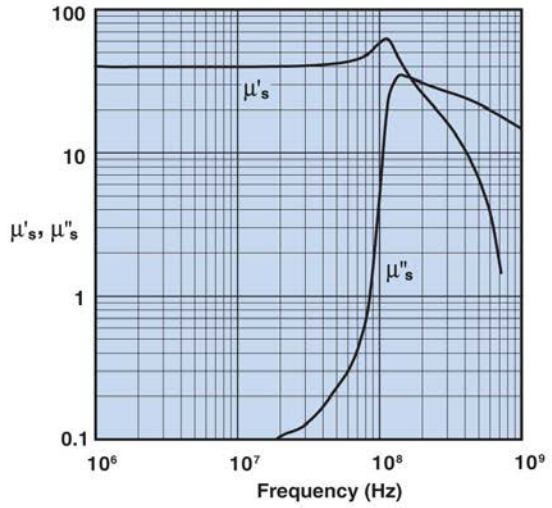
3. 67 Material Characteristics

A high frequency NiZn ferrite for the design of broadband transformers, antennas and HF, high Q inductor applications up to 50 MHz. Toroids, multi-aperture cores and antenna/RFID rods are available in this material.
Strong magnetic fields or excessive mechanical stresses may result in irreversible changes in permeability and losses.

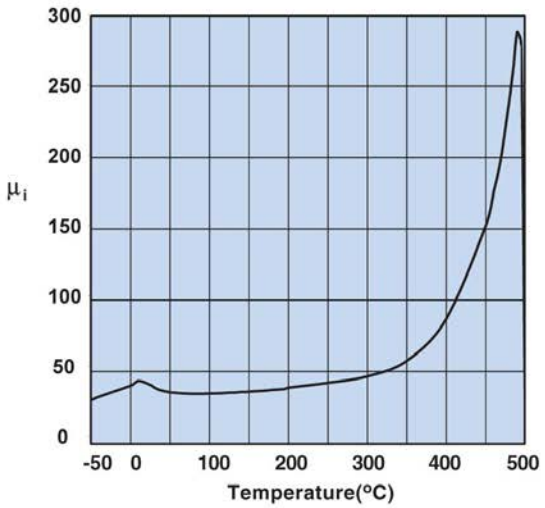
Property	Unit	Symbol	Value
Initial Permeability @ B < 10 gauss		μ_i	40
Flux Density @ Field Strength	gauss oersted	B H	2300 20
Residual Flux Density	gauss	B_r	800
Coercive Force	oersted	H_c	3.5
Loss Factor @ Frequency	10^{-6} MHz	Tanδ/μ_i	150 50
Temperature Coefficient of Initial Permeability (20 -70°C)	%/°C		0.05
Curie Temperature	°C	T_c	>475
Resistivity	Ω cm	ρ	$1x10^7$
Frequency range	MHz		>250

Complex Permeability vs. Frequency



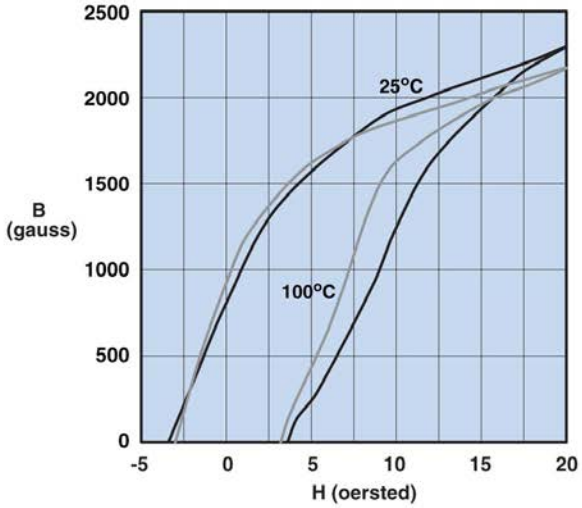
Measured on an 19/10/6mm toroid using the HP 4284A and the HP 4291A.

Initial Permeability vs. Temperature



Measured on a 19/10/6mm toroid at 100kHz.

Hysteresis Loop



Measured on a 19/10/6mm toroid at 10kHz.

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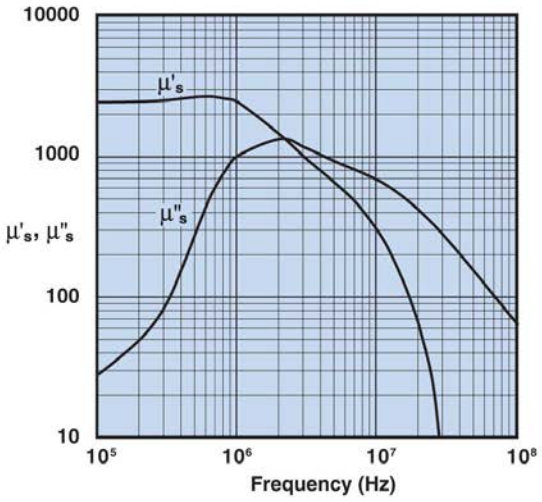
4. 73 Material Characteristics

A MnZn ferrite, supplied only in small cores, to suppress conducted EMI frequencies below 30 MHz.
EMI suppression beads, beads on leads, SM beads, and multi-aperture cores are all available in 73 material.

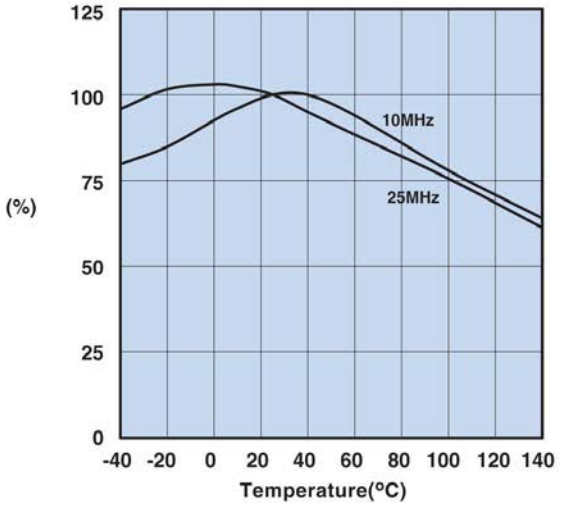
Property	Unit	Symbol	Value
Initial Permeability @ B < 10 gauss		μ_i	2500
Flux Density @ Field Strength	gauss oersted	B H	3900 5
Residual Flux Density	gauss	B_r	1500
Coercive Force	oersted	H_c	0.24
Loss Factor @ Frequency	10^{-6} MHz	Tanδ/μ_i	10 0.1
Temperature Coefficient of Initial Permeability (20 -70°C)	%/°C		0.65
Curie Temperature	°C	T_c	>160
Resistivity	Ω cm	ρ	$1x10^2$
Frequency range	MHz		<50

Complex Permeability vs. Frequency



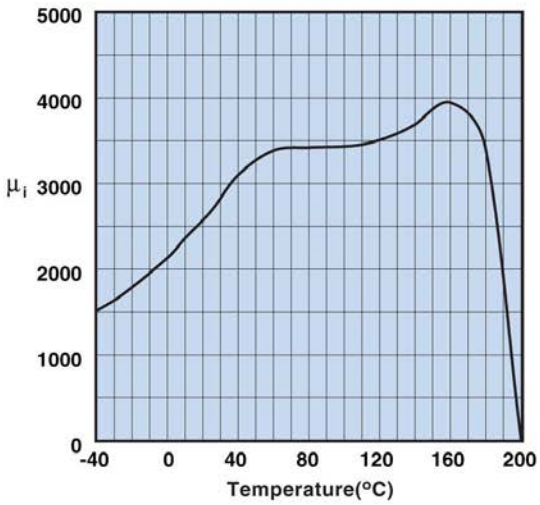
Measured on a 2673000301 bead using the HP 4284A and the HP 4291A.

Percent of Original Impedance vs. Temperature



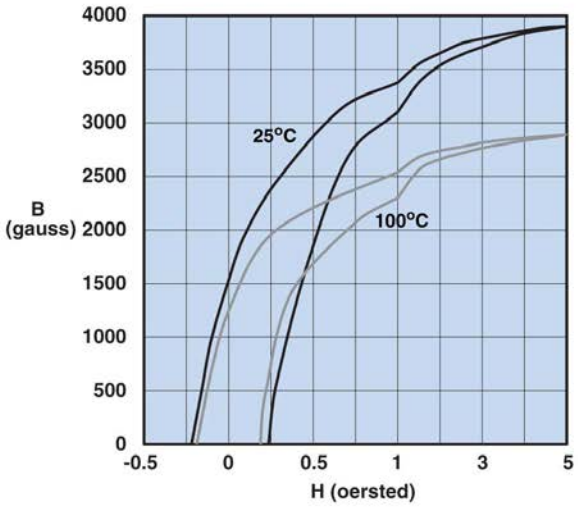
Measured on a 2673000301 using the HP4291A.

Initial Permeability vs. Temperature



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

Hysteresis Loop



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

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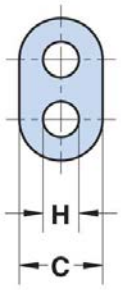
5. Dimensions



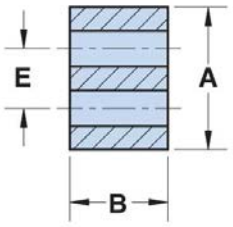
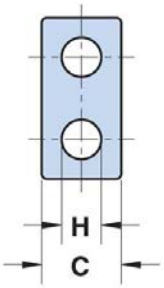


Figure 1



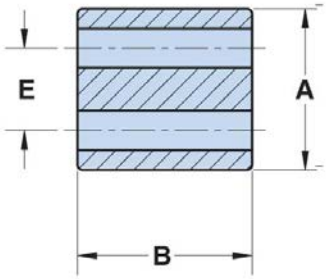


Figure 2

Part number	Fig.	A (mm/inch)	B (mm/inch)	C (mm/inch)	E (mm/inch)	H (mm/inch)	Weight (g)
BN-XX-2702	1	7.0/.276	3.1/.122	4.2/.160	2.9/.114	1.7/.071	0.3
BN-XX-2402	1	7.0/.276	6.2/.244	4.2/.160	2.9/.114	1.7/.071	0.5
BN-XX-1502	1	13.3/.525	6.6/.260	7.5/.295	5.7/.225	3.8/.150	1.7
BN-XX-302	1	13.3/.525	10.3/.407	7.5/.295	5.7/.225	3.8/.150	2.6
BN-XX-202	1	13.3/.525	14.35/.565	7.5/.295	5.7/.225	3.8/.150	3.7
BN-XX-102	1	13.3/.525	13.4/.528	7.5/.295	5.7/.225	3.8/.150	3.5
BN-XX-6802	1	13.3/.525	27.0/1.062	7.5/.295	5.7/.225	3.8/.150	7.0
BN-XX-10402	2	19.45/.765	12.7/.500	9.5/.375	9.9/.390	4.75/.187	7.5
BN-XX-3312	2	19.45/.765	25.4/1.000	9.5/.375	9.9/.390	4.75/.187	18.0
BN-XX-7051	2	28.7/1.130	28.7/1.130	14.25/.560	14.0/.550	6.35/.250	52.0
BN-XX-002	2	30.2/1.190	28.7/1.130	15.0/.590	14.0/.550	6.8/.268	52.0

6. Typical impedance & Inductance rating

Material	43		61			67	73	
	Impedance (Ω)		Impedance (Ω)		Min A_L (nH)	Min A_L (nH)	Impedance (Ω)	
Part number	25 MHz	100 MHz †	100 MHz	250 MHz †			10 MHz	25 MHz †
BN-XX-2702	37	50	44	63	80	24	28	38
BN-XX-2402	74	100	80	118	160	48	80	75
BN-XX-1502	59	88	90	115	145	44	57	50
BN-XX-302	104	130	150	200	230	68	94	75
BN-XX-202	123	180	150	190	320	-	125	106
BN-XX-102	-	-	-	-	-	89	-	-
BN-XX-6802	219	300	300	425	600	180	195	180
BN-XX-10402	135	200	-	-	-	-	-	-
BN-XX-3312	295	400	-	-	-	-	-	-
BN-XX-7051	380	500	-	-	-	-	-	-
BN-XX-002	-	-	510	625	800	-	-	-

(† Test frequency)

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