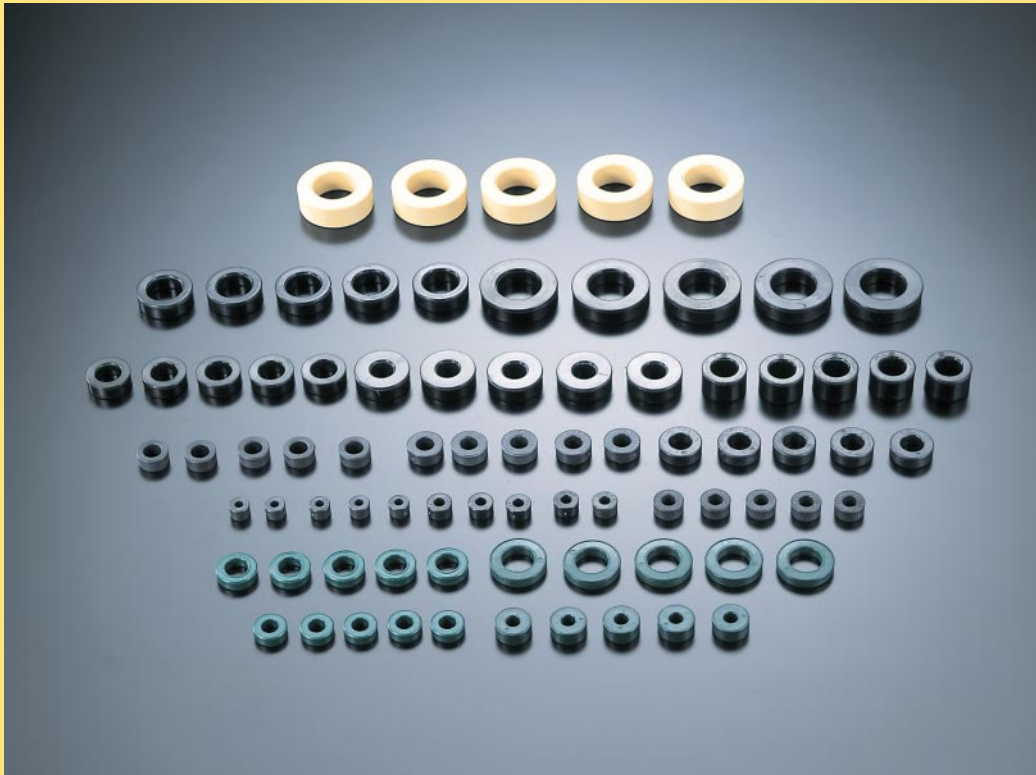


**Power Electronics
Components
EMC Components
[Catalog]**



Saturable Core MP Series

Major Applications for Saturable Cores

Magamp coils:

- Magamp system switched mode power supplies
- Magamp DC-DC convertors

Surge absorber cores:

- Diode reverse recovery current suppression core
- Switching element surge current suppression core

Current transformers, and others:

- Flux gate current transformers
- Saturable transformers
- Current delay devices for synchronous circuits
- Current delay devices for switching circuits

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The design simulator is available for magamp circuits and magamp coils

Please check: <http://www.metglas.com>



Materials Mag!c
Hitachi Metals

1. Features

Co based amorphous saturable core with low core loss is suitable for magamp circuits driven at over 100kHz.

1. High squareness ratio of B-H curve (95% at 100kHz)

High squareness ratio allows large maximum operating flux density, short dead time and low voltage drop by magamp core.

2. Low coercive force (20A/m at 100kHz)

Low coercive force allows low reset current in magamp circuit.

3. Low core loss (45W/kg at 100kHz, $B_m=0.2T$)

Low core loss allows low heat generation of magamp core even when it is driven at high frequency.

2. Standard Specifications

Table 1 Standard Specifications of Cobalt-based Amorphous Saturable Cores, MP series

Product code	P/N	OD Typ. (mm)	ID Typ. (mm)	HT Typ. (mm)	L_m Typ. (mm)	A_e Typ. (mm ²)	$2\Phi_s$ Min. (μ Wb)	W_e Typ. (g)
F1AH0745	MP0805L4AS	9.6	4.0	6.3	21.2	6.6	6.0	1.5
F1AH0746	MP1005L4AS	10.9	5.6	5.7	25.9	6.0	5.5	1.7
F1AH0748	MP1205L4AS	13.8	6.8	6.6	31.4	5.7	5.2	2.0
F1AH0749	MP1303L4AS	14.7	7.9	5.1	35.0	4.1	3.7	1.7
F1AH0750	MP1305L4AS	14.4	7.9	6.7	34.6	5.7	5.2	2.2
F1AH0751	MP1405L4AS	15.8	7.9	6.7	36.7	8.3	7.6	3.1
F1AH0752	MP1506V4AS	17.1	7.8	8.3	38.6	14.0	12.8	5.3
F1AH0753	MP1603V4AS	17.8	11.0	5.1	45.0	4.1	3.7	2.3
F1AH0754	MP1805V4AS	20.8	10.8	6.8	48.8	10.8	9.8	5.6
F1AH0755	MP1903V4AS	21.2	11.0	5.1	50.0	8.2	7.5	4.4
F1AH0756	MP1906V4AS	21.2	11.0	8.3	49.9	16.1	14.7	7.8
F1AH0757	MP2303V4AS	24.9	14.9	5.1	61.9	8.1	7.4	5.4
F1AH0758	MP2705V4AS	29.5	14.8	6.7	66.1	17.3	15.8	10.3
F1AH0759	MP3210V4AS	35.0	19.9	11.5	85.8	38.8	35.4	28.0

OD: Outer diameter, ID: Inner diameter, HT: Height, L_m : Mean magnetic path length, A_e : Effective sectional area, $2\Phi_s$: Total magnetic flux ($2 \times B_s \times A_e$), W_e : Weight

3. Designation of Part Name and Operating Temperature Range

MP1305X4AS			
Metglas® products	High squareness core		Metglas® Alloy 2714A
Outside diameter (OD)	Height (HT)		
Box material			
	Material	Flam. Class	R.T.I
L	Nylon	UL94V-0	130°C
V	PET	UL94V-0	155°C

Operating temperature range
-20~+120 °C



1. Features

Finemet saturable core with high magnetic flux density is suitable for magamp circuits driven below 150kHz and surge absorber (snubber circuit).

1. High magnetic flux density ($B_s=1.23T$)

High magnetic flux density allows size reduction of magamp circuit and surge absorber (snubber) for middle-large handling power.

2. Low core loss (80W/kg at 100kHz, $B_m=0.2T$)

Finemet saturable core is suitable for magamp circuit driven under 150kHz due to its low core loss property next to Co based amorphous core.

3. New soft magnetic material "FINEMET"®

Finemet saturable core is less expensive compare to Co based amorphous saturable core.

2. Standard Specifications

Table 2 Standard Specifications of FINEMET® Saturable Cores, MP Series

Product code	P/N	OD Typ. (mm)	ID Typ. (mm)	HT Typ. (mm)	L_m Typ. (mm)	A_e Typ. (mm ²)	$2\Phi_s$ Min. (μ Wb)	W_e Typ. (g)
F1AH0762	MP1006LF3T *	11.4	4.8	6.4	25.4	7.6	14.9	1.9
F1AH0763	MP1205LF3T	13.8	6.8	6.6	31.4	6.0	11.8	1.9
F1AH0764	MP1303LF3T	14.7	7.9	5.1	35.0	4.3	8.4	1.7
F1AH0765	MP1305LF3T	14.4	7.9	6.7	34.6	6.0	11.8	2.1
F1AH0766	MP1405LF3T	15.8	7.9	6.7	36.8	8.7	17.1	3.0
F1AH0767	MP1506VF3T	17.1	7.8	8.3	38.6	14.7	28.9	5.1
F1AH0812	MP1605VF3T *	16.7	8.3	6.6	39.3	10.0	19.6	3.7
F1AH0768	MP1603VF3T	17.8	11.0	5.1	45.0	4.3	8.4	2.3
F1AH0769	MP1805VF3T	20.8	10.8	6.8	48.8	11.4	22.4	5.5
F1AH0770	MP1903VF3T	21.2	11.0	5.1	50.0	8.6	16.9	4.3
F1AH0771	MP1906VF3T	21.2	11.0	8.3	49.9	16.9	33.2	7.6
F1AH0772	MP2303VF3T	24.9	14.9	5.1	61.9	8.5	16.7	5.3
F1AH0773	MP2705VF3T	29.5	14.8	6.7	68.9	21.6	42.5	10.0
F1AH0774	MP3210VF3T	35.0	19.9	11.5	85.8	40.7	80.0	27.0

OD: Outer diameter, ID: Inner diameter, HT: Height, L_m : Mean magnetic path length, A_e : Effective sectional area, $2\Phi_s$: Total magnetic flux ($2 \times B_s \times A_e$), W_e : Weight

3. Interpretation of Part Name and Operating Temperature Range

MP1305XF3T			
Metglas® Products			Core tested by CMC
Outside Diameter (OD)			FINEMET® FT-3M
Height (HT)			
Box material			
	Material	Flam. Class	R.T.I
L	Nylon PBT*	UL94 V-0 UL94 V-0*	130 °C 140 °C*
V	PET PBT*	UL94 V-0 UL94 V-0*	155 °C 140 °C*

Operating temperature range
-20~+125 °C

*PBT resin is used for core cases of MP1006LF3T and MP1605VF3T



For safety and the proper usage, you are requested to approve our product specifications or to transact the approval sheet for product specifications before ordering. This catalog and its contents are subject to change without notice.

Hitachi Metals, Ltd.

<http://www.hitachi-metals.co.jp>

Soft Magnetic Materials Company Head Office

2-1 Shibaura 1-chome, Seavans North Bldg.
Minato-ku, Tokyo 105-8614, Japan
Tel:+81-3-5765-4042 Fax: +81-3-5765-8313

Kansai Sales Office

5-29 Kitahama 3-chome, Nissei Yodoyabashi building
Chuo-ku, Osaka 541-0041, Japan
Tel:+81-6-6203-9751 Fax:+81-6-6222-3414

Chubu-Tokai Sales Office

13-19 Nishiki 2-chome, Takisada building, Naka-ku
Nagoya-shi, Aichi, 460-0003, Japan
Tel:+81-52-220-7470 FAX:+81-52-220-7486

Hitachi Metals America, Ltd.

Cicago Office

2101 S. Arlington Heights Road Suite 116
Arlington Heights, IL 60005-4142
Tel:847-364-7200 Fax:847-364-7279

Detroit Office

41800 W. Eleven Mile Road Suite 100
Novi, MI 48375-1818
Tel:248-465-6400 Fax:248-465-6020

Hitachi Metals Europe GmbH

Head Office

Immermannstrasse 14-16,
40210 Duesseldorf, Germany
Tel:+49-211-16009-57 Fax:+49-211-16009-60

Hitachi Metals Singapore Pte. Ltd.

12 Gul Avenue, Singapore 629656
Tel:+65-6861-7711 Fax:+65-6861-9554

Hitachi Metals (Shanghai) Ltd.

11F, Tian An Center, No.338 NanJing Road(West),
Shanghai, 200003, China
Tel:+86-21-6358-6334 Fax:+86-21-6431-8067

Hitachi Metals Hong Kong Ltd.

Units 2212-14, 22/F., Miramar Tower,
132 Nathan Road, Tsimshatsui,
Kowloon, Hong Kong
Tel:+852-2724-4183 Fax:+852-2311-2095

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• Above contact addresses are as of March 2007. The addresses are subject to change without notice.

If you find difficulty contacting Hitachi Metals, please contact below:

- Hitachi Metals Ltd. Corporate Communication Group.
Tel : +81-3-5765-4076 Fax : +81-3-5765-8312
E-mail : hmcc@hitachi-metals.co.jp