

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 Eac(V)	80 to 280	
Dielectric withstanding voltage Eac(V)	2000	Between each winding for 1 minute
Insulation resistance Edc(MΩ)	100min.	Between each winding for 1 minute, Edc 500V
Temperature rise(°C)	45max.*	With line resistance, each line
Operating temperature range(°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×I ²)(mH×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
		HF2827	2.5 to 30	0.9 to 3	24	25	320
		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)×(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.

THE LINE-UP OF TDK LINE FILTER

Rated current (A)	Inductance(mH)						
	0.1 to 1	1 to 2	2 to 5	5 to 10	10 to 20	20 to 40	40min.
0.2							
0.3						HF2018R,2022R	HF2422,2430
0.5					HF2018R,2022R	HF2422,2430	
0.7				HF2018R,2022R	HF2422,2430	HF2826,2827,2836	
1.0			HF2018R,2022R	HF2422,2430	HF2826,2827,2836		
1.5		HF2018R,2022R	HF2422,2430	HF2826,2827,2836			
2.0		HF2422,2430	HF2826,2827,2836				
3.0		HF2826,2827,2836					
5.0							

• Classification by application VCRs, DVD drivers, air conditioners(Indoor machine), printers
 TV sets, inverter ballasts, general purpose power supplies

• All specifications are subject to change without notice.

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×Height)

(3)External shape code

(4)TDK's internal code

(5)Inductance value

Example) 602: 60μH×10²=6mH

(6)Rated current value

Example) 2R5: 2.5A

(7)Product management number

EMC Components

HF Series

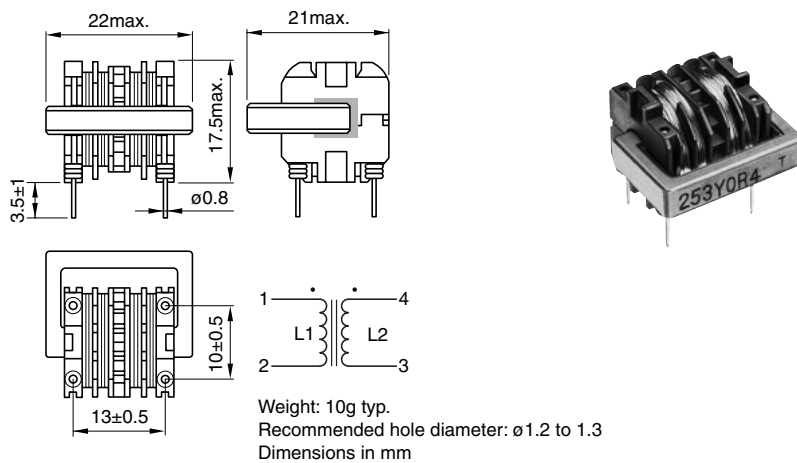
Common Mode Choke Coils(Line Filters) for AC Power Supply Closed Magnetic Circuit Core Type

CLOSED MAGNETIC CIRCUIT CORE TYPE HF SERIES

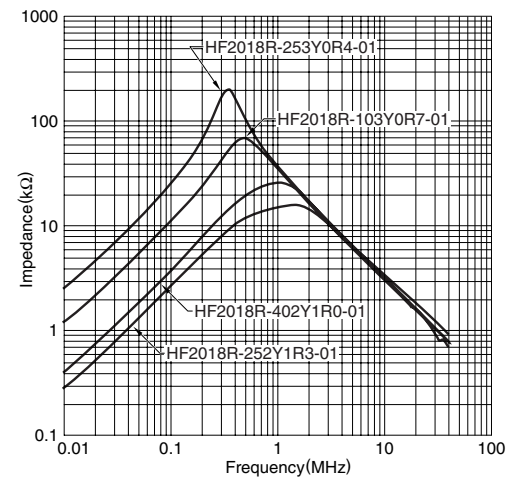
FEATURES

- 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

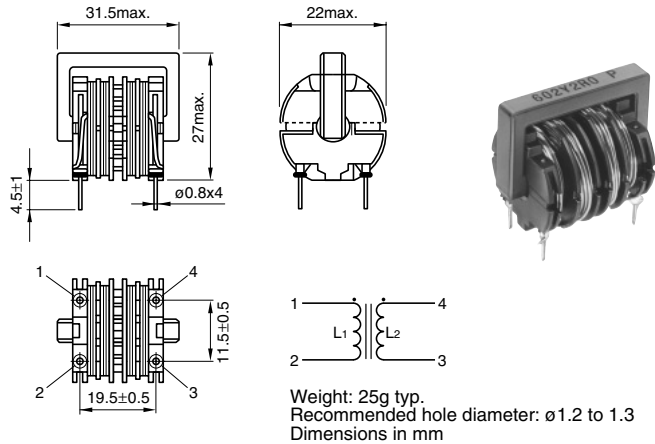
Part No.	Inductance (mH)min.	L1-L2 inductance difference (μ H)max.	DC resistance (Ω)max.	Rated current Iac (A)max.
HF2018R-333Y0R3-01	33	700	4.2	0.3
HF2018R-253Y0R4-01	25	500	2.9	0.4
HF2018R-183Y0R5-01	18	350	2	0.5
HF2018R-103Y0R7-01	10	200	1.1	0.7
HF2018R-682Y0R8-01	6.8	150	0.9	0.8
HF2018R-402Y1R0-01	4	100	0.5	1
HF2018R-252Y1R3-01	2.5	50	0.3	1.3
HF2018R-202Y1R5-01	2	50	0.2	1.5
HF2018R-102Y2R0-01	1	50	0.2	2

EMC Components

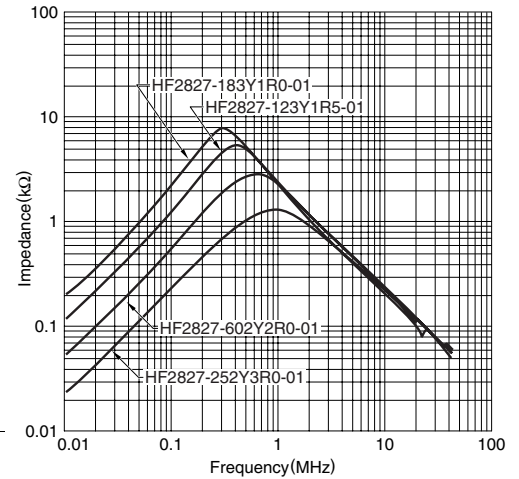
HF Series

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

HF2827 (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.	L1-L2 inductance difference (μH) max.	DC resistance (Ω) max.	Rated current Iac (A) max.
HF2827-252Y3R0-01	2.5	100	0.1	3
HF2827-303Y0R9-01	30	600	0.8	0.9
HF2827-183Y1R0-01	18	500	0.5	1
HF2827-123Y1R5-01	12	350	0.4	1.5
HF2827-602Y2R0-01	6	200	0.16	2
HF2827-442Y2R5-01	4.4	150	0.12	2.5

EMC Components

HF Series

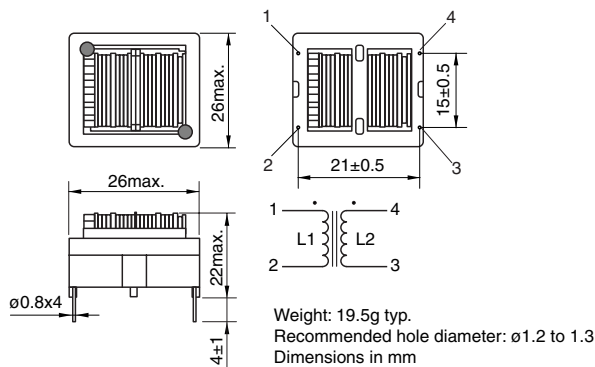
Common Mode Choke Coils(Line Filters) for AC Power Supply Closed Magnetic Circuit Core Type

CLOSED MAGNETIC CIRCUIT CORE TYPE HF SERIES

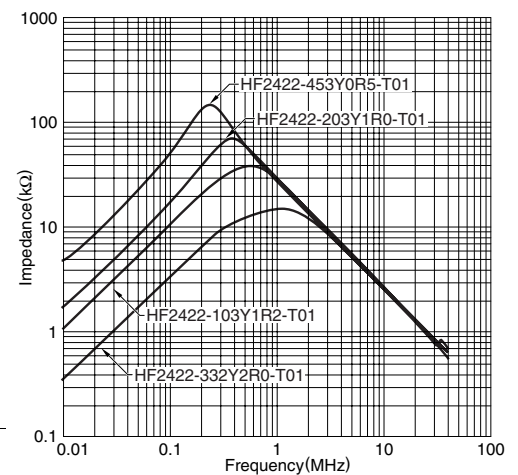
FEATURES

- 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

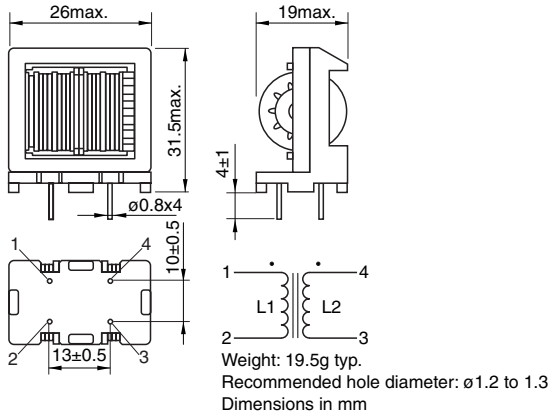
Part No.	Inductance (mH)min.	L1-L2 inductance difference (μ H)max.	DC resistance (Ω)max.	Rated current Iac (A)max.
HF2422-683Y0R4-T01	68	700	2.3	0.4
HF2422-453Y0R5-T01	45	600	1.65	0.5
HF2422-333Y0R6-T01	33	500	1.2	0.6
HF2422-253Y0R8-T01	25	400	0.88	0.8
HF2422-203Y1R0-T01	20	350	0.64	1
HF2422-103Y1R2-T01	10	250	0.38	1.2
HF2422-452Y1R5-T01	4.5	150	0.19	1.5
HF2422-392Y1R8-T01	3.9	150	0.15	1.8
HF2422-332Y2R0-T01	3.3	100	0.11	2
HF2422-242Y2R5-T01	2.4	95	0.09	2.5

EMC Components

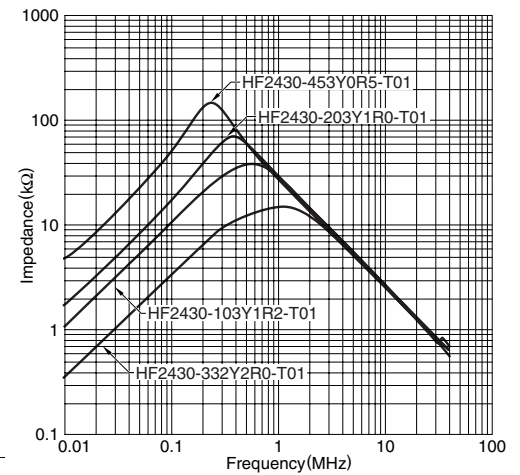
HF Series

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



TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



ELECTRICAL CHARACTERISTICS

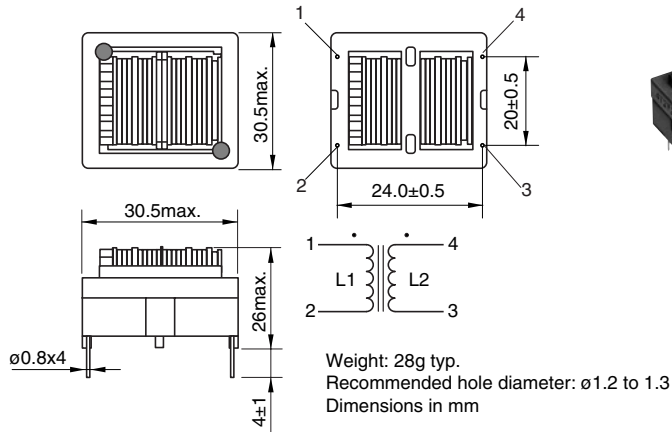
Part No.	Inductance (mH)min.	L1-L2 inductance difference (μ H)max.	DC resistance (Ω)max.	Rated current (A)max.
HF2430-683Y0R4-T01	68	700	2.3	0.4
HF2430-453Y0R5-T01	45	600	1.65	0.5
HF2430-333Y0R6-T01	33	500	1.2	0.6
HF2430-253Y0R8-T01	25	400	0.88	0.8
HF2430-203Y1R0-T01	20	350	0.64	1
HF2430-103Y1R2-T01	10	250	0.38	1.2
HF2430-452Y1R5-T01	4.5	150	0.19	1.5
HF2430-392Y1R8-T01	3.9	150	0.15	1.8
HF2430-332Y2R0-T01	3.3	100	0.11	2
HF2430-242Y2R5-T01	2.4	95	0.09	2.5

EMC Components

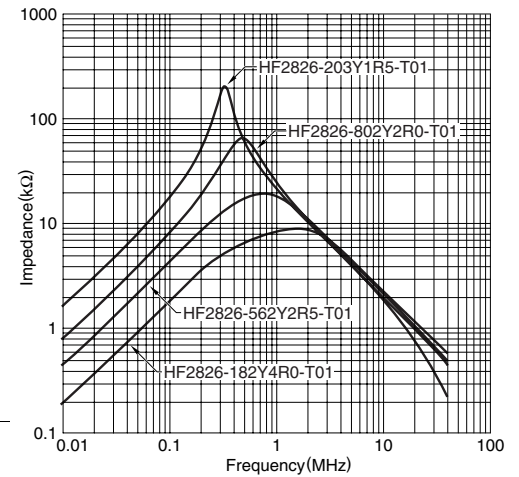
HF Series

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

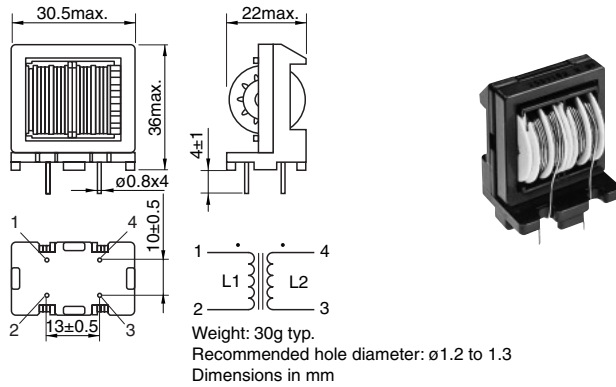
Part No.	Inductance (mH)min.	L ₁ -L ₂ inductance difference (μH)max.	DC resistance (Ω)max.	Rated current I _{ac} (A)max.
HF2826-353Y1R0-T01	35	650	0.78	1
HF2826-253Y1R2-T01	25	500	0.56	1.2
HF2826-203Y1R5-T01	20	400	0.41	1.5
HF2826-123Y1R8-T01	12	300	0.27	1.8
HF2826-802Y2R0-T01	8	200	0.18	2
HF2826-562Y2R5-T01	5.6	200	0.13	2.5
HF2826-472Y2R8-T01	4.7	150	0.1	2.8
HF2826-332Y3R0-T01	3.3	100	0.088	3
HF2826-182Y4R0-T01	1.8	40	0.05	4

EMC Components

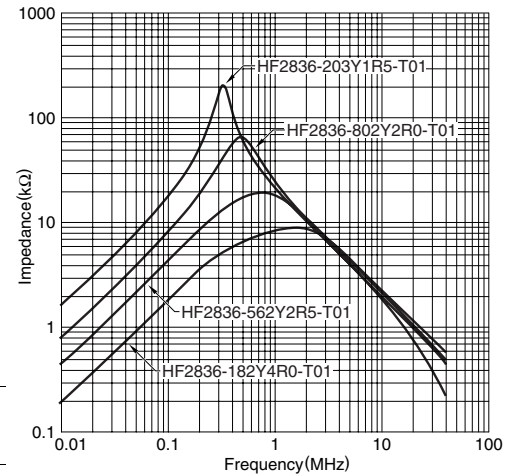
HF Series

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



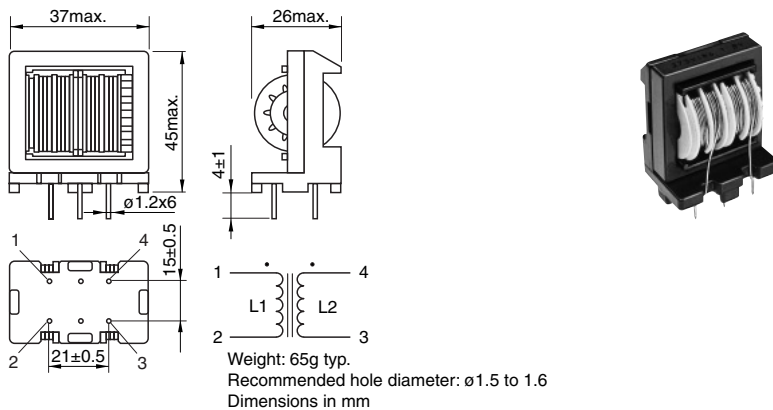
TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



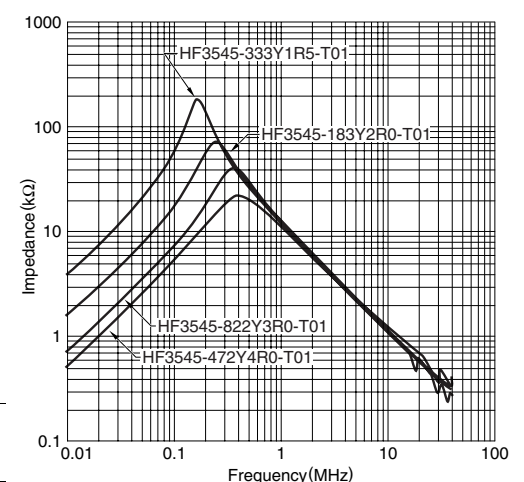
ELECTRICAL CHARACTERISTICS

Part No.	Inductance (mH)min.	L1-L2 inductance difference (μH)max.	DC resistance (Ω)max.	Rated current Iac (A)max.
HF2836-353Y1R0-T01	35	650	0.78	1
HF2836-253Y1R2-T01	25	500	0.56	1.2
HF2836-203Y1R5-T01	20	400	0.41	1.5
HF2836-123Y1R8-T01	12	300	0.27	1.8
HF2836-802Y2R0-T01	8	200	0.18	2
HF2836-562Y2R5-T01	5.6	200	0.13	2.5
HF2836-472Y2R8-T01	4.7	150	0.1	2.8
HF2836-332Y3R0-T01	3.3	100	0.088	3
HF2836-182Y4R0-T01	1.8	40	0.05	4

HF3545(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.	L1-L2 inductance difference (μH)max.	DC resistance (Ω)max.	Rated current Iac (A)max.
HF3545-333Y1R5-T01	33	900	0.42	1.5
HF3545-223Y1R8-T01	22	700	0.29	1.8
HF3545-183Y2R0-T01	18	500	0.23	2
HF3545-153Y2R2-T01	15	450	0.21	2.2
HF3545-123Y2R5-T01	12	350	0.17	2.5
HF3545-103Y2R7-T01	10	300	0.13	2.7
HF3545-822Y3R0-T01	8.2	300	0.105	3
HF3545-562Y3R5-T01	5.6	250	0.077	3.5
HF3545-472Y4R0-T01	4.7	200	0.062	4