

PRODUKTINFORMATION

Vi reserverar oss mot fel samt förbehåller oss rätten till ändringar utan föregående meddelande

ELFA artikelnr

58-759-01	Toroid 2P80 7,5x4,1x3 mm	TN7,5/4,1/3-2P80
58-759-19	Toroid 2P80 12x8x4,4 mm	TN12/8/4,4-2P80
58-759-35	Toroid 2P80 20x13x6 mm	TN20/13/6-2P80
58-759-43	Toroid 2P80 24x15x7,5 mm	TN24/15/7,5-2P80
58-759-50	Toroid 2P80 27x15x11 mm	TN27/15/11-2P80

DATA SHEET

TN7.5/4.1/3
Iron powder toroids

Supersedes data of November 2000

2001 Jan 20

RING CORES (TOROIDS)

Effective core parameters

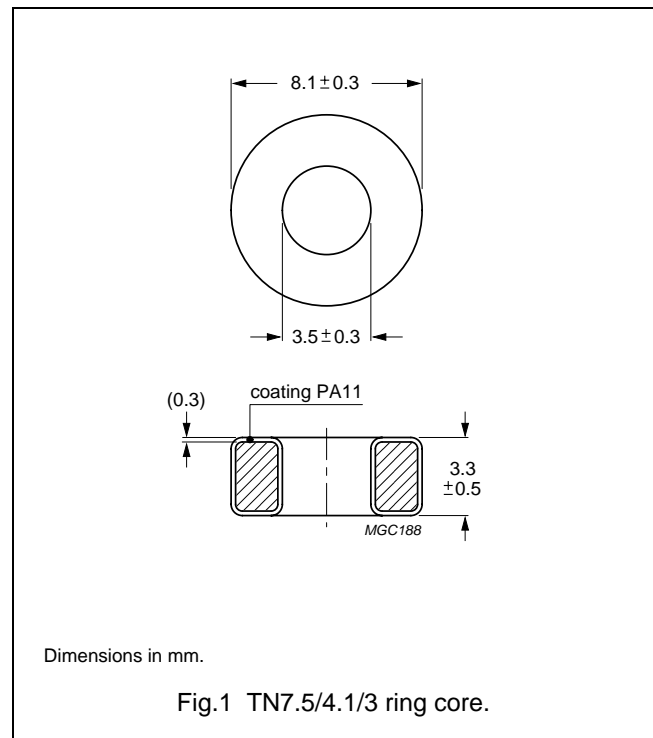
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	3.58	mm ⁻¹
V_e	effective volume	83	mm ³
l_e	effective length	17.3	mm
A_e	effective area	4.81	mm ²
m	mass of core	≈0.6	g

Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with "UL 94V-2"; UL file number E 45228 (M).

Isolation voltage

DC isolation voltage: 1500 V.
 Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



Ring core data

GRADE	A_L (nH)	μ_i	COLOUR CODE	TYPE NUMBER
2P40 ^{sup}	14 ±10%	≈40	dark yellow	TN7.5/4.1/3-2P40
2P50 ^{sup}	18 ±10%	≈50	dark blue	TN7.5/4.1/3-2P50
2P65 ^{sup}	23 ±10%	≈65	dark red	TN7.5/4.1/3-2P65
2P80 ^{sup}	28 ±10%	≈80	dark green	TN7.5/4.1/3-2P80
2P90 ^{sup}	30 +10/-15%	≈90	dark brown	TN7.5/4.1/3-2P90




DATA SHEET STATUS DEFINITIONS

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DATA SHEET

TN12/8/4.4
Iron powder toroids

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Effective core parameters

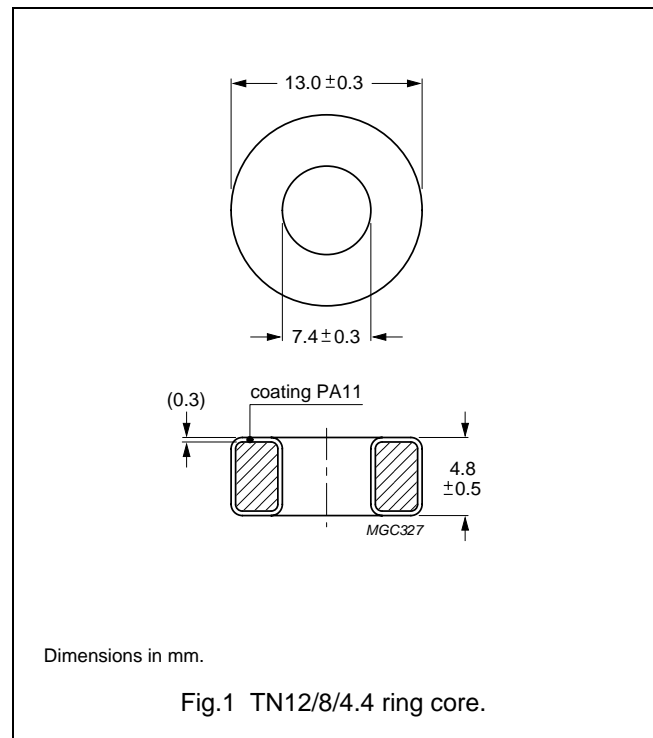
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	3.30	mm ⁻¹
V_e	effective volume	290	mm ³
l_e	effective length	30.9	mm
A_e	effective area	9.37	mm ²
m	mass of core	≈2	g

Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with "UL 94V-2"; UL file number E 45228 (M).

Isolation voltage

DC isolation voltage: 1500 V.
 Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



Ring core data

GRADE	A_L (nH)	μ_i	COLOUR CODE	TYPE NUMBER
2P40 ^{sup}	15 ±10%	≈40	dark yellow	TN12/8/4.4-2P40
2P50 ^{sup}	19 ±10%	≈50	dark blue	TN12/8/4.4-2P50
2P65 ^{sup}	25 ±10%	≈65	dark red	TN12/8/4.4-2P65
2P80 ^{sup}	31 ±10%	≈80	dark green	TN12/8/4.4-2P80
2P90 ^{sup}	33 +10/-15%	≈90	dark brown	TN12/8/4.4-2P90




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DATA SHEET

TN20/13/6
Iron powder toroids

Supersedes data of November 2000

2001 Jan 20

RING CORES (TOROIDS)

Effective core parameters

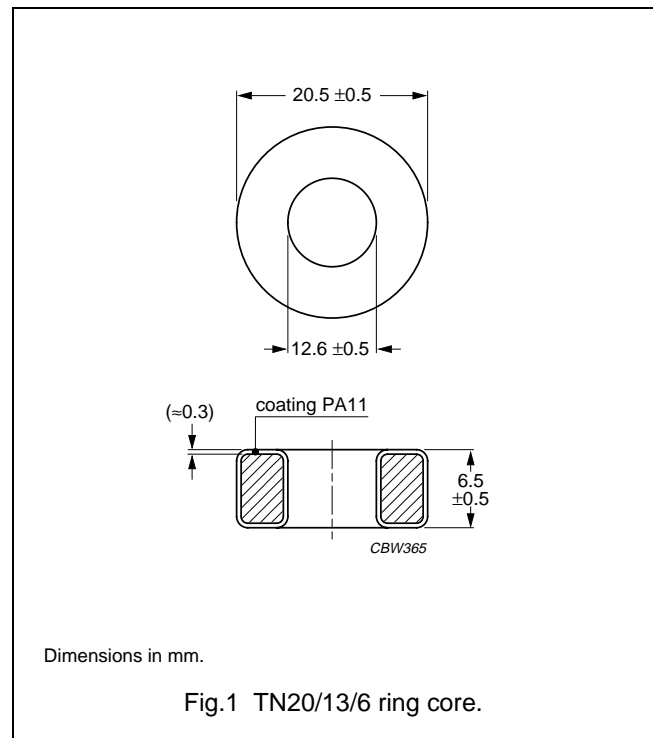
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	2.44	mm ⁻¹
V_e	effective volume	1020	mm ³
l_e	effective length	49.9	mm
A_e	effective area	20.4	mm ²
m	mass of core	≈7.5	g

Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with "UL 94V-2"; UL file number E 45228 (M).

Isolation voltage

DC isolation voltage: 1500 V.
 Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



Ring core data

GRADE	A_L (nH)	μ_i	COLOUR CODE	TYPE NUMBER
2P40 ^{sup}	21 ±10%	≈40	dark yellow	TN20/13/6-2P40
2P50 ^{sup}	26 ±10%	≈50	dark blue	TN20/13/6-2P50
2P65 ^{sup}	34 ±10%	≈65	dark red	TN20/13/6-2P65
2P80 ^{sup}	41 ±10%	≈80	dark green	TN20/13/6-2P80
2P90 ^{sup}	44 +10/-15%	≈90	dark brown	TN20/13/6-2P90




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DATA SHEET

TN24/15/7.5
Iron powder toroids

Supersedes data of November 2000

2001 Jan 20

RING CORES (TOROIDS)

Effective core parameters

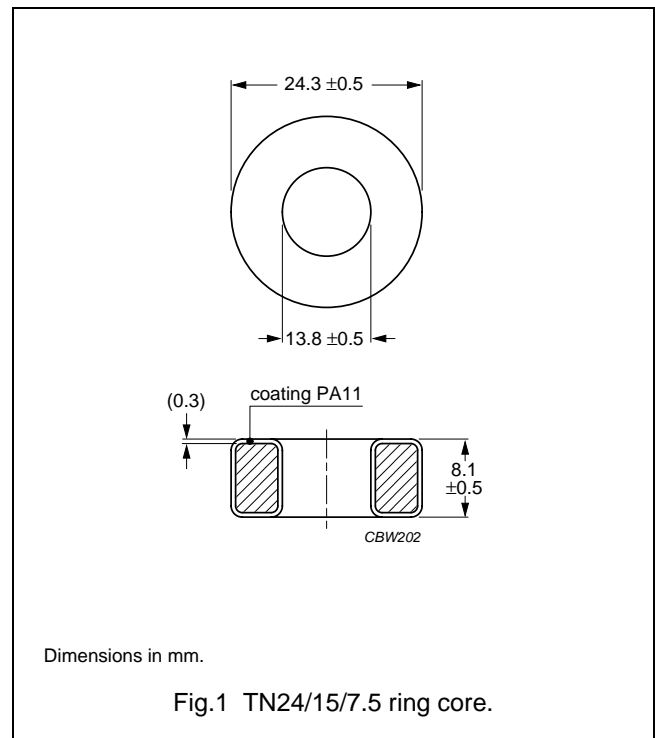
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	1.76	mm ⁻¹
V_e	effective volume	1895	mm ³
l_e	effective length	57.8	mm
A_e	effective area	32.8	mm ²
m	mass of core	≈13	g

Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with "UL 94V-2"; UL file number E 45228 (M).

Isolation voltage

DC isolation voltage: 1500 V.
 Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



Ring core data

GRADE	A_L (nH)	μ_i	COLOUR CODE	TYPE NUMBER
2P40 ^{sup}	29 ±10%	≈40	dark yellow	TN24/15/7.5-2P40
2P50 ^{sup}	36 ±10%	≈50	dark blue	TN24/15/7.5-2P50
2P65 ^{sup}	47 ±10%	≈65	dark red	TN24/15/7.5-2P65
2P80 ^{sup}	57 ±10%	≈80	dark green	TN24/15/7.5-2P80
2P90 ^{sup}	61 +10/-15%	≈90	dark brown	TN24/15/7.5-2P90




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DATA SHEET

TN27/15/11
Iron powder toroids

Supersedes data of November 2000

2001 Jan 20

RING CORES (TOROIDS)

Effective core parameters

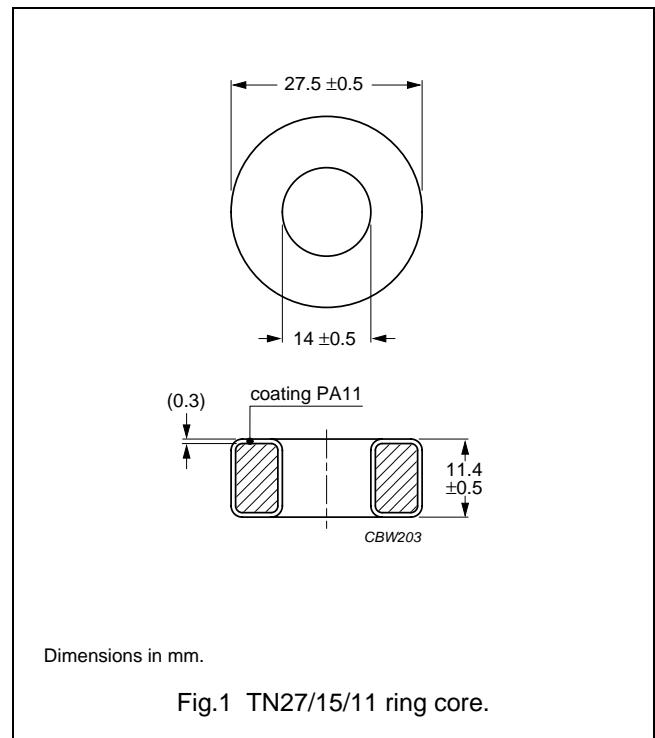
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	1.02	mm ⁻¹
V_e	effective volume	3720	mm ³
l_e	effective length	61.6	mm
A_e	effective area	60.4	mm ²
m	mass of core	≈25	g

Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with "UL 94V-2"; UL file number E 45228 (M).

Isolation voltage

DC isolation voltage: 1500 V.
 Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



Ring core data

GRADE	A_L (nH)	μ_i	COLOUR CODE	TYPE NUMBER
2P40 ^{sup}	49 ±10%	≈40	dark yellow	TN27/15/11-2P40
2P50 ^{sup}	62 ±10%	≈50	dark blue	TN27/15/11-2P50
2P65 ^{sup}	80 ±10%	≈65	dark red	TN27/15/11-2P65
2P80 ^{sup}	94 ±10%	≈80	dark green	TN27/15/11-2P80
2P90 ^{sup}	105 +10/-15%	≈90	dark brown	TN27/15/11-2P90




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DATA SHEET

2P.. Material specification

Supersedes data of November 2000

2002 Feb 01

Material specification

2P..

2P.. SPECIFICATIONS

These iron powder materials are mainly used for low frequency power inductors and output chokes.

Material grade specification - 2P40

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.1 mT	40 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.1 mT	$\leq 1500 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 250	mT
H_C	from 25×10^3 A/m	≈ 2000	A/m
B	$H = 25 \times 10^3$ A/m	≈ 950	mT
α_F	25 to 55 °C	$\approx 10 \times 10^{-6}$	K ⁻¹
T_{max}		160	°C

Material grade specification - 2P50

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.1 mT	50 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.1 mT	$\approx 1500 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 300	mT
H_C	from 25×10^3 A/m	≈ 1800	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1000	mT
α_F	25 to 55 °C	$\approx 20 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

Material grade specification - 2P65

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.1 mT	65 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.1 mT	$\approx 1000 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 350	mT
H_C	from 25×10^3 A/m	≈ 1500	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1150	mT
α_F	25 to 55 °C	$\approx 15 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

Material grade specification - 2P80

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.1 mT	80 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.1 mT	$\approx 1000 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 400	mT
H_C	from 25×10^3 A/m	≈ 1200	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1400	mT
α_F	25 to 55 °C	$\approx 15 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

Material grade specification - 2P90

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.1 mT	90 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.1 mT	$\approx 1000 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 450	mT
H_C	from 25×10^3 A/m	≈ 900	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1600	mT
α_F	25 to 55 °C	$\approx 15 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

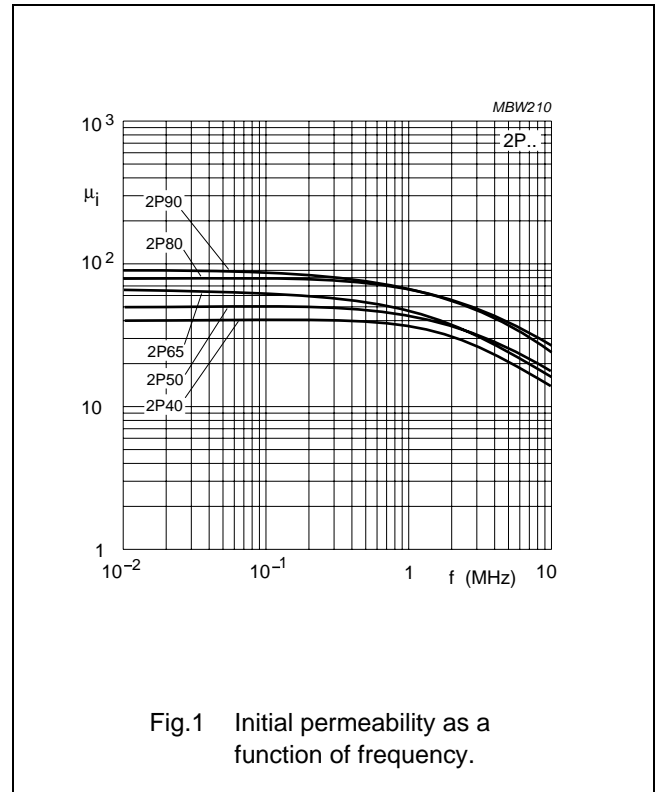
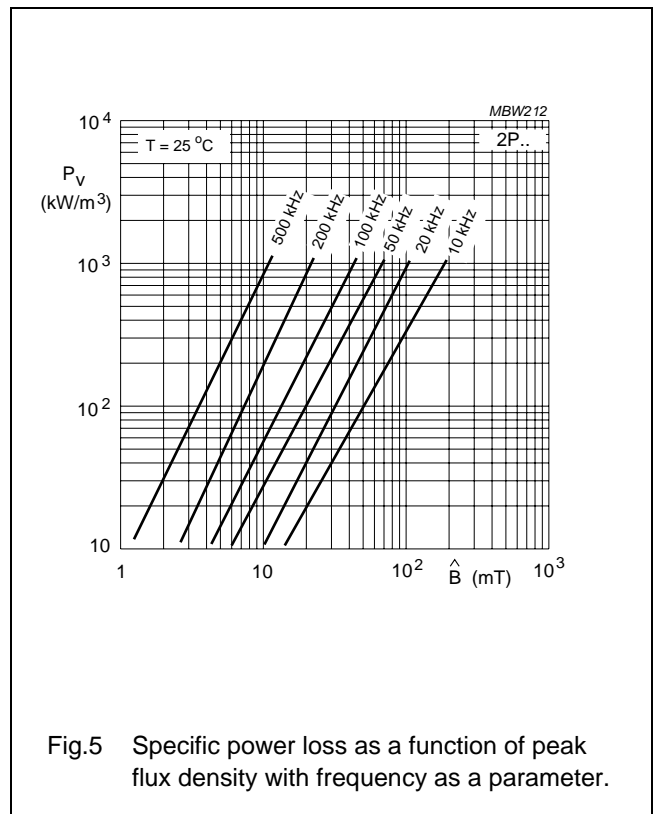
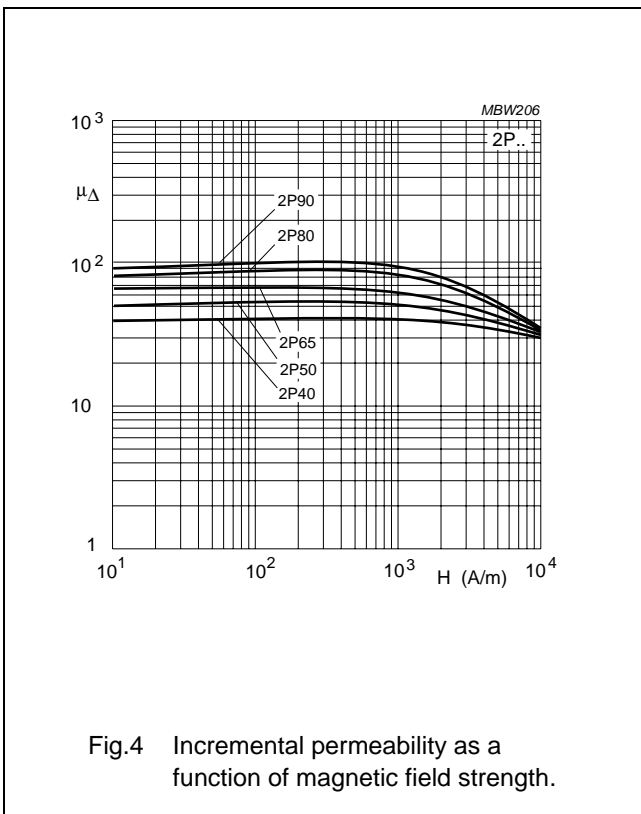
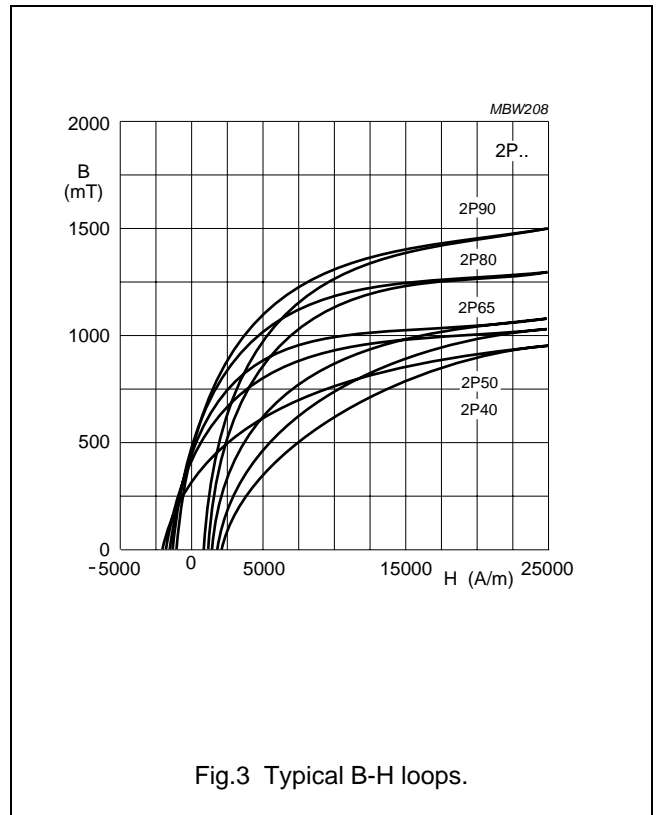
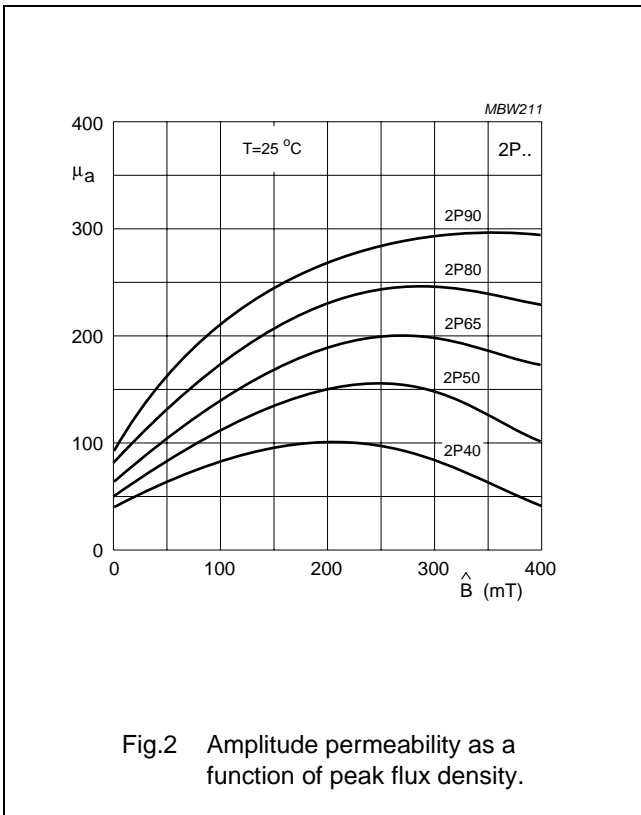


Fig.1 Initial permeability as a function of frequency.






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