

# Common Mode Choke Coils(Line Filters) for Signal Line

## UF and TF Series

Conformity to RoHS Directive

TDK's compact type common mode choke coils are suitable for protecting telephone circuitry from interference such as radio broadcasts or noise conducted from the DC side of an AC adapter.

### FEATURES

- Compact size and lightweight.
- High reduction over a wide range of frequencies.

### PRODUCT IDENTIFICATION

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

- (1) Core shape  
 UF: U-type core  
 TF: Toroidal core
- (2) Dimensional code  
 Width×Depth
- (3) External shape code  
 V: Vertical type H: Horizontal type
- (4) High  $\mu$  material
- (5) Inductance value  
 Example) 133:13mH
- (6) Rated current value  
 Example) 3R0:3.0A
- (7) Product management number

### SELECTION CHART

Series	Configuration	Type	Inductance value min.	Rated current (A)	Handling power* $L \times I^2$ (mH×A <sup>2</sup> )	Weight (g)typ.	Minimum package quantity (pieces/box)
UF	Two sections bobbin types	UF1717VB	7, 15mH	0.15 to 0.3	0.3	4	640
		UF1717HB	7, 15mH	0.15 to 0.3	0.3	4	480
TF	Compact	TF0402S-01	7 $\mu$ H	0.7	---	0.14	5000
		TF0804S	3 to 200 $\mu$ H	1 to 1.6	---	2	1000
		TF0402B	13 $\mu$ H	0.5	---	0.35	1680
		TF0804B	25 $\mu$ H	0.5	---	2	1800
		TF0804V	60 $\mu$ H	1	---	2	1200

\* Handling power={(inductance value)×(Current)<sup>2</sup>}. 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.

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

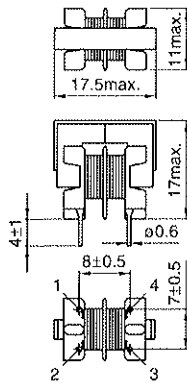
• All specifications are subject to change without notice.

## Compact and Separable Bobbin Type UF Series

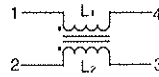
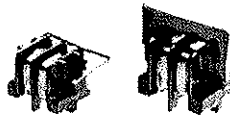
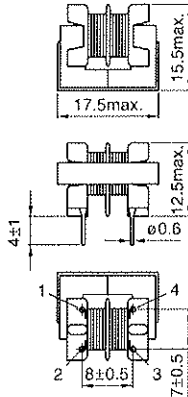
### UF1717VB/UF1717HB TYPES

#### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

##### UF1717VB



##### UF1717HB

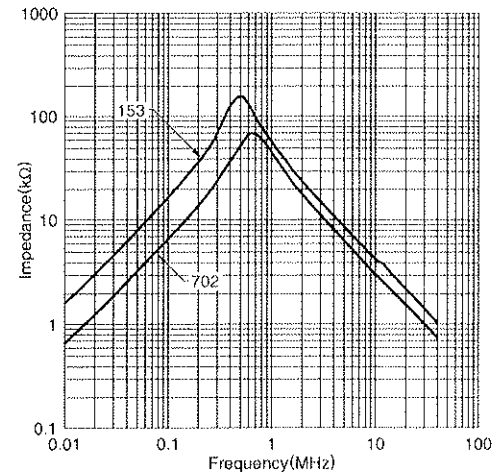


Weight: 4g typ.

Recommended hole diameter:  $\phi 0.9$   
Dimensions in mm

#### TYPICAL ELECTRICAL CHARACTERISTICS

##### IMPEDANCE vs. FREQUENCY CHARACTERISTICS



#### ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

Part No.	Inductance (mH)min.	DC resistance ( $\Omega$ )max.	Rated current Iac(A)max.
UF1717VB-153YR15-01	15	5	0.15
UF1717VB-702Y0R3-01	7	2.5	0.3
UF1717HB-153YR15-01	15	5	0.15
UF1717HB-702Y0R3-01	7	2.5	0.3

- Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

#### PACKAGING QUANTITIES

UF1717VB	640pieces/box
UF1717HB	480pieces/box

#### RATINGS

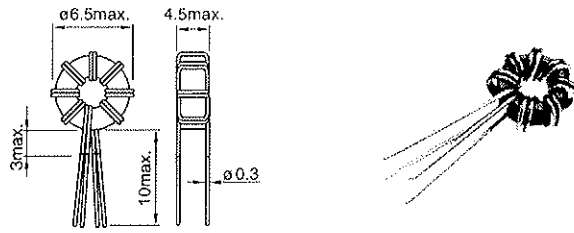
Item	Standard value	Conditions
Rated voltage(V)	50	50Hz/60Hz
Insulation resistance (M $\Omega$ )	100min.	Between each winding for DC.500V
Temperature rise( $^{\circ}$ C)	45max.	With line resistance
Operating temperature range( $^{\circ}$ C)	-20 to +105	Including self-temperature rise
Storage temperature range( $^{\circ}$ C)	-20 to +60	
Resistance to soldering temperature*	260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec	Solder bath method
	350 $\pm$ 5 $^{\circ}$ C, 5sec max.	Soldering iron method

\* Pb free solder(Sn-3Ag-0.5Cu)

## Small Toroidal Core Type TF Series

### TF0420S-01 TYPE

#### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

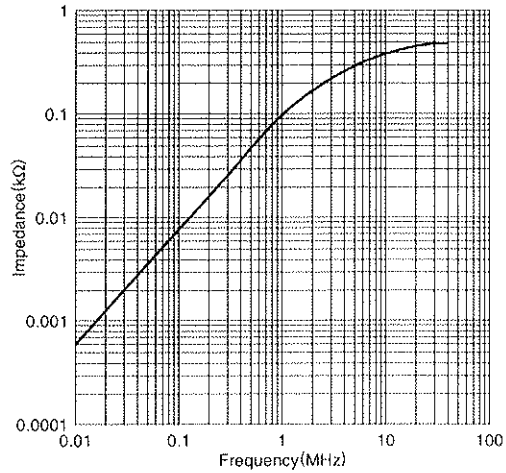


Weight: 0.14g typ.

Recommended hole diameter:  $\phi 0.6$   
Dimensions in mm

#### TYPICAL ELECTRICAL CHARACTERISTICS

##### IMPEDANCE vs. FREQUENCY CHARACTERISTICS



#### ELECTRICAL CHARACTERISTICS

##### (STANDARD LINE UP)

Part No.	Inductance ( $\mu$ H)min.	DC resistance ( $\Omega$ )max.	Rated current Iac(A)max.
TF0402S-01	7	0.019	0.7

- Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

#### PACKAGING QUANTITIES

TF0402S-01	5000pieces/box
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#### RATINGS

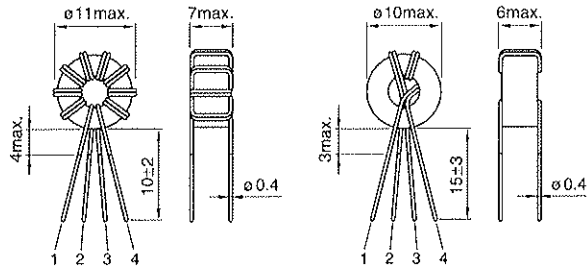
Item	Standard value	Conditions
Rated voltage(V)	80 to 280	50Hz/60Hz
Temperature rise( $^{\circ}$ C)	45max.	With line resistance
Operating temperature range( $^{\circ}$ C)	-20 to +120	Including self-temperature rise
Storage temperature range( $^{\circ}$ C)	-20 to +85	
Resistance to soldering temperature*	260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec	Solder bath method
	350 $\pm$ 5 $^{\circ}$ C, 5sec max.	Soldering iron method

\* Pb free solder(Sn-3Ag-0.5Cu)

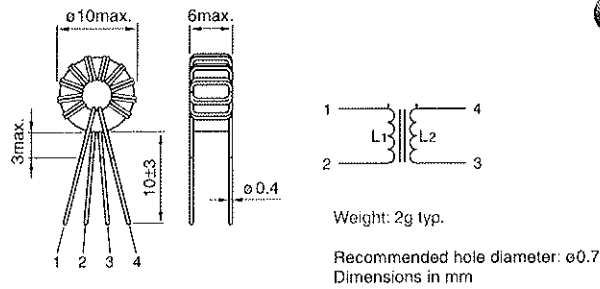
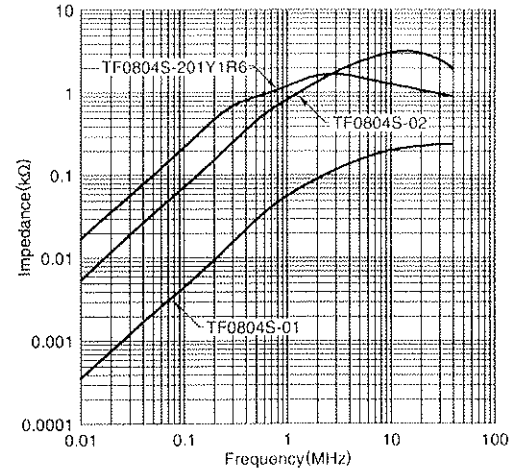
**TF0804S TYPE**
**SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM**

TF0804S-201Y1R6-01

TF0804S-01



TF0804S-02


**TYPICAL ELECTRICAL CHARACTERISTICS**
**IMPEDANCE vs. FREQUENCY CHARACTERISTICS**

**ELECTRICAL CHARACTERISTICS  
(STANDARD LINE UP)**

Part No.	Inductance ( $\mu\text{H}$ )min.	DC resistance ( $\Omega$ )max.	Rated current $I_{ac}$ (A)max.
TF0804S-201Y1R6-01*	200	0.025	1.6
TF0804S-01	3	0.05	1
TF0804S-02	60	0.036	1

\* Core: coat type

• Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

**RATINGS**

Item	Standard value	Conditions
Rated voltage(V)	80 to 280	50Hz/60Hz
Temperature rise( $^{\circ}\text{C}$ )	45max.	With line resistance
Operating temperature range( $^{\circ}\text{C}$ )	-20 to +120	Including self-temperature rise
Storage temperature range( $^{\circ}\text{C}$ )	-20 to +85	
Resistance to soldering temperature*	260 $\pm$ 5 $^{\circ}\text{C}$ , 10 $\pm$ 1sec	Solder bath method
	350 $\pm$ 5 $^{\circ}\text{C}$ , 5sec max.	Soldering iron method

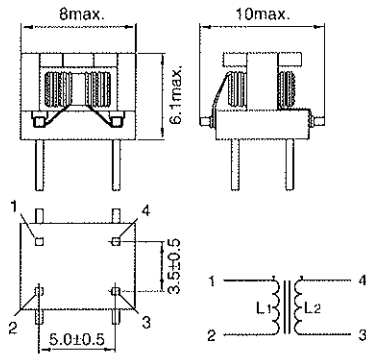
\* Pb free solder(Sn-3Ag-0.5Cu)

**PACKAGING QUANTITIES**

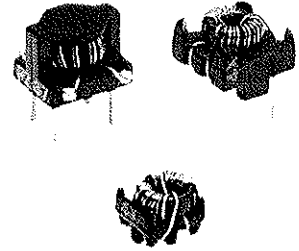
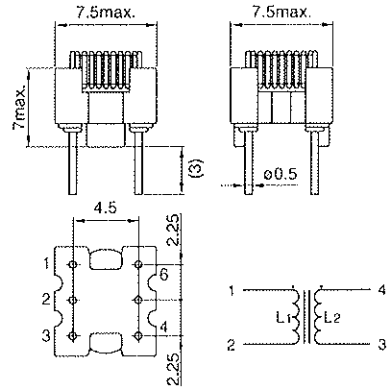
TF0804S	1000pieces/box
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**TF0402B TYPE**  
**SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM**

TF0402B-04P-03



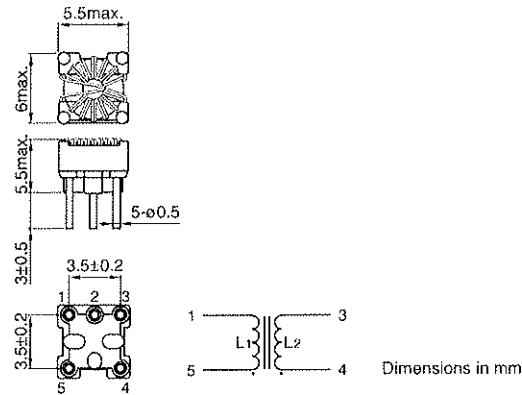
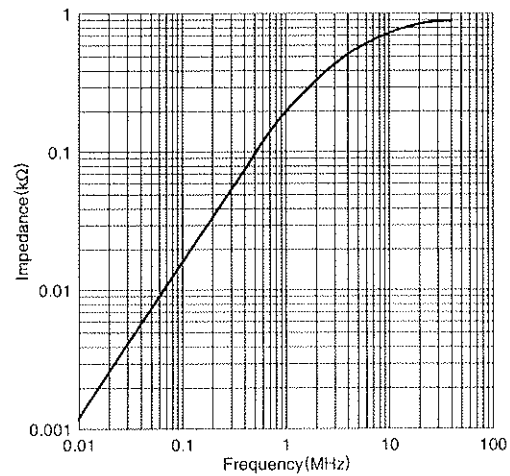
TF0402B-05P-01



Weight: 3.5g typ.

Recommended hole diameter: ø0.9  
Dimensions in mm

TF0402B-05P-03


**TYPICAL ELECTRICAL CHARACTERISTICS**  
**IMPEDANCE vs. FREQUENCY CHARACTERISTICS**

**ELECTRICAL CHARACTERISTICS**  
**(STANDARD LINE UP)**

Part No.	Inductance (μH)min.	DC resistance (mΩ)max.	Rated current Iac(A)max.
TF0402B-04P-03	13	45	0.5
TF0402B-05P-01	13	45	0.5
TF0402B-05P-03	13	45	0.5

- Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent){f=1kHz}

**PACKAGING QUANTITIES**

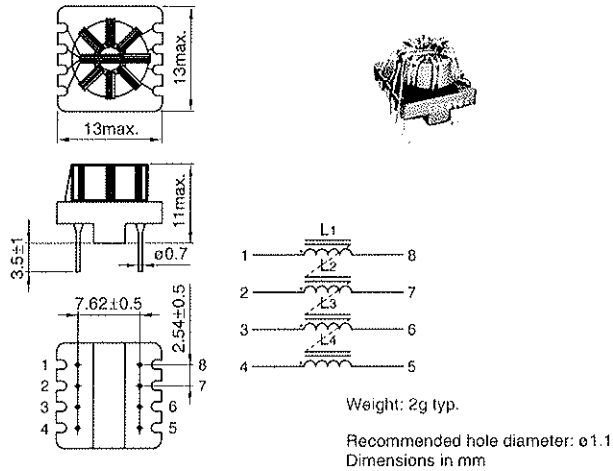
TF0402B-04P-03	1680pieces/box
TF0402B-05P-01	1680pieces/box
TF0402B-05P-03	3520pieces/box

**RATINGS**

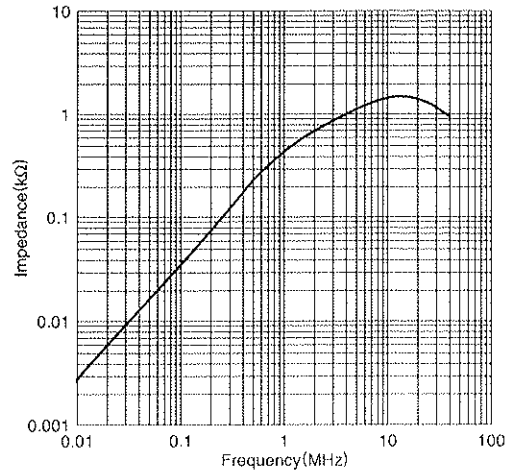
Item	Standard value	Conditions
Rated voltage(V)	80 to 280	50Hz/60Hz
Temperature rise(°C)	45max.	With line resistance
Operating temperature range(°C)	-20 to +120	Including self-temperature rise
Storage temperature range(°C)	-20 to +85	
Resistance to soldering temperature*	260±5°C, 10±1sec	Solder bath method
	350±5°C, 5sec max.	Soldering iron method

\* Pb free solder(Sn-3Ag-0.5Cu)

**TF0804B TYPE**  
**SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM**



**TYPICAL ELECTRICAL CHARACTERISTICS**  
**IMPEDANCE vs. FREQUENCY CHARACTERISTICS**



**ELECTRICAL CHARACTERISTICS**  
**(STANDARD LINE UP)**

Part No.	Inductance ( $\mu$ H)min.	DC resistance ( $\Omega$ )max.	Rated current Iac(A)max.
TF0804B-08P-01	25	0.1	0.5

- Measuring equipment of inductance value:  
 LCR meter(HP4261A, HP4263B or equivalent)(f=1kHz)

**PACKAGING QUANTITIES**

TF0804B	1800pieces/box
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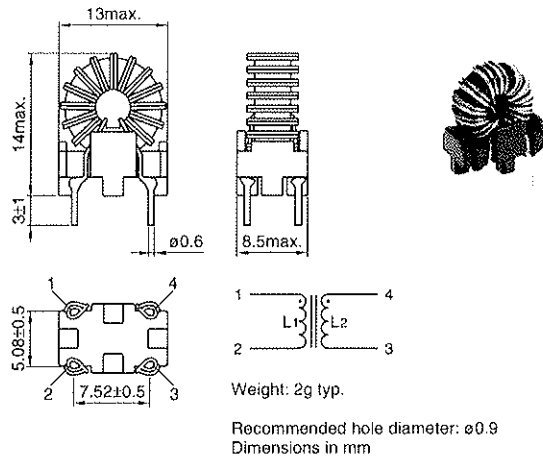
**RATINGS**

Item	Standard value	Conditions
Rated voltage(V)	80 to 280	50Hz/60Hz
Temperature rise( $^{\circ}$ C)	45max.	With line resistance
Operating temperature range( $^{\circ}$ C)	-20 to +120	Including self-temperature rise
Storage temperature range( $^{\circ}$ C)	-20 to +85	
Resistance to soldering temperature*	260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec	Solder bath method
	350 $\pm$ 5 $^{\circ}$ C, 5sec max.	Soldering iron method

\* Pb free solder(Sn-3Ag-0.5Cu)

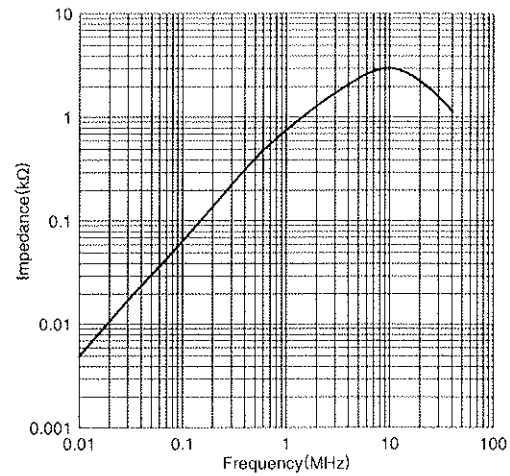
## TF0804V TYPE

### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS

#### IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

#### (STANDARD LINE UP)

Part No.	Inductance ( $\mu$ H)min.	DC resistance ( $\Omega$ )max.	Rated current Iac(A)max.
TF0804V-04P-11	60	0.036	1

- Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent)(f=1kHz)

### PACKAGING QUANTITIES

TF0804V	1200pieces/box
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### RATINGS

Item	Standard value	Conditions
Rated voltage(V)	80 to 280	50Hz/60Hz
Temperature rise( $^{\circ}$ C)	45max.	With line resistance
Operating temperature range( $^{\circ}$ C)	-20 to +120	Including self-temperature rise
Storage temperature range( $^{\circ}$ C)	-20 to +85	
Resistance to soldering temperature*	260±5 $^{\circ}$ C, 10±1sec	Solder bath method
	350±5 $^{\circ}$ C, 5sec max.	Soldering iron method

\* Pb free solder(Sn-3Ag-0.5Cu)