

# EMC Components

## HF Series

### Common Mode Choke Coils(Line Filters) for AC Power Supply

#### Closed Magnetic Circuit Core Type

TDK common mode choke coils(line filters) are used in a wide range of prevention of electromagnetic interference(EMI) and radio frequency interference(RFI) from power supply lines and for prevention of multifunctioning of products such as measuring equipment and system equipment.

#### RATINGS

Item	Standard value	Conditions
Rated voltage(V)	80 to 280*	
Dielectric withstanding voltage(V)	2000	Between each winding for 1 minute
Insulation resistance (M $\Omega$ )	100min.	Between each winding for 1 minute, Edc 500V
Temperature rise( $^{\circ}$ C)	45max.*	With line resistance
Operating temperature range( $^{\circ}$ C)	-20 to +120	Including self-temperature rise
Safety standard	Japan Electric/Electronic Products Control Law, UL, CSA and IEC conformed(The safety standard is not acquired with the unit only.)	

\* Except particular items.

- Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent)

#### FEATURES

- Wide range of selection.
- High impedance at applicable frequency.
- High self-resonant frequency.

#### SELECTION CHART

Series	Configuration	Type	Inductance value (mH)min.	Rated current (A)	Handling power* $L \times I^2$ (mH $\times$ A $^2$ )	Weight (g)typ.	Minimum package quantity (pieces/box)
HF	Closed magnetic circuit core types	HF2018R	1 to 33	0.3 to 2	4.5	10	840
		HF2022R	1 to 33	0.3 to 2	4.5	10	840
		HF2024	0.6 to 12	0.8 to 3	7.6	10	800
		HF2422	2.4 to 68	0.4 to 2.5	15	19.5	540
		HF2430	2.4 to 68	0.4 to 2.5	15	19.5	400
		HF2826	1.8 to 35	1 to 4	35	28	480
		HF2836	1.8 to 35	1 to 4	35	30	400
		HF3545	4.7 to 33	1.5 to 4	75	65	140

\* Handling power=(Inductance value) $\times$ (Current) $^2$ . It is possible to design within the range below this value.  
[Example] The coil for 2A can make even the inductance of 2.5mH or less a product for handling power 10.

#### PRODUCT IDENTIFICATION

UF □□□□ V □ - □□□Y □R□ - 01  
(1) (2) (3) (4) (5) (6) (7)

(1)Core shape

UF: U-type core

TF: Toroidal core

HF: Square shaped closed magnetic circuit core type

Double-square shaped closed magnetic circuit core type

(2)Dimensional code(Length $\times$ Height)

(3)External shape code

(4)TDK's internal code

(5)Inductance value

Example) 602: 60 $\mu$ H $\times$ 10 $^2$ =6mH

(6)Rated current value

Example) 2R5: 2.5A

(7)Product management number

# EMC Components

## HF Series

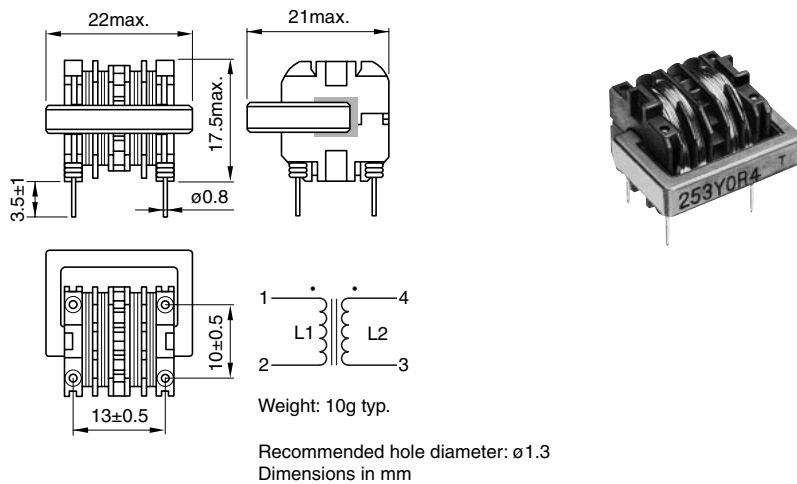
### Common Mode Choke Coils(Line Filters) for AC Power Supply Closed Magnetic Circuit Core Type

#### CLOSED MAGNETIC CIRCUIT CORE TYPE HF SERIES

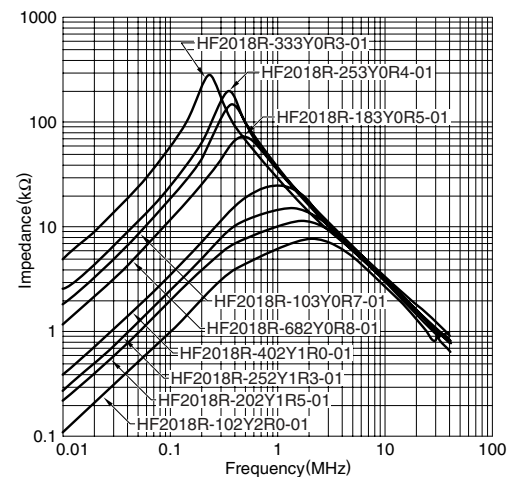
##### FEATURES

- As closed magnetic circuit core as same as a toroidal core, even at its compact size, it offers large inductance and keeps the high impedance levels required in high frequency ranges.
- Since it uses a closed magnetic circuit core, the leakage flux is relatively small, allowing designers to improve the mounting density of their circuits.

#### HF2018R(SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



#### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	DC resistance ( $\Omega$ )max.	Rated current (A)max.
HF2018R-333Y0R3-01	33	4.2	0.3
HF2018R-253Y0R4-01	25	2.9	0.4
HF2018R-183Y0R5-01	18	2	0.5
HF2018R-103Y0R7-01	10	1.1	0.7
HF2018R-682Y0R8-01	6.8	0.9	0.8
HF2018R-402Y1R0-01	4	0.5	1
HF2018R-252Y1R3-01	2.5	0.3	1.3
HF2018R-202Y1R5-01	2	0.2	1.5
HF2018R-102Y2R0-01	1	0.2	2

#### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2

- However, this product is not recognized by each regulations.

#### PACKAGING QUANTITIES

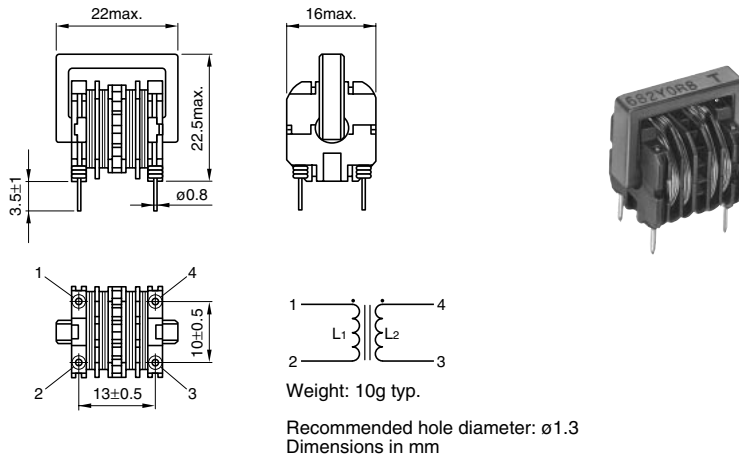
HF2018R	840pieces/box
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# EMC Components

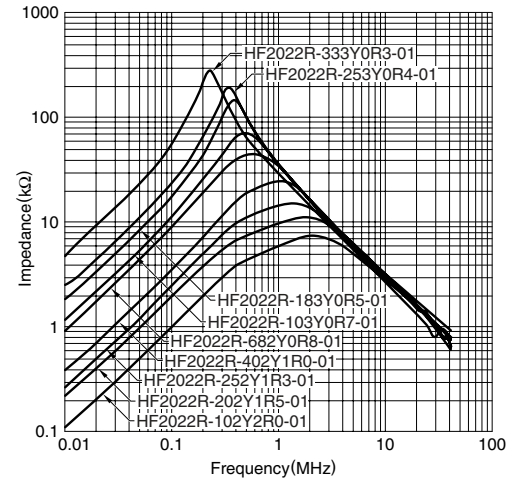
## HF Series

Common Mode Choke Coils (Line Filters) for AC Power Supply  
Closed Magnetic Circuit Core Type

### HF2022R (SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	DC resistance ( $\Omega$ )max.	Rated current (A)max.
HF2022R-333Y0R3-01	33	4.2	0.3
HF2022R-253Y0R4-01	25	2.9	0.4
HF2022R-183Y0R5-01	18	2	0.5
HF2022R-103Y0R7-01	10	1.1	0.7
HF2022R-682Y0R8-01	6.8	0.9	0.8
HF2022R-402Y1R0-01	4	0.5	1
HF2022R-252Y1R3-01	2.5	0.3	1.3
HF2022R-202Y1R5-01	2	0.2	1.5
HF2022R-102Y2R0-01	1	0.2	2

### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2

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### PACKAGING QUANTITIES

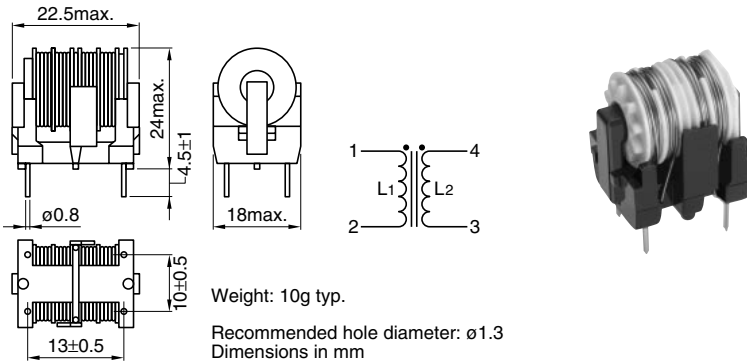
HF2022R	840pieces/box
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# EMC Components

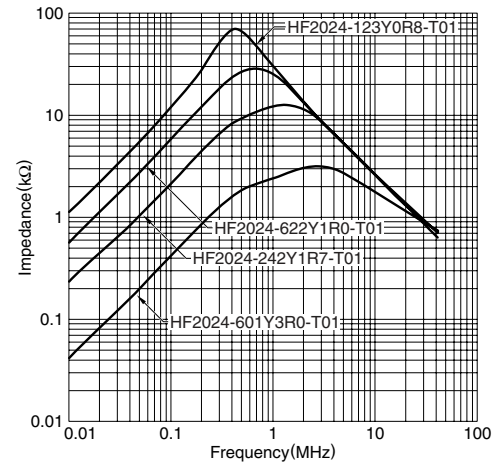
## HF Series

Common Mode Choke Coils (Line Filters) for AC Power Supply  
Closed Magnetic Circuit Core Type

### HF2024 (SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH) min.	DC resistance ( $\Omega$ ) max.	Rated current (A) max.
HF2024-123Y0R8-T01	12	0.92	0.8
HF2024-622Y1R0-T01	6.2	0.5	1
HF2024-242Y1R7-T01	2.4	0.18	1.7
HF2024-601Y3R0-T01	0.6	0.06	3

### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), CSA C22.2

- However, this product is not recognized by each regulations.

### PACKAGING QUANTITIES

HF2024	800pieces/box
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# EMC Components

## HF Series

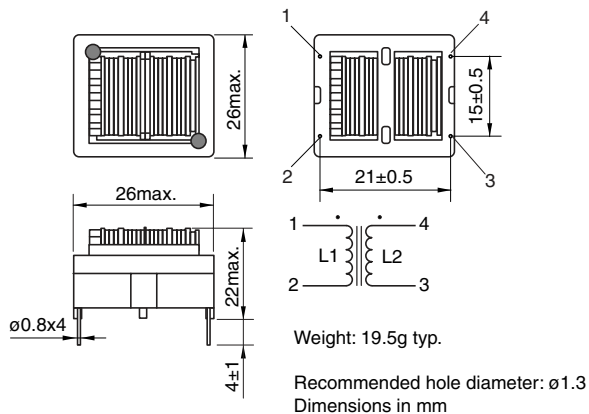
### Common Mode Choke Coils(Line Filters) for AC Power Supply Closed Magnetic Circuit Core Type

#### CLOSED MAGNETIC CIRCUIT CORE TYPE HF SERIES

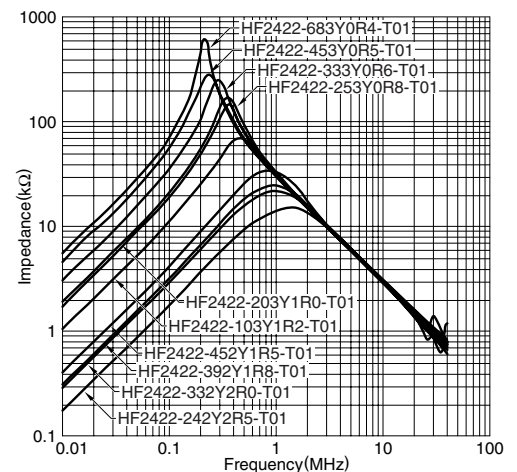
##### FEATURES

- This series employs two outer magnetic path limbs design with windings on the center magnetic path limb of double-square shaped closed magnetic circuit ferrite core to reduce leakage flux.
- This filter uses the same closed magnetic circuit core as a toroidal core and therefore, even at its compact size, it offers large inductance and suppresses noise up to in high frequency ranges.

#### HF2422(DOUBLE-SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



#### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	DC resistance ( $\Omega$ )max.	Rated current (A)max.
HF2422-683Y0R4-T01	68	2.3	0.4
HF2422-453Y0R5-T01	45	1.65	0.5
HF2422-333Y0R6-T01	33	1.2	0.6
HF2422-253Y0R8-T01	25	0.88	0.8
HF2422-203Y1R0-T01	20	0.64	1
HF2422-103Y1R2-T01	10	0.38	1.2
HF2422-452Y1R5-T01	4.5	0.19	1.5
HF2422-392Y1R8-T01	3.9	0.15	1.8
HF2422-332Y2R0-T01	3.3	0.11	2
HF2422-242Y2R5-T01	2.4	0.09	2.5

#### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2

- However, this product is not recognized by each regulations.

#### PACKAGING QUANTITIES

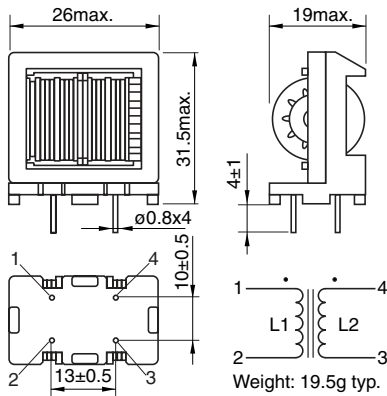
HF2422 540pieces/box

# EMC Components

## HF Series

Common Mode Choke Coils (Line Filters) for AC Power Supply  
Closed Magnetic Circuit Core Type

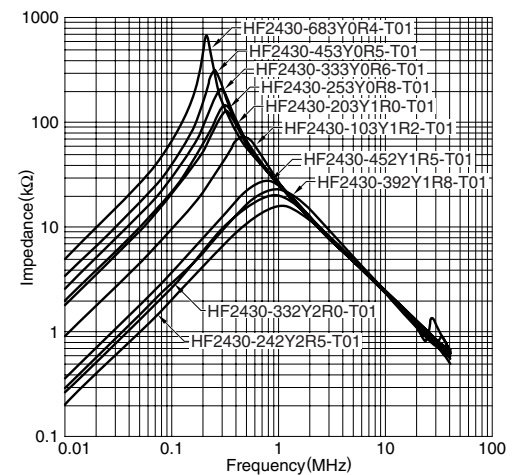
### HF2430 (DOUBLE-SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Recommended hole diameter:  $\phi 1.3$   
Dimensions in mm



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	DC resistance ( $\Omega$ )max.	Rated current (A)max.
HF2430-683Y0R4-T01	68	2.3	0.4
HF2430-453Y0R5-T01	45	1.65	0.5
HF2430-333Y0R6-T01	33	1.2	0.6
HF2430-253Y0R8-T01	25	0.88	0.8
HF2430-203Y1R0-T01	20	0.64	1
HF2430-103Y1R2-T01	10	0.38	1.2
HF2430-452Y1R5-T01	4.5	0.19	1.5
HF2430-392Y1R8-T01	3.9	0.15	1.8
HF2430-332Y2R0-T01	3.3	0.11	2
HF2430-242Y2R5-T01	2.4	0.09	2.5

### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2

- However, this product is not recognized by each regulations.

### PACKAGING QUANTITIES

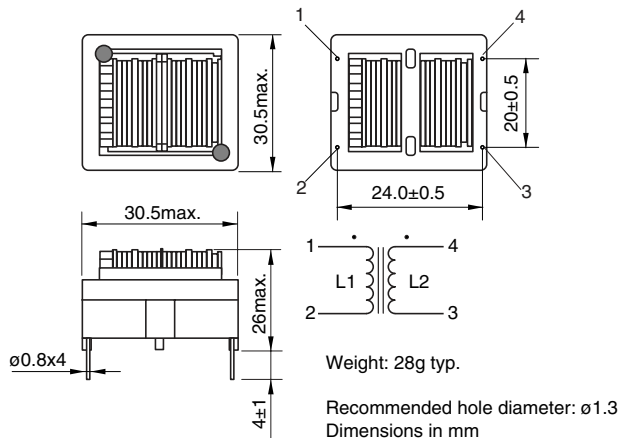
HF2430	400pieces/box
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# EMC Components

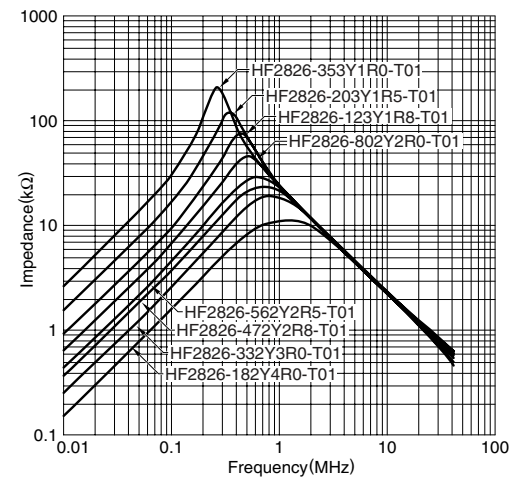
## HF Series

Common Mode Choke Coils (Line Filters) for AC Power Supply  
Closed Magnetic Circuit Core Type

### HF2826 (DOUBLE-SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	DC resistance (Ω)max.	Rated current (A)max.
HF2826-353Y1R0-T01	35	0.78	1
HF2826-253Y1R2-T01	25	0.56	1.2
HF2826-203Y1R5-T01	20	0.41	1.5
HF2826-123Y1R8-T01	12	0.27	1.8
HF2826-802Y2R0-T01	8	0.18	2
HF2826-562Y2R5-T01	5.6	0.13	2.5
HF2826-472Y2R8-T01	4.7	0.1	2.8
HF2826-332Y3R0-T01	3.3	0.088	3
HF2826-182Y4R0-T01	1.8	0.05	4

### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2

- However, this product is not recognized by each regulations.

### PACKAGING QUANTITIES

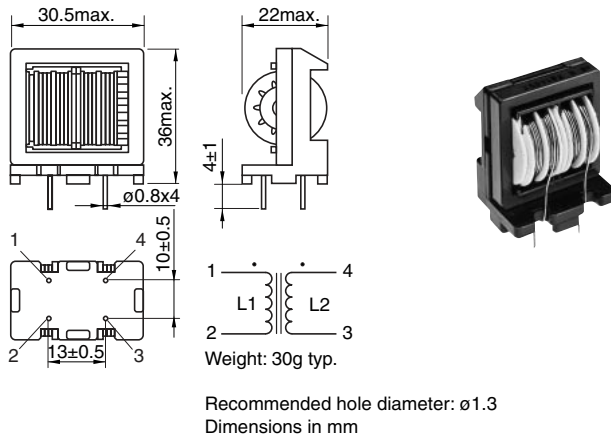
HF2826	480pieces/box
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# EMC Components

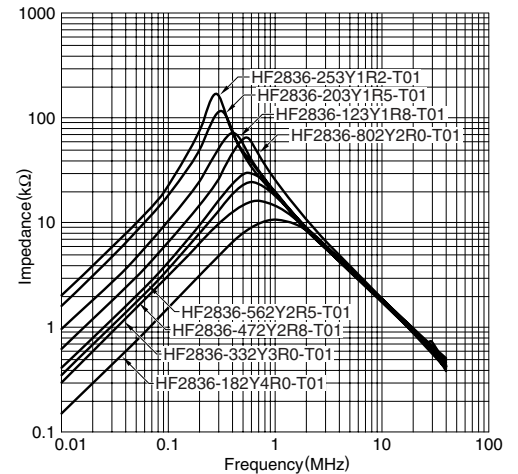
## HF Series

Common Mode Choke Coils(Line Filters) for AC Power Supply  
Closed Magnetic Circuit Core Type

### HF2836(DOUBLE-SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	DC resistance ( $\Omega$ )max.	Rated current (A)max.
HF2836-353Y1R0-T01	35	0.78	1
HF2836-253Y1R2-T01	25	0.56	1.2
HF2836-203Y1R5-T01	20	0.41	1.5
HF2836-123Y1R8-T01	12	0.27	1.8
HF2836-802Y2R0-T01	8	0.18	2
HF2836-562Y2R5-T01	5.6	0.13	2.5
HF2836-472Y2R8-T01	4.7	0.1	2.8
HF2836-332Y3R0-T01	3.3	0.088	3
HF2836-182Y4R0-T01	1.8	0.05	4

### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2

- However, this product is not recognized by each regulations.

### PACKAGING QUANTITIES

HF2836	400pieces/box
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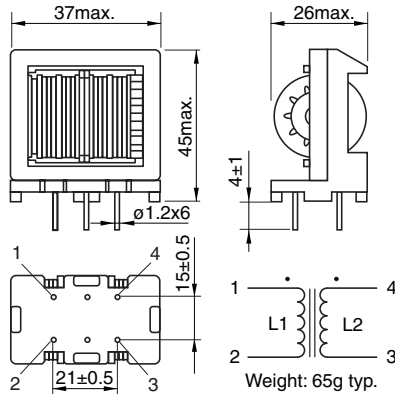


# EMC Components

## HF Series

Common Mode Choke Coils (Line Filters) for AC Power Supply  
Closed Magnetic Circuit Core Type

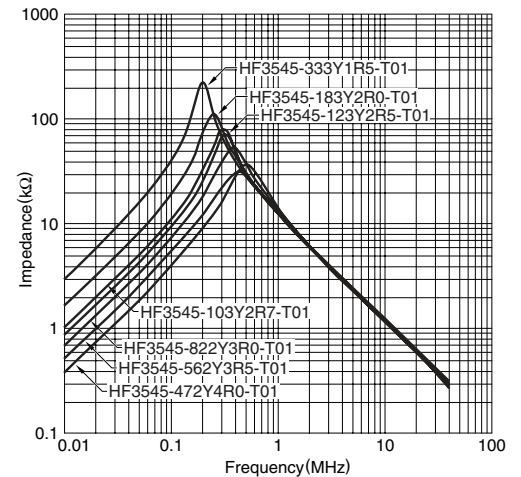
### HF3545 (DOUBLE-SQUARE SHAPED CLOSED MAGNETIC CIRCUIT CORE) TYPE SHAPES AND DIMENSIONS / CIRCUIT DIAGRAM



Recommended hole diameter:  $\phi 1.3$   
Dimensions in mm



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	DC resistance ( $\Omega$ )max.	Rated current (A)max.
HF3545-333Y1R5-T01	33	0.42	1.5
HF3545-183Y2R0-T01	18	0.23	2
HF3545-123Y2R5-T01	12	0.17	2.5
HF3545-103Y2R7-T01	10	0.13	2.7
HF3545-822Y3R0-T01	8.2	0.105	3
HF3545-562Y3R5-T01	5.6	0.077	3.5
HF3545-472Y4R0-T01	4.7	0.062	4

### APPLICABLE SAFETY STANDARD

Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2

- However, this product is not recognized by each regulations.

### PACKAGING QUANTITIES

HF3545	140pieces/box
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