

# EMC Components

## TF Series

### Common Mode Choke Coils(Line Filters) for AC Power Supply Toroidal 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(M $\Omega$ ) | 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 min.             | Rated current (A) | Handling power*<br>L $\times$ I <sup>2</sup> (mH $\times$ A <sup>2</sup> ) | Weight (g)typ. | Minimum package quantity (pieces/box) |
|------------|--|----------|-----------------------------------|-------------------|--|----------------|---------------------------------------|
| TF         | Horizontal types<br>(Toroidal core)              | TF1028S  | 0.45 to 2.2mH                     | 0.5 to 3          | 2.5  | 8              | 900                                   |
|            |  | TF4825S  | 1, 2mH                            | 10 to 15          | 200  | 95             | 120                                   |
|            |  | TF6029S  | 1mH                               | 20 to 30          | 400  | 205            | 70                                    |
|            |  | TF2320HU | 1 to 5mH                          | 2 to 5            | 25   | 18             | 300                                   |
|            |  | TF2514HU | 0.1mH                             | 5 to 7            | 4.9  | 18             | 300                                   |
|            |  | TF2519HU | 1 to 5mH                          | 2 to 5            | 25   | 16             | 300                                   |
|            |  | TF3424HU | 0.3 to 8mH                        | 4 to 20           | 120  | 42             | 250                                   |
|            |  | TF4930HU | 1 to 10mH                         | 6 to 20           | 400  | 87             | 120                                   |
|            |  | TF1815HU | 3 to 10mH                         | 0.3 to 2          | 12   | 6              | 600                                   |
|            |  | TF4131HU | 0.7 to 3mH                        | 10 to 18          | 226.8  | 76             | 150                                   |
|            |  | TF6136HU | 1, 2mH                            | 15 to 30          | 900  | 172            | 75                                    |
|            |  | TF1320S  | 1 to 4mH                          | 1.5 to 3          | 9  | 6.5            | 1000                                  |
|            |  | TF2528S  | 0.45 to 7mH                       | 2.5 to 10         | 50   | 19.5           | 840                                   |
|            |  | TF3233S  | 0.25 to 10mH                      | 3 to 20           | 130  | 41             | 320                                   |
|            |  | TF       | Vertical types<br>(Toroidal core) | TF1713VU          | 1, 2mH   | 1 to 3         | 8                                     |
| TF1714VU   | 1 to 15mH  |          |                                   | 1 to 3            | 9  | 6              | 2000                                  |
| TF2420VU   | 1 to 8mH   |          |                                   | 2 to 6            | 36   | 18             | 800                                   |
| TF2514VU   | 0.13 to 12mH                                     |          |                                   | 2 to 7            | 6.4  | 8              | 800                                   |
| TF3423VU   | 0.5 to 10mH                                      |          |                                   | 4 to 20           | 200  | 45             | 400                                   |
| TF4725VU   | 2 to 10mH  |          |                                   | 6 to 15           | 225  | 85             | 90                                    |
| TF1821VU   | 2 to 10mH  |          |                                   | 0.3 to 2          | 8  | 7              | 800                                   |
| TF2326VU   | 1 to 3mH   |          |                                   | 2 to 6            | 36   | 19             | 800                                   |
| TF2527VU   | 1 to 3mH   |          |                                   | 2 to 6            | 36   | 20             | 800                                   |
| TF3435VU   | 0.3 to 10mH                                      |          |                                   | 4 to 20           | 120  | 40             | 400                                   |
| TF2326VU-M | 3 to 10mH  |          |                                   | 3 to 6            | 170  | 20             | 800                                   |
| TF3435VU-M | 8 to 33mH  |          |                                   | 4 to 10           | 800  | 38             | 400                                   |
| TF4930HU-M | 6 to 40mH  |          |                                   | 6 to 15           | 1350   | 99.8           | 120                                   |
| TF6337HU-M | 4 to 10mH  |          |                                   | 15 to 30          | 3600   | 204.9          | 75                                    |
| TF         | Multi-section case types<br>(For high frequency) |          |                                   | TF3329B           | 8.5 to 15mH  | 2.5 to 3.5     | 100                                   |

#### 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<sup>2</sup>=6mH

(6)Rated current value

Example) 2R5: 2.5A

(7)Product management number

# EMC Components

## TF Series

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




#### SELECTION CHART

| Series | Configuration   | Type       | Inductance value min. | Rated current (A) | Handling power*<br>$L \times I^2$ (mH×A <sup>2</sup> ) | Weight (g)typ. | Minimum package quantity (pieces/box) |
|--------|---|------------|-----------------------|-------------------|--|----------------|---------------------------------------|
| TF     | Vertical types(Toroidal core)<br>(For high frequency) | TF1707VU   | 20, 100μH             | 2 to 3            | 0.9  | 2.5            | 2000                                  |
|        |   | TF1709VU   | 20, 100μH             | 2 to 3            | 0.9  | 3.2            | 3000                                  |
|        |   | TF2326VU-H | 30, 50μH              | 4 to 5            | 0.75   | 19.7           | 800                                   |
|        |   | TF3435VU-H | 30 to 60μH            | 8 to 15           | 6.75   | 35.8           | 400                                   |
|        | For three phase lines(Toroidal core)                  | TF6030T    | 1 to 7.5mH            | 5 to 14           | 160  | 150            | 70                                    |
|        |   | TF6035T    | 0.2 to 1.6mH          | 15 to 30          | 400  | 160            | 70                                    |
|        |   | TF3524TU   | 1 to 5mH              | 3 to 5            | 50   | 40             | 200                                   |
|        |   | TF4333TU   | 0.5 to 5mH            | 5 to 15           | 112.5  | 95.1           | 120                                   |
|        |   | TF5228TU   | 1 to 5mH              | 5 to 10           | 200  | 109.7          | 90                                    |
|        |   | TF6332TU   | 0.5 to 2mH            | 15 to 25          | 312.5  | 212.1          | 75                                    |
|        |   | TF6340TU   | 1 to 3mH              | 10 to 25          | 625  | 258.4          | 75                                    |

\* 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.

#### 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. |
| 1.5               |                            |                            |                            |                            |          |          |        |
| 2.0               |                            |                            |                            | TF2528                     |          |          |        |
| 3.0               |                            |                            | TF2528                     | TF3233                     |          |          |        |
| 5.0               |                            | TF2528                     | TF3233                     | TF6035T(Three phase lines) | TF4930   |          |        |
| 10.0              | TF2528                     | TF3233                     | TF6035T(Three phase lines) | TF4930                     | TF6337   |          |        |
| 15.0              | TF3233                     | TF6035T(Three phase lines) | TF4930                     |                            |          |          |        |
| 20.0              | TF6035T(Three phase lines) | TF4930                     |                            | TF6337                     |          |          |        |
| 25.0              | TF6035T(Three phase lines) |                            |                            |                            |          |          |        |
| 30.0              | TF6035T(Three phase lines) |                            | TF6337                     |                            |          |          |        |

- Classification by application
-  Displays for TV set and computer
  -  Air conditioners(Outdoor machine), microwave ovens
  -  Industrial devices, control devices, etc.

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## TF Series

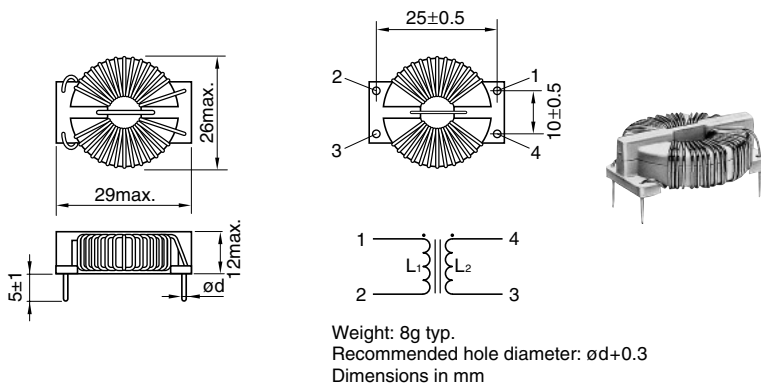
### Common Mode Choke Coils(Line Filters) for AC Power Supply Toroidal Core Type

#### HORIZONTAL TYPE TF SERIES

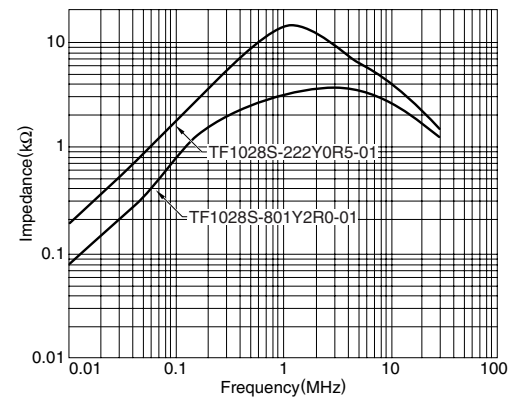
#### FEATURES

- This series uses a high permeability toroidal ferrite core and therefore provides large inductance with a little number of turns.
- Therefore its stray capacity is small and it keeps the impedance required to effectively suppress high frequency noises.
- Products mounted on a base with fixed leads are easy to insert to circuit boards.

#### TF1028S(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

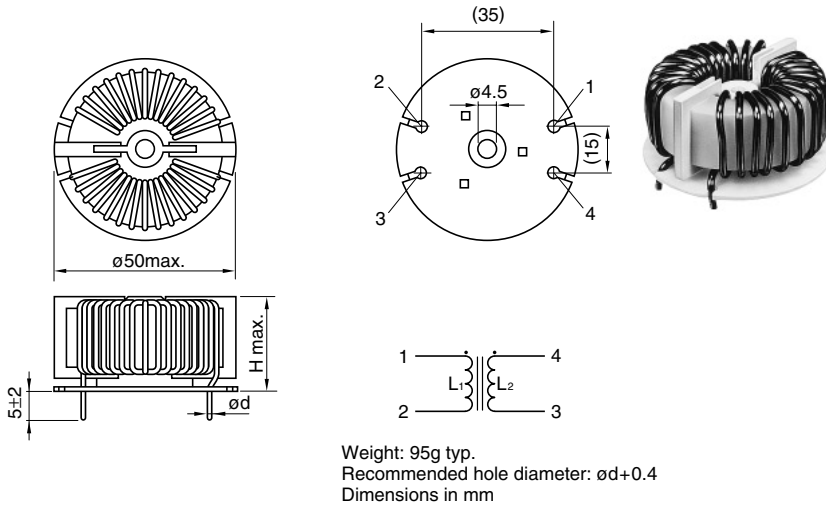
| Part No.           | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance ( $\Omega$ )max. | Rated current Iac (A)max. | Dimensions(mm)<br>$\phi d$ |
|--------------------|---------------------|--|--------------------------------|---------------------------|----------------------------|
| TF1028S-222Y0R5-01 | 2.2                 | 50   | 0.2                            | 0.5                       | 0.4                        |
| TF1028S-162Y1R3-01 | 1.6                 | 50   | 0.2                            | 1.3                       | 0.4                        |
| TF1028S-102Y1R5-01 | 1                   | 50   | 0.1                            | 1.5                       | 0.45                       |
| TF1028S-801Y2R0-01 | 0.8                 | 50   | 0.1                            | 2                         | 0.5                        |
| TF1028S-451Y3R0-01 | 0.45                | 50   | 0.06                           | 3                         | 0.6                        |

# EMC Components

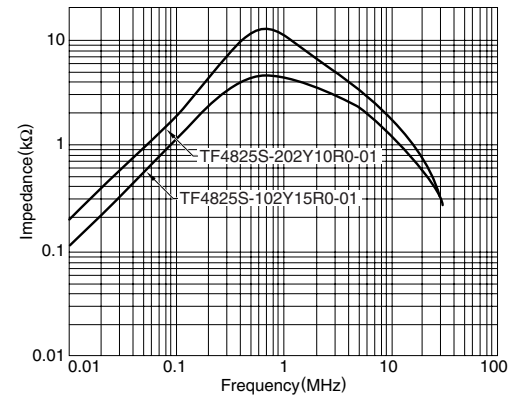
## TF Series

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

#### TF4825S(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



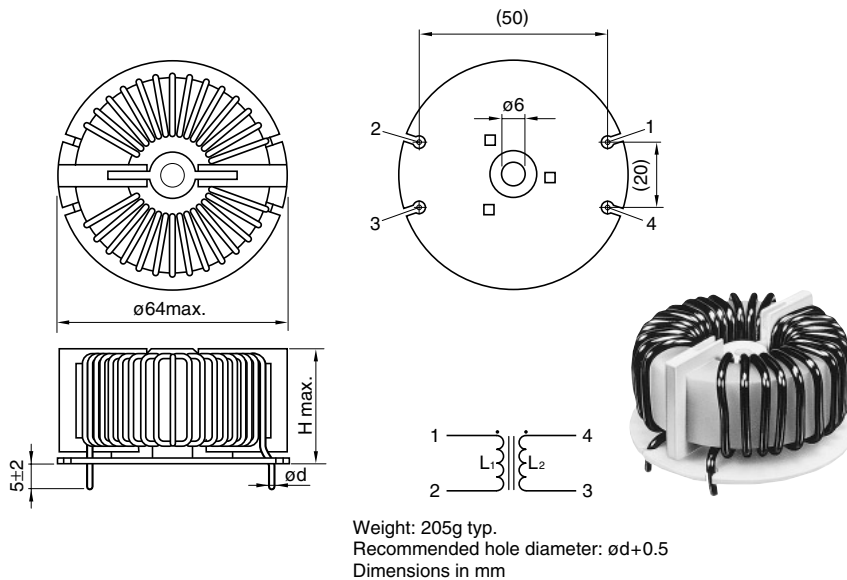
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



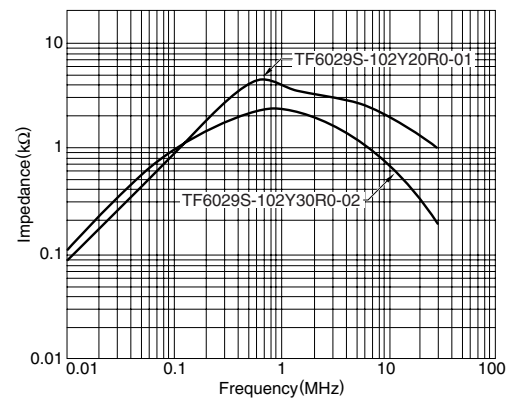
#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>I <sub>ac</sub><br>(A)max. | Dimensions(mm) |        |
|---------------------|------------------------|--|---------------------------------------|---|----------------|--------|
|                     |                        |  |                                       |   | $\phi d$       | H max. |
| TF4825S-202Y10R0-01 | 2                      | 50   | 20                                    | 10  | 1.3            | 28     |
| TF4825S-102Y15R0-01 | 1                      | 50   | 7.5                                   | 15  | 1.8            | 31     |

#### TF6029S(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

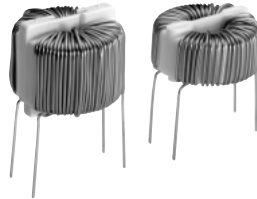
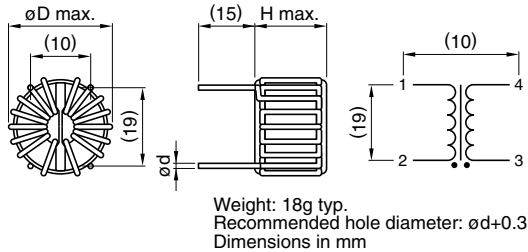
| Part No.            | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>I <sub>ac</sub><br>(A)max. | Dimensions(mm) |        |
|---------------------|------------------------|--|---------------------------------------|---|----------------|--------|
|                     |                        |  |                                       |   | $\phi d$       | H max. |
| TF6029S-102Y20R0-01 | 1                      | 50   | 5                                     | 20  | 2.3            | 36     |
| TF6029S-102Y30R0-02 | 1                      | 50   | 4                                     | 30  | 2.6            | 40     |

# EMC Components

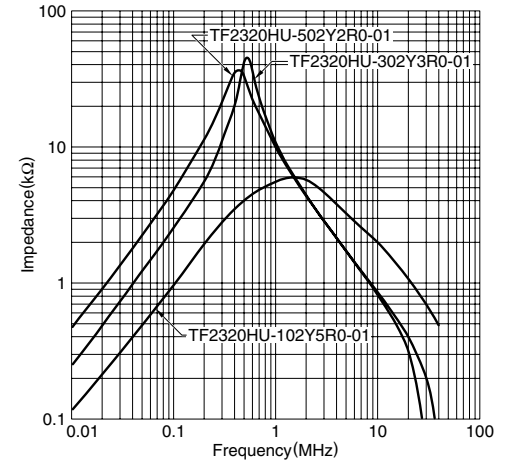
## TF Series

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

#### TF2320HU/TF2514HU(HORIZONTAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



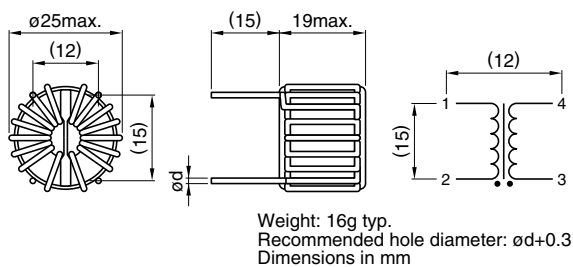
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



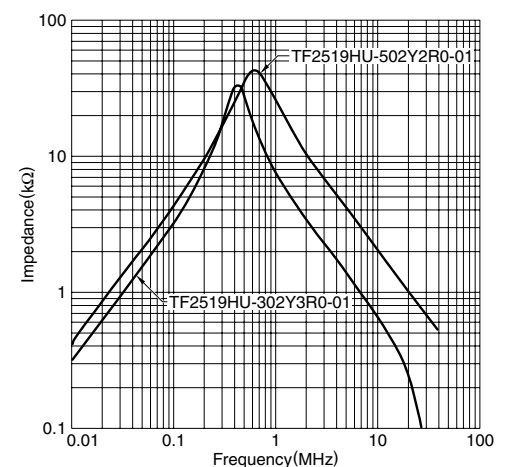
#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>I <sub>ac</sub><br>(A)max. | Dimensions(mm) |               |        |
|---------------------|------------------------|--|---------------------------------------|---|----------------|---------------|--------|
|                     |                        |  |                                       |   | $\phi d$       | $\phi D$ max. | H max. |
| TF2320HU type       |                        |  |                                       |   |                |               |        |
| TF2320HU-102Y2R0-01 | 1                      | 50   | 100                                   | 2   | 0.5            | 23            | 20     |
| TF2320HU-502Y2R0-01 | 5                      | 100  | 130                                   | 2   | 0.6            | 23            | 20     |
| TF2320HU-302Y3R0-01 | 3                      | 150  | 90                                    | 3   | 0.65           | 23            | 20     |
| TF2320HU-102Y5R0-01 | 1                      | 50   | 50                                    | 5   | 0.8            | 23            | 20     |
| TF2514HU type       |                        |  |                                       |   |                |               |        |
| TF2514HU-101Y5R0-01 | 0.1                    | 30   | 40                                    | 5   | 0.8            | 24            | 13     |
| TF2514HU-101Y7R0-01 | 0.1                    | 30   | 10                                    | 7   | 1.1            | 25            | 14     |

#### TF2519HU(HORIZONTAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>( $\Omega$ )max. | Rated current<br>I <sub>ac</sub><br>(A)max. | Dimensions(mm) |
|---------------------|------------------------|--|--------------------------------------|---|----------------|
|                     |                        |  |                                      |   | $\phi d$       |
| TF2519HU-202Y2R0-01 | 2                      | 100  | 110                                  | 2   | 0.55           |
| TF2519HU-502Y2R0-01 | 5                      | 150  | 130                                  | 2   | 0.55           |
| TF2519HU-102Y3R0-01 | 1                      | 50   | 70                                   | 3   | 0.65           |
| TF2519HU-302Y3R0-01 | 3                      | 100  | 90                                   | 3   | 0.7            |
| TF2519HU-102Y5R0-01 | 1                      | 50   | 50                                   | 5   | 0.8            |

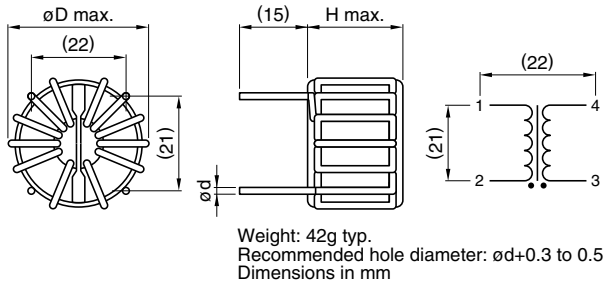
• All specifications are subject to change without notice.

# EMC Components

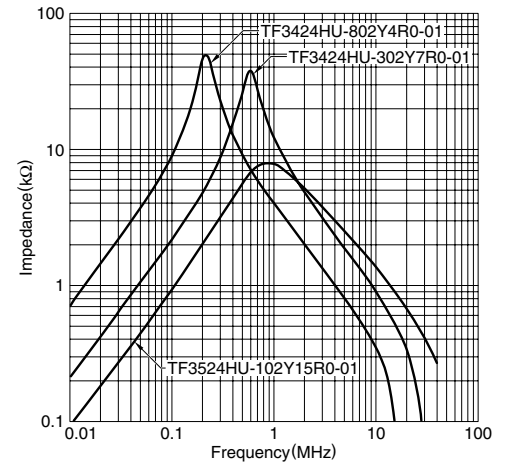
## TF Series

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

#### TF3424HU(HORIZONTAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

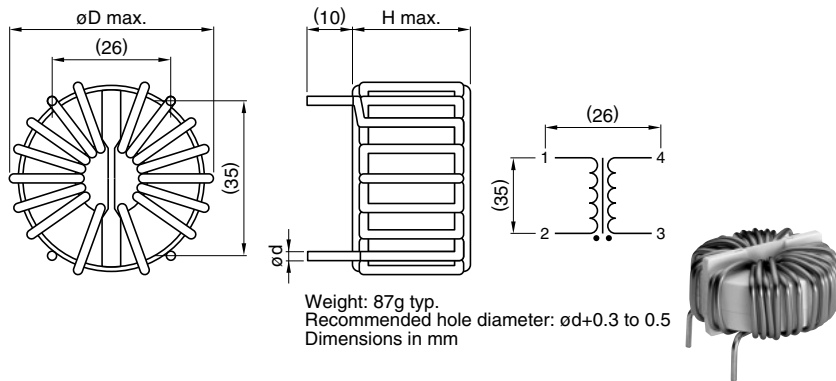
| Part No.             | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |               |        |
|----------------------|------------------------|--|---------------------------------------|---------------------------------|----------------|---------------|--------|
|                      |                        |  |                                       |                                 | $\phi d$       | $\phi D$ max. | H max. |
| TF3424HU-802Y4R0-01  | 8                      | 200  | 90                                    | 4                               | 0.8            | 31            | 21     |
| TF3424HU-502Y5R0-01  | 5                      | 150  | 80                                    | 5                               | 0.8            | 31            | 21     |
| TF3424HU-302Y7R0-01  | 3                      | 150  | 60                                    | 7                               | 1              | 31            | 21     |
| TF3424HU-102Y10R0-01 | 1                      | 50   | 30                                    | 10                              | 1.3            | 33            | 23     |
| TF3424HU-202Y10R0-01 | 2                      | 80   | 40                                    | 10                              | 1.3            | 33            | 23     |
| TF3424HU-102Y15R0-01 | 1                      | 50   | 20                                    | 15                              | 1.5            | 33            | 23     |
| TF3424HU-301Y20R0-01 | 0.3                    | 30   | 10                                    | 20                              | 1.8            | 34            | 24     |

# EMC Components

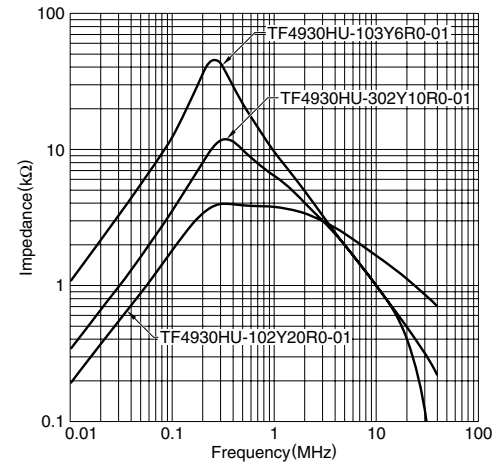
## TF Series

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

#### TF4930HU(HORIZONTAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



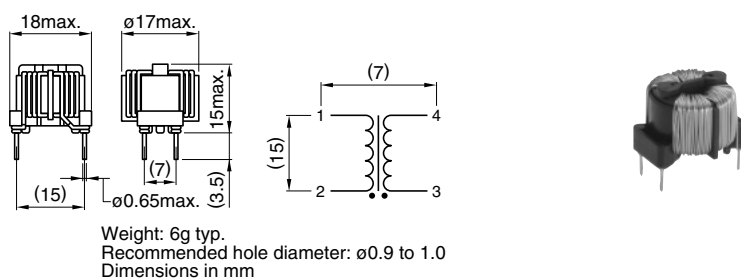
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



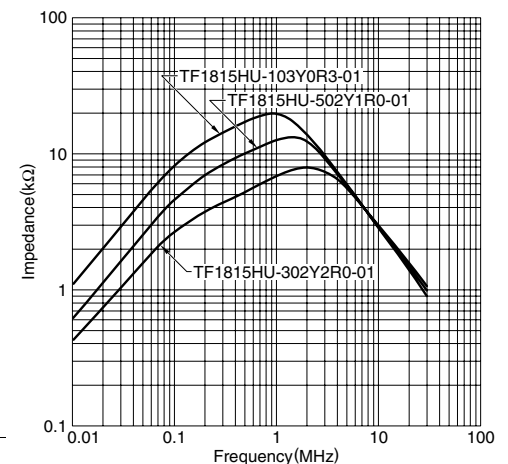
#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance ( $m\Omega$ )max. | Rated current Iac (A)max. | Dimensions(mm) |               |        |
|----------------------|---------------------|--|---------------------------------|---------------------------|----------------|---------------|--------|
|                      |                     |  |                                 |                           | $\phi d$       | $\phi D$ max. | H max. |
| TF4930HU-103Y6R0-01  | 10                  | 300  | 60                              | 6                         | 1.2            | 47            | 26     |
| TF4930HU-202Y10R0-01 | 2                   | 150  | 30                              | 10                        | 1.3            | 47            | 26     |
| TF4930HU-302Y10R0-01 | 3                   | 150  | 35                              | 10                        | 1.3            | 47            | 26     |
| TF4930HU-202Y15R0-01 | 2                   | 150  | 25                              | 15                        | 1.8            | 48            | 27     |
| TF4930HU-502Y15R0-01 | 5                   | 200  | 35                              | 15                        | 1.5            | 48            | 27     |
| TF4930HU-102Y20R0-01 | 1                   | 50   | 20                              | 20                        | 2              | 49            | 30     |

#### TF1815HU(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

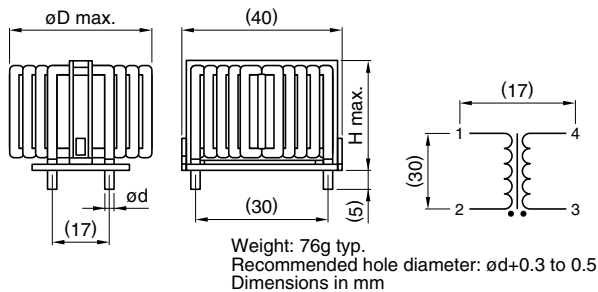
| Part No.            | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance ( $\Omega$ )max. | Rated current Iac (A)max. |
|---------------------|---------------------|--|--------------------------------|---------------------------|
| TF1815HU-103Y0R3-01 | 10                  | 300  | 630                            | 0.3                       |
| TF1815HU-502Y0R5-01 | 5                   | 200  | 410                            | 0.5                       |
| TF1815HU-103Y0R5-01 | 10                  | 300  | 550                            | 0.5                       |
| TF1815HU-502Y1R0-01 | 5                   | 200  | 250                            | 1                         |
| TF1815HU-103Y1R0-01 | 10                  | 300  | 325                            | 1                         |
| TF1815HU-302Y2R0-01 | 3                   | 150  | 95                             | 2                         |

# EMC Components

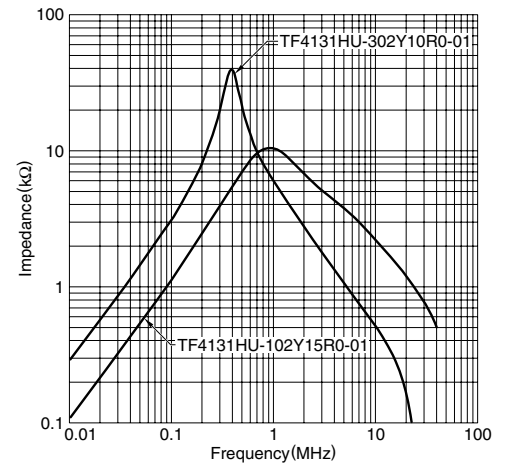
## TF Series

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

#### TF4131HU(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



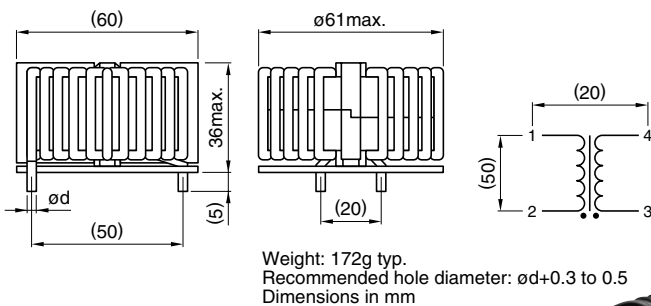
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



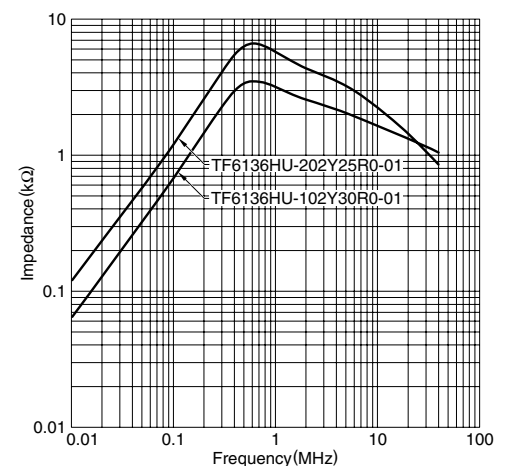
#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance (mH)min. | L1-L2 inductance difference (μH)max. | DC resistance (mΩ)max. | Rated current Iac (A)max. | Dimensions(mm) |         |        |
|----------------------|---------------------|--------------------------------------|------------------------|---------------------------|----------------|---------|--------|
|                      |                     |                                      |                        |                           | ød             | øD max. | H max. |
| TF4131HU-202Y10R0-01 | 2                   | 100                                  | 20                     | 10                        | 1.5            | 38      | 29     |
| TF4131HU-302Y10R0-01 | 3                   | 150                                  | 30                     | 10                        | 1.5            | 39      | 30     |
| TF4131HU-202Y12R0-01 | 2                   | 100                                  | 18                     | 12                        | 1.5            | 39      | 30     |
| TF4131HU-102Y15R0-01 | 1                   | 50                                   | 15                     | 15                        | 1.7            | 39      | 30     |
| TF4131HU-701Y18R0-01 | 0.7                 | 30                                   | 10                     | 18                        | 1.8            | 41      | 31     |

#### TF6136HU(HORIZONTAL TYPE WITH TERMINAL BASE) 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. | Dimensions(mm) |  |
|----------------------|---------------------|--------------------------------------|-----------------------|---------------------------|----------------|--|
|                      |                     |                                      |                       |                           | ød             |  |
| TF6136HU-202Y15R0-01 | 2                   | 80                                   | 20                    | 15                        | 1.8            |  |
| TF6136HU-102Y20R0-01 | 1                   | 50                                   | 10                    | 20                        | 1.8            |  |
| TF6136HU-202Y20R0-01 | 2                   | 80                                   | 15                    | 20                        | 1.8            |  |
| TF6136HU-202Y25R0-01 | 2                   | 80                                   | 15                    | 25                        | 2.4            |  |
| TF6136HU-102Y30R0-01 | 1                   | 50                                   | 8                     | 30                        | 2.4            |  |

• All specifications are subject to change without notice.



# EMC Components

## TF Series

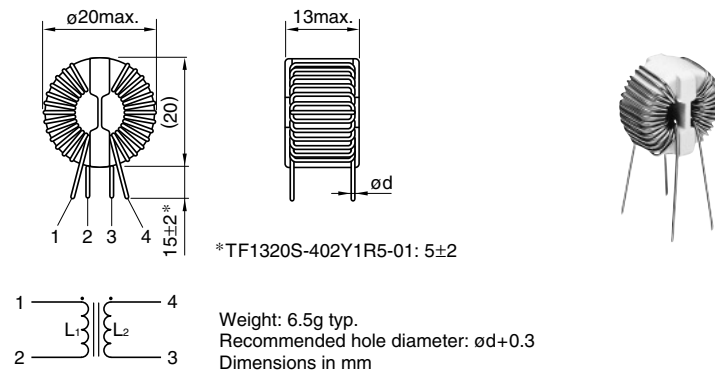
### Common Mode Choke Coils(Line Filters) for AC Power Supply Toroidal Core Type

#### VERTICAL TYPE TF SERIES

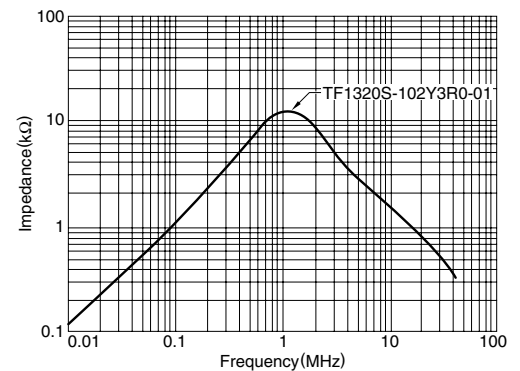
#### FEATURES

- This series uses a high permeability toroidal ferrite core and therefore provides large inductance with a little number of turns.
- Therefore its stray capacity is small and it provides the impedance levels required to effectively suppress high frequency noises.
- Products mounted on a base with fixed leads are easy to insert to circuit boards.

#### TF1320S(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

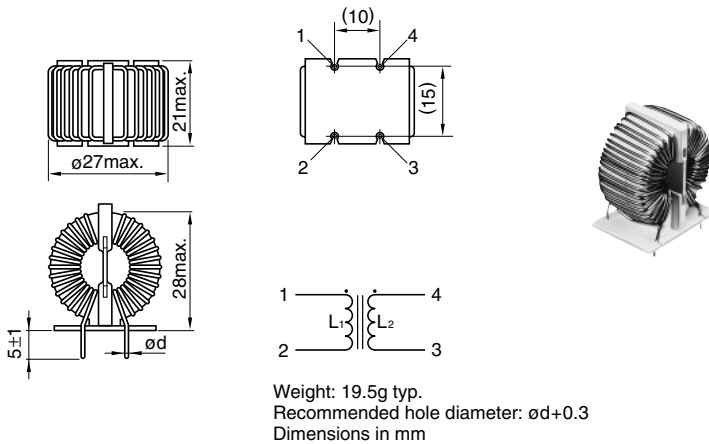
| Part No.           | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>(μH)max. | DC<br>resistance<br>(Ω)max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |
|--------------------|------------------------|--|-----------------------------|---------------------------------|----------------|
|                    |                        |  |                             |                                 | ød             |
| TF1320S-402Y1R5-01 | 4                      | 100  | 0.2                         | 1.5                             | 0.4            |
| TF1320S-222Y2R0-01 | 2.2                    | 75   | 0.1                         | 2                               | 0.5            |
| TF1320S-102Y3R0-01 | 1                      | 40   | 0.04                        | 3                               | 0.6            |

# EMC Components

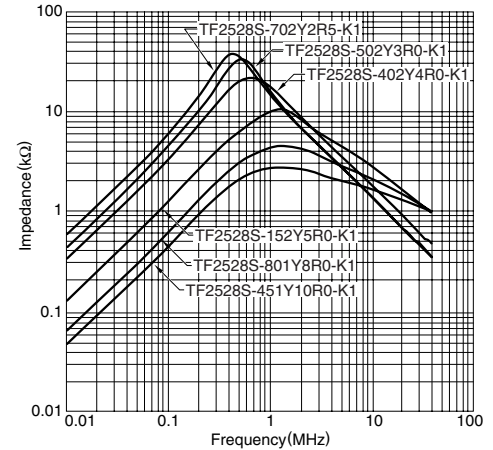
## TF Series

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

#### TF2528S(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



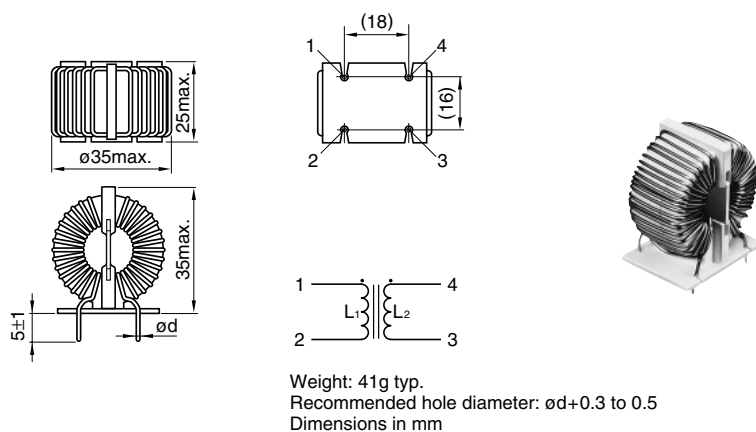
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



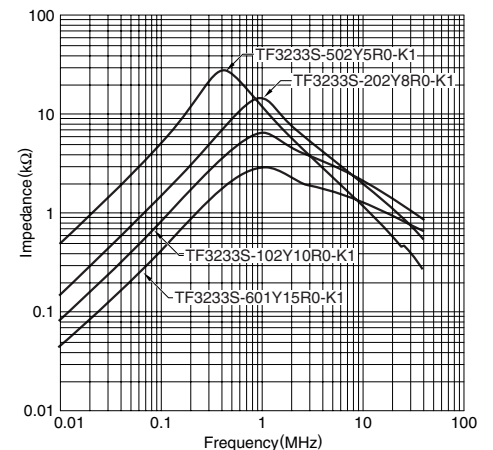
#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance (mH)min. | L1-L2 inductance difference (μH)max. | DC resistance (Ω)max. | Rated current lac (A)max. | Dimensions(mm)<br>$\phi d$ |
|---------------------|---------------------|--------------------------------------|-----------------------|---------------------------|----------------------------|
| TF2528S-702Y2R5-K1  | 7                   | 200                                  | 0.2                   | 2.5                       | 0.6                        |
| TF2528S-502Y3R0-K1  | 5                   | 150                                  | 0.15                  | 3                         | 0.65                       |
| TF2528S-402Y4R0-K1  | 4                   | 100                                  | 0.1                   | 4                         | 0.7                        |
| TF2528S-152Y5R0-K1  | 1.5                 | 80                                   | 0.05                  | 5                         | 0.8                        |
| TF2528S-801Y8R0-K1  | 0.8                 | 50                                   | 0.02                  | 8                         | 1                          |
| TF2528S-451Y10R0-K1 | 0.45                | 30                                   | 0.015                 | 10                        | 1.1                        |

#### TF3233S(VERTICAL TYPE WITH TERMINAL BASE) 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 lac (A)max. | Dimensions(mm)<br>$\phi d$ |
|---------------------|---------------------|--------------------------------------|-----------------------|---------------------------|----------------------------|
| TF3233S-103Y3R0-K1  | 10                  | 200                                  | 0.15                  | 3                         | 0.7                        |
| TF3233S-702Y4R0-K1  | 7                   | 150                                  | 0.1                   | 4                         | 0.8                        |
| TF3233S-502Y5R0-K1  | 5                   | 100                                  | 0.05                  | 5                         | 0.9                        |
| TF3233S-402Y6R0-K1  | 4                   | 80                                   | 0.03                  | 6                         | 1                          |
| TF3233S-202Y8R0-K1  | 2                   | 60                                   | 0.025                 | 8                         | 1.2                        |
| TF3233S-102Y10R0-K1 | 1                   | 30                                   | 0.02                  | 10                        | 1.3                        |
| TF3233S-601Y15R0-K1 | 0.6                 | 50                                   | 0.007                 | 15                        | 1.6                        |
| TF3233S-251Y20R0-K1 | 0.25                | 50                                   | 0.005                 | 20                        | 1.8                        |

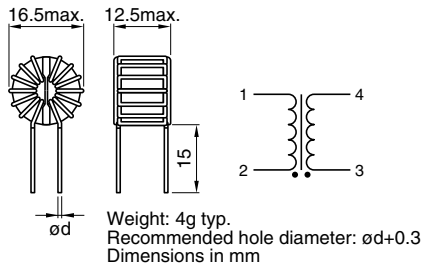
• All specifications are subject to change without notice.

# EMC Components

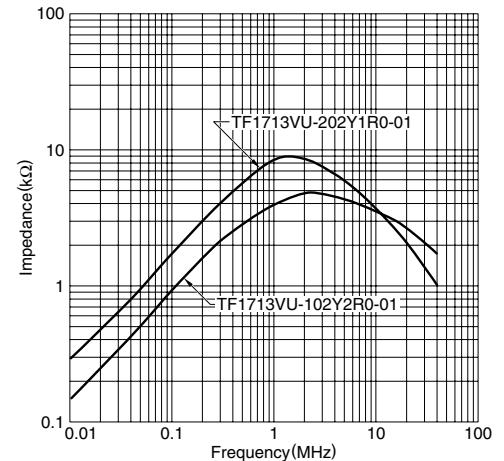
## TF Series

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

#### TF1713VU(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



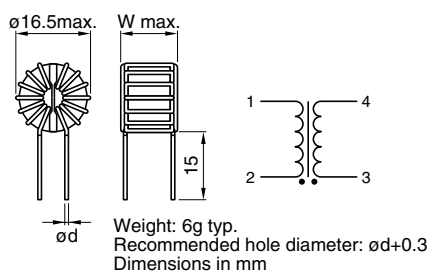
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



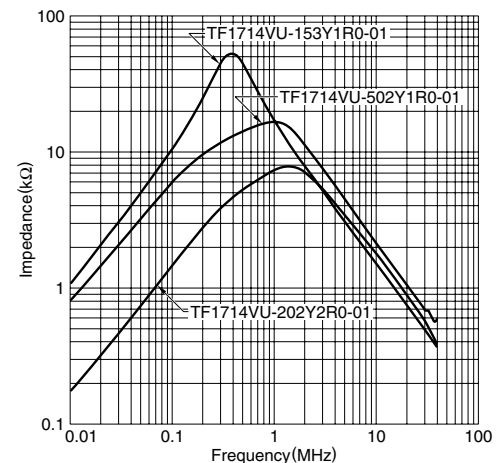
#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance ( $\Omega$ )max. | Rated current Iac (A)max. | Dimensions(mm)<br>$\phi d$ |
|---------------------|---------------------|--|--------------------------------|---------------------------|----------------------------|
| TF1713VU-202Y1R0-01 | 2                   | 100  | 180                            | 1                         | 0.35                       |
| TF1713VU-102Y2R0-01 | 1                   | 50   | 100                            | 2                         | 0.4                        |
| TF1713VU-102Y3R0-01 | 1                   | 50   | 70                             | 3                         | 0.5                        |

#### TF1714VU(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

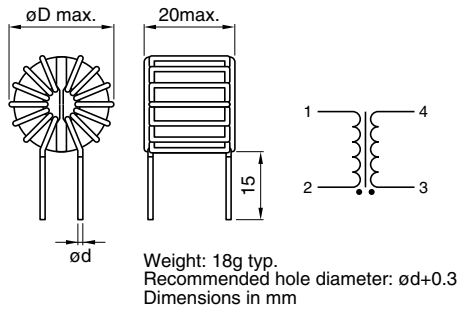
| Part No.            | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance (m $\Omega$ )max. | Rated current Iac (A)max. | Dimensions(mm)<br>$\phi d$ W max. |
|---------------------|---------------------|--|---------------------------------|---------------------------|-----------------------------------|
| TF1714VU-502Y1R0-01 | 5                   | 100  | 250                             | 1                         | 0.35    12                        |
| TF1714VU-802Y1R0-01 | 8                   | 120  | 325                             | 1                         | 0.35    14                        |
| TF1714VU-103Y1R0-01 | 10                  | 150  | 350                             | 1                         | 0.35    14                        |
| TF1714VU-153Y1R0-01 | 15                  | 150  | 400                             | 1                         | 0.35    14                        |
| TF1714VU-202Y2R0-01 | 2                   | 80   | 85                              | 2                         | 0.5    14                         |
| TF1714VU-102Y3R0-01 | 1                   | 50   | 45                              | 3                         | 0.6    12                         |

# EMC Components

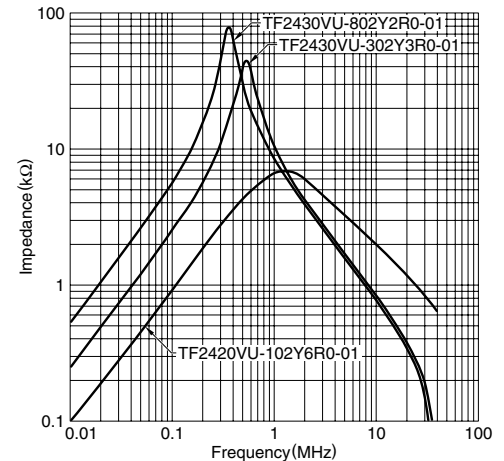
## TF Series

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

#### TF2420VU(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



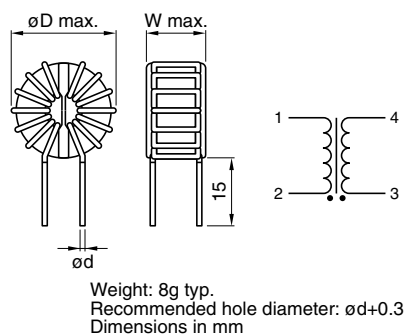
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



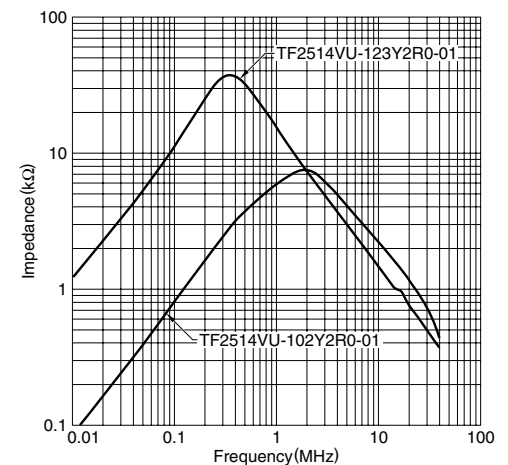
#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance (m $\Omega$ )max. | Rated current Iac (A)max. | Dimensions(mm) |               |
|---------------------|---------------------|--|---------------------------------|---------------------------|----------------|---------------|
|                     |                     |  |                                 |                           | $\phi d$       | $\phi D$ max. |
| TF2420VU-302Y2R0-01 | 3                   | 150  | 110                             | 2                         | 0.6            | 23            |
| TF2420VU-802Y2R0-01 | 8                   | 200  | 150                             | 2                         | 0.55           | 23            |
| TF2420VU-302Y3R0-01 | 3                   | 150  | 100                             | 3                         | 0.65           | 23            |
| TF2420VU-102Y5R0-01 | 1                   | 50   | 50                              | 5                         | 0.8            | 23            |
| TF2420VU-202Y5R0-01 | 2                   | 100  | 90                              | 5                         | 0.8            | 23            |
| TF2420VU-102Y6R0-01 | 1                   | 50   | 30                              | 6                         | 0.9            | 23.5          |

#### TF2514VU(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance (m $\Omega$ )max. | Rated current Iac (A)max. | Dimensions(mm) |               |        |
|---------------------|---------------------|--|---------------------------------|---------------------------|----------------|---------------|--------|
|                     |                     |  |                                 |                           | $\phi d$       | $\phi D$ max. | H max. |
| TF2514VU-102Y2R0-01 | 1                   | 50   | 100                             | 2                         | 0.5            | 23            | 13     |
| TF2514VU-123Y2R0-01 | 12                  | 150  | 120                             | 2                         | 0.5            | 23            | 13     |
| TF2514VU-101Y5R0-01 | 0.1                 | 30   | 40                              | 5                         | 0.8            | 24            | 13     |
| TF2514VU-131Y7R0-01 | 0.13                | 30   | 10                              | 7                         | 1.1            | 25            | 14     |

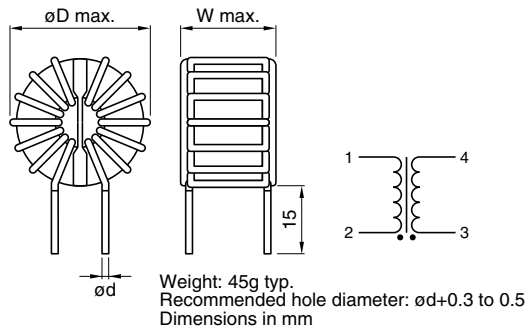
• All specifications are subject to change without notice.

# EMC Components

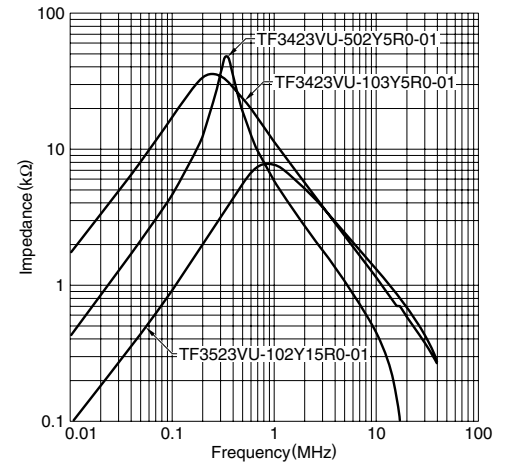
## TF Series

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

#### TF3423VU(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



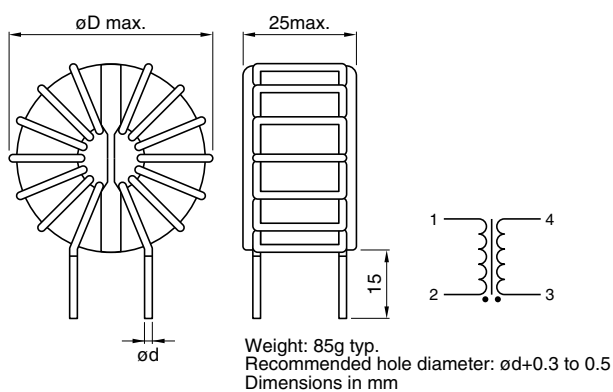
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



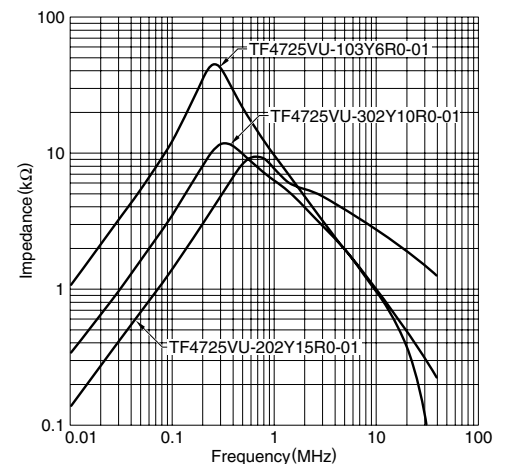
#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance (mH)min. | L1-L2 inductance difference (μH)max. | DC resistance (mΩ)max. | Rated current Iac (A)max. | Dimensions(mm) |         |        |
|----------------------|---------------------|--------------------------------------|------------------------|---------------------------|----------------|---------|--------|
|                      |                     |                                      |                        |                           | ød             | øD max. | H max. |
| TF3423VU-802Y4R0-01  | 8                   | 200                                  | 90                     | 4                         | 0.8            | 31      | 21     |
| TF3423VU-202Y5R0-01  | 2                   | 100                                  | 50                     | 5                         | 0.8            | 31      | 21     |
| TF3423VU-502Y5R0-01  | 5                   | 150                                  | 80                     | 5                         | 0.8            | 31      | 21     |
| TF3423VU-103Y5R0-01  | 10                  | 300                                  | 100                    | 5                         | 0.9            | 31      | 21     |
| TF3423VU-102Y10R0-01 | 1                   | 50                                   | 30                     | 10                        | 1.3            | 33      | 23     |
| TF3423VU-102Y15R0-01 | 1                   | 50                                   | 20                     | 15                        | 1.5            | 33      | 23     |
| TF3423VU-501Y20R0-01 | 0.5                 | 30                                   | 10                     | 20                        | 1.8            | 34      | 23     |

#### TF4725VU(VERTICAL TYPE WITHOUT TERMINAL BASE) 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 (mΩ)max. | Rated current Iac (A)max. | Dimensions(mm) |         |
|----------------------|---------------------|--------------------------------------|------------------------|---------------------------|----------------|---------|
|                      |                     |                                      |                        |                           | ød             | øD max. |
| TF4725VU-103Y6R0-01  | 10                  | 300                                  | 60                     | 6                         | 1.2            | 45      |
| TF4725VU-202Y10R0-01 | 2                   | 100                                  | 90                     | 10                        | 1.3            | 45      |
| TF4725VU-302Y10R0-01 | 3                   | 150                                  | 50                     | 10                        | 1.3            | 45      |
| TF4725VU-202Y15R0-01 | 2                   | 100                                  | 70                     | 15                        | 1.8            | 47      |

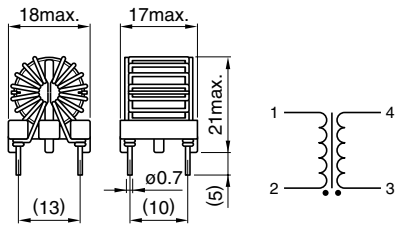
• All specifications are subject to change without notice.

# EMC Components

## TF Series

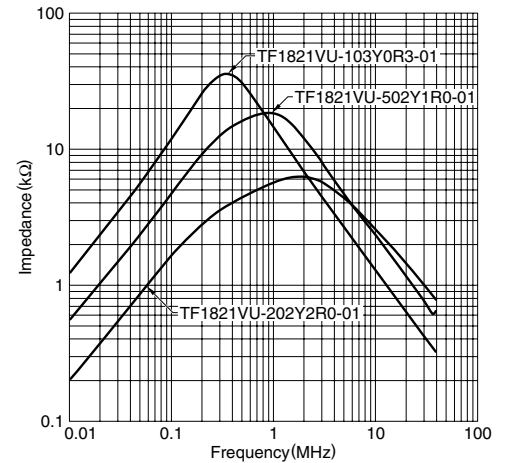
### Common Mode Choke Coils(Line Filters) for AC Power Supply Toroidal Core Type

#### TF1821VU(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight: 7g typ.  
Recommended hole diameter:  $\phi 0.9$  to 1.1  
Dimensions in mm

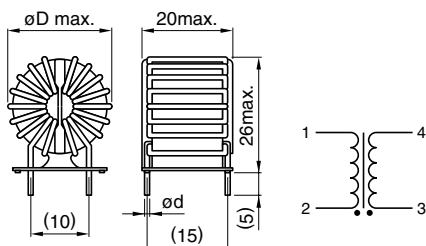
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



#### ELECTRICAL CHARACTERISTICS

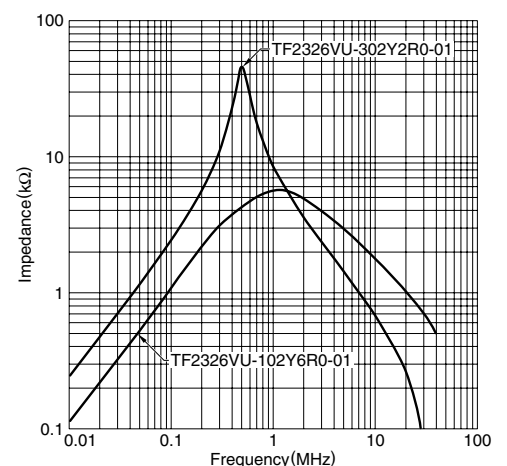
| Part No.            | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance ( $\Omega$ )max. | Rated current Iac (A)max. |
|---------------------|---------------------|--|--------------------------------|---------------------------|
| TF1821VU-103Y0R3-01 | 10                  | 300  | 630                            | 0.3                       |
| TF1821VU-502Y0R5-01 | 5                   | 200  | 410                            | 0.5                       |
| TF1821VU-103Y0R5-01 | 10                  | 300  | 550                            | 0.5                       |
| TF1821VU-502Y1R0-01 | 5                   | 200  | 250                            | 1                         |
| TF1821VU-103Y1R0-01 | 10                  | 300  | 325                            | 1                         |
| TF1821VU-202Y2R0-01 | 2                   | 100  | 85                             | 2                         |

#### TF2326VU(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight: 19g typ.  
Recommended hole diameter:  $\phi d+0.3$   
Dimensions in mm

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



#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance (m $\Omega$ )max. | Rated current Iac (A)max. | Dimensions(mm) |               |
|---------------------|---------------------|--|---------------------------------|---------------------------|----------------|---------------|
|                     |                     |  |                                 |                           | $\phi d$       | $\phi D$ max. |
| TF2326VU-302Y2R0-01 | 3                   | 150  | 120                             | 2                         | 0.6            | 23            |
| TF2326VU-302Y3R0-01 | 3                   | 150  | 100                             | 3                         | 0.65           | 23            |
| TF2326VU-102Y5R0-01 | 1                   | 50   | 50                              | 5                         | 0.8            | 23            |
| TF2326VU-202Y5R0-01 | 2                   | 100  | 90                              | 5                         | 0.8            | 23            |
| TF2326VU-102Y6R0-01 | 1                   | 50   | 30                              | 6                         | 0.9            | 23.5          |

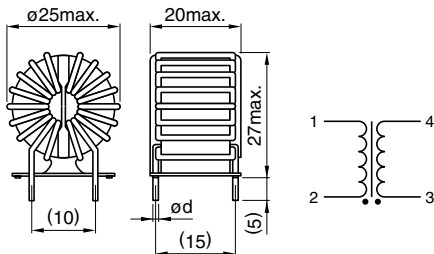
• All specifications are subject to change without notice.

# EMC Components

## TF Series

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

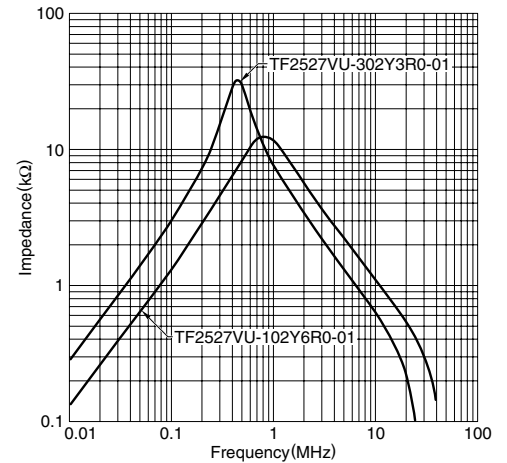
#### TF2527VU(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight: 20g typ.  
Recommended hole diameter:  $\phi d + 0.3$   
Dimensions in mm



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



#### ELECTRICAL CHARACTERISTICS

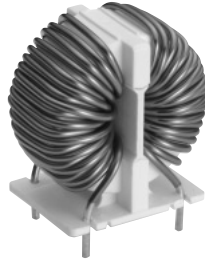
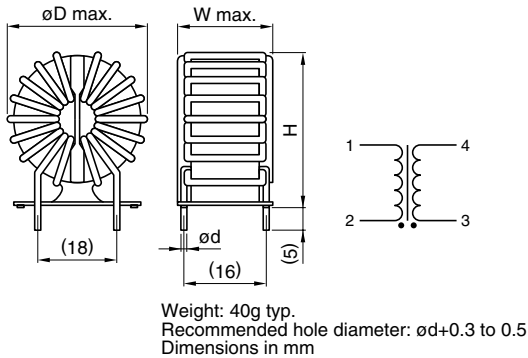
| Part No.            | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>( $\Omega$ )max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |
|---------------------|------------------------|--|--------------------------------------|---------------------------------|----------------|
|                     |                        |  |                                      |                                 | $\phi d$       |
| TF2527VU-302Y2R0-01 | 3                      | 150  | 120                                  | 2                               | 0.6            |
| TF2527VU-102Y3R0-01 | 1                      | 50   | 90                                   | 3                               | 0.65           |
| TF2527VU-302Y3R0-01 | 3                      | 150  | 110                                  | 3                               | 0.65           |
| TF2527VU-102Y5R0-01 | 1                      | 50   | 70                                   | 5                               | 0.8            |
| TF2527VU-102Y6R0-01 | 1                      | 50   | 60                                   | 6                               | 0.9            |

# EMC Components

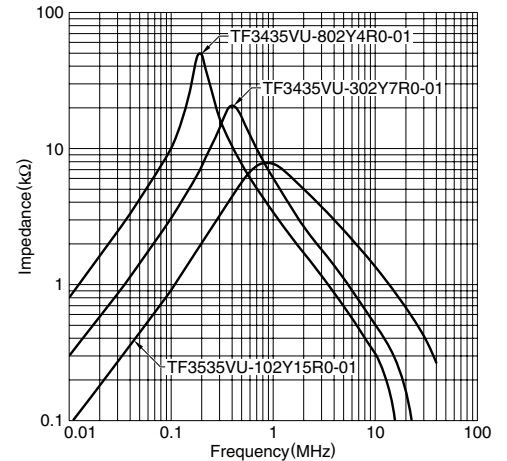
## TF Series

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

#### TF3435VU(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>$I_{ac}$<br>(A)max. | Dimensions(mm) |               |        |        |
|----------------------|------------------------|--|---------------------------------------|--------------------------------------|----------------|---------------|--------|--------|
|                      |                        |  |                                       |                                      | $\phi d$       | $\phi D$ max. | W max. | H max. |
| TF3435VU-802Y4R0-01  | 8                      | 200  | 90                                    | 4                                    | 0.8            | 31            | 21     | 34     |
| TF3435VU-502Y5R0-01  | 5                      | 150  | 100                                   | 5                                    | 0.8            | 31            | 21     | 34     |
| TF3435VU-103Y5R0-01  | 10                     | 300  | 120                                   | 5                                    | 0.9            | 31            | 21     | 34     |
| TF3435VU-302Y7R0-01  | 3                      | 150  | 100                                   | 7                                    | 1              | 31            | 21     | 34     |
| TF3435VU-102Y10R0-01 | 1                      | 50   | 30                                    | 10                                   | 1.3            | 33            | 22     | 34     |
| TF3435VU-202Y10R0-01 | 2                      | 80   | 40                                    | 10                                   | 1.3            | 33            | 22     | 34     |
| TF3435VU-102Y15R0-01 | 1                      | 50   | 20                                    | 15                                   | 1.5            | 33            | 22     | 34     |
| TF3435VU-301Y20R0-01 | 0.3                    | 30   | 10                                    | 20                                   | 1.8            | 34            | 22     | 35     |



# EMC Components

## TF Series

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

Toroidal Core Type with Nano Crystallization Alloy Magnetically Soft Material

### TOROIDAL CORE TYPE WITH NANO CRYSTALLIZATION

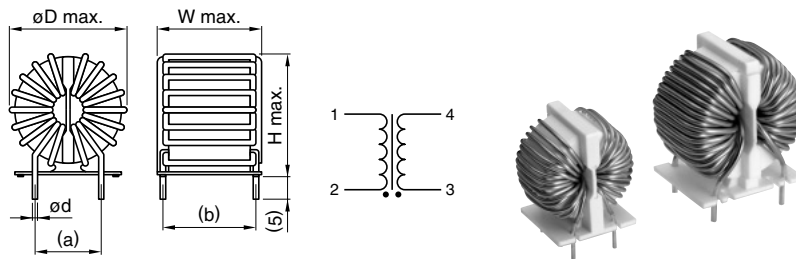
### ALLOY MAGNETICALLY SOFT MATERIAL

### TF SERIES

#### FEATURES

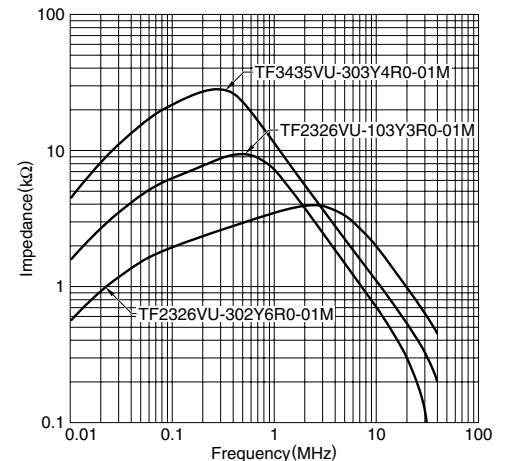
- This is a compact filter that provides large inductance due to the use of high permeability alloy with controlled nano-crystalline structures.
- Products mounted on a base will come with fixed leads and are therefore easy to insert to circuit boards.

#### TF2326VU-M/TF3435VU-M(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight  
 TF2326VU: 20g typ.  
 TF3435VU: 38g typ.  
 Recommended hole diameter:  $\phi d + 0.3$   
 Dimensions in mm

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



#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance (mH)min. | L1-L2 inductance difference (μH)max. | DC resistance (mΩ)max. | Rated current Iac (A)max. | Dimensions(mm) |        |        |        |     |     |  |
|----------------------|---------------------|--------------------------------------|------------------------|---------------------------|----------------|--------|--------|--------|-----|-----|--|
|                      |                     |                                      |                        |                           | ød             | D max. | W max. | H max. | (a) | (b) |  |
| TF2326VU-M type      |                     |                                      |                        |                           |                |        |        |        |     |     |  |
| TF2326VU-103Y3R0-01M | 10                  | 300                                  | 100                    | 3                         | 0.65           | 23     | 20     | 26     | 10  | 15  |  |
| TF2326VU-702Y5R0-01M | 7                   | 250                                  | 90                     | 5                         | 0.8            | 23     | 20     | 26     | 10  | 15  |  |
| TF2326VU-302Y6R0-01M | 3                   | 150                                  | 30                     | 6                         | 0.9            | 23.5   | 20     | 26     | 10  | 15  |  |
| TF3435VU-M type      |                     |                                      |                        |                           |                |        |        |        |     |     |  |
| TF3435VU-303Y4R0-01M | 30                  | 500                                  | 90                     | 4                         | 0.8            | 33     | 23     | 34     | 18  | 16  |  |
| TF3435VU-333Y5R0-01M | 33                  | 500                                  | 120                    | 5                         | 0.9            | 33     | 23     | 34     | 18  | 16  |  |
| TF3435VU-802Y10R0-1M | 8                   | 250                                  | 40                     | 10                        | 1.3            | 35     | 23     | 34     | 18  | 16  |  |

# EMC Components

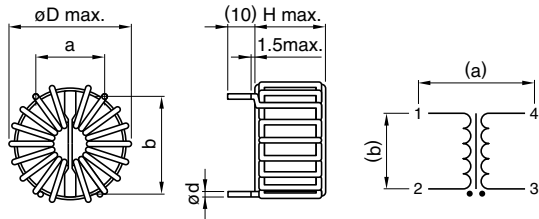
## TF Series

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

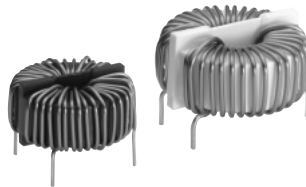
Toroidal Core Type with Nano Crystallization Alloy Magnetically Soft Material

### TF4930HU-M/TF6337HU-M(HORIZONTAL TYPE WITHOUT TERMINAL BASE) TYPE

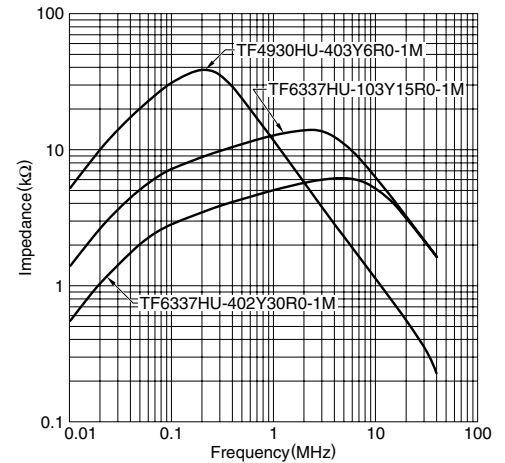
#### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight  
 TF4930HU: 99.8g typ.  
 TF6337HU: 204.9g typ.  
 Recommended hole diameter:  $\phi d + 0.3$  to  $0.5$   
 Dimensions in mm



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



#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance<br>(mH)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |               |        |     |     |  |
|----------------------|------------------------|--|---------------------------------------|---------------------------------|----------------|---------------|--------|-----|-----|--|
|                      |                        |  |                                       |                                 | $\phi d$       | $\phi D$ max. | H max. | (a) | (b) |  |
| TF4930HU-M type      |                        |  |                                       |                                 |                |               |        |     |     |  |
| TF4930HU-403Y6R0-1M  | 40                     | 700  | 60                                    | 6                               | 1.2            | 47            | 32     | 26  | 35  |  |
| TF4930HU-103Y10R0-1M | 10                     | 300  | 35                                    | 10                              | 1.3            | 48            | 32     | 26  | 35  |  |
| TF4930HU-602Y15R0-1M | 6                      | 150  | 25                                    | 15                              | 1.8            | 48            | 35     | 26  | 35  |  |
| TF6337HU-M type      |                        |  |                                       |                                 |                |               |        |     |     |  |
| TF6337HU-103Y15R0-1M | 10                     | 300  | 15                                    | 15                              | 1.8            | 60            | 36     | 20  | 50  |  |
| TF6337HU-802Y25R0-1M | 8                      | 200  | 15                                    | 25                              | 2.4            | 63            | 37     | 20  | 50  |  |
| TF6337HU-402Y30R0-1M | 4                      | 150  | 10                                    | 30                              | 2.4            | 63            | 37     | 20  | 50  |  |

# EMC Components

## TF Series

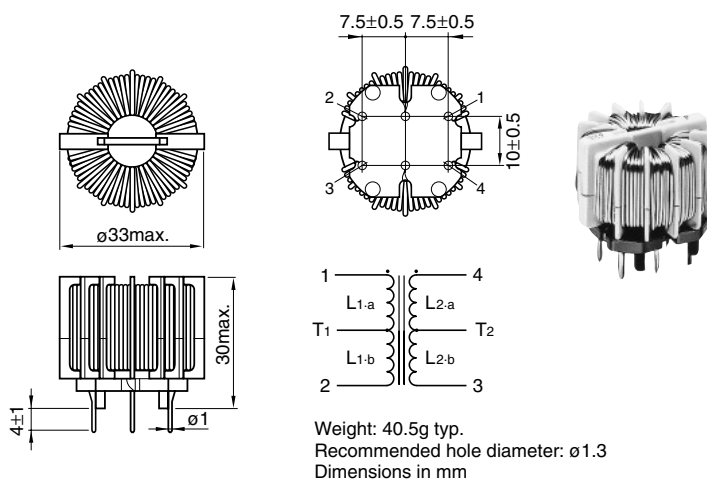
### Common Mode Choke Coils(Line Filters) for AC Power Supply Separable Case Type

#### MULTI-SECTION CASE TYPE (FOR HIGH FREQUENCY) TF SERIES

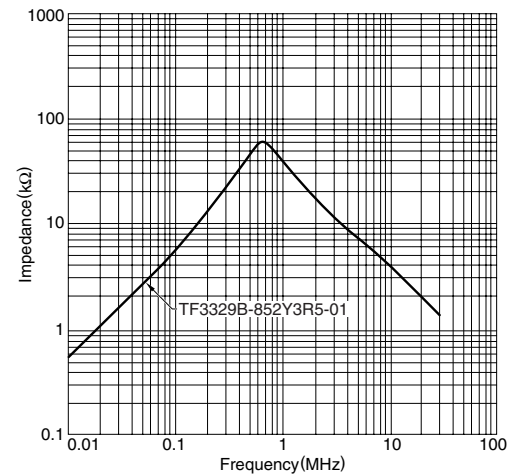
#### FEATURES

- This series uses six-section windings for each line, which contribute to reduced stray capacity and excellent impedance characteristics in high frequency ranges.

#### TF3329B(FOR HIGH FREQUENCY) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

| Part No.           | Inductance (mH)min. | L1-L2 inductance difference ( $\mu$ H)max. | DC resistance ( $\Omega$ )max. | Rated current Iac (A)max. |
|--------------------|---------------------|--|--------------------------------|---------------------------|
| TF3329B-153Y2R5-01 | 15                  | 300  | 120                            | 2.5                       |
| TF3329B-103Y3R0-01 | 10                  | 200  | 100                            | 3                         |
| TF3329B-852Y3R5-01 | 8.5                 | 170  | 70                             | 3.5                       |

# EMC Components

## TF Series

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

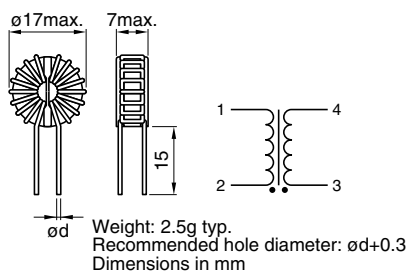
#### VERTICAL TYPE (FOR HIGH FREQUENCY)

#### TF SERIES

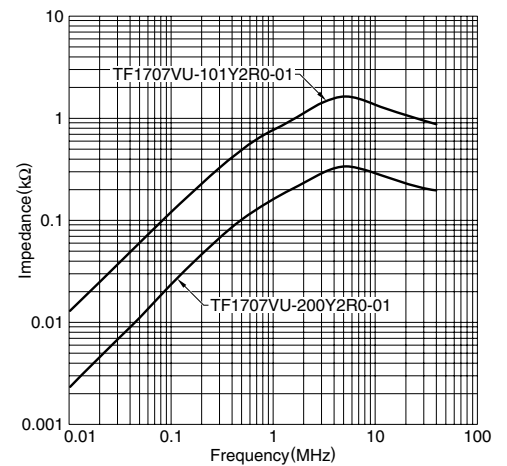
#### FEATURES

- To reduce stray capacity, this series uses a single layer winding and is designed to suppress high frequency noises.
- Base-mounted products with fixed leads are easy to insert.

#### TF1707VU(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

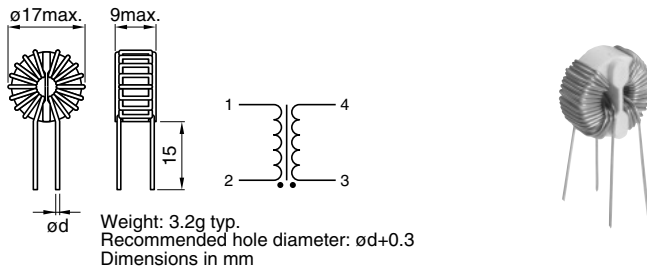
| Part No.            | Inductance<br>( $\mu\text{H}$ )min. | L1-L2 inductance<br>difference<br>( $\mu\text{H}$ )max. | DC<br>resistance<br>( $\Omega$ )max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |
|---------------------|-------------------------------------|---|--------------------------------------|---------------------------------|----------------|
|                     |                                     |   |                                      |                                 | $\phi d$       |
| TF1707VU-200Y2R0-01 | 20                                  | 10  | 50                                   | 2                               | 0.6            |
| TF1707VU-101Y2R0-01 | 100                                 | 20  | 40                                   | 2                               | 0.6            |
| TF1707VU-101Y3R0-01 | 100                                 | 20  | 30                                   | 3                               | 0.65           |

# EMC Components

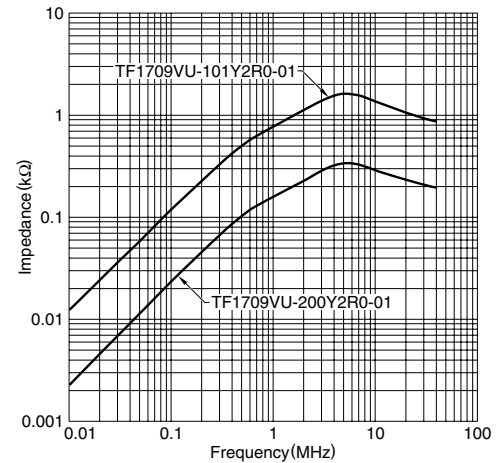
## TF Series

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

#### TF1709VU(VERTICAL TYPE WITHOUT TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



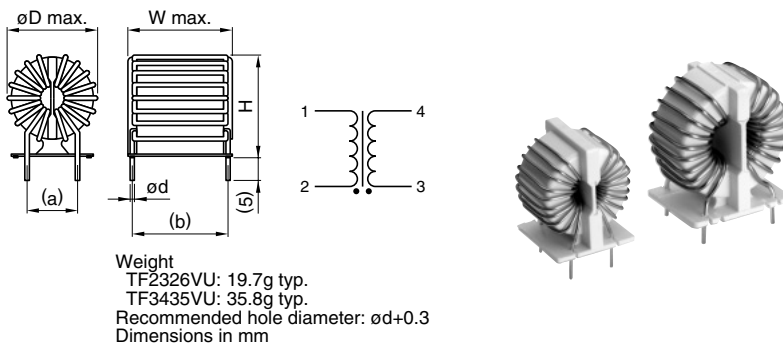
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



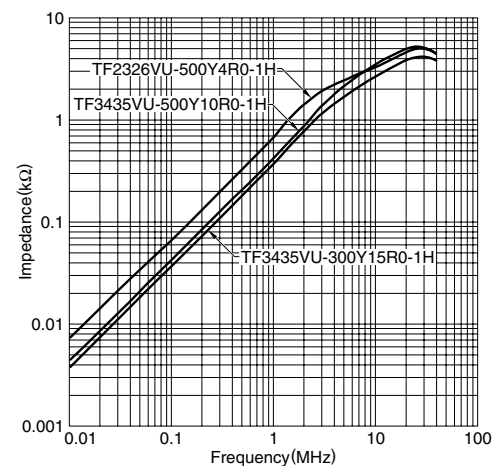
#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance<br>( $\mu$ H)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>( $\Omega$ )max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |  |
|---------------------|------------------------------|--|--------------------------------------|---------------------------------|----------------|--|
|                     |                              |  |                                      |                                 | $\phi d$       |  |
| TF1709VU-200Y2R0-01 | 20                           | 10   | 50                                   | 2                               | 0.6            |  |
| TF1709VU-101Y2R0-01 | 100                          | 20   | 40                                   | 2                               | 0.6            |  |
| TF1709VU-101Y3R0-01 | 100                          | 20   | 30                                   | 3                               | 0.65           |  |

#### TF2326VU-H/TF3435VU-H(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance<br>( $\mu$ H)min. | L1-L2 inductance<br>difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |        |        |        |     |     |  |  |
|----------------------|------------------------------|--|---------------------------------------|---------------------------------|----------------|--------|--------|--------|-----|-----|--|--|
|                      |                              |  |                                       |                                 | $\phi d$       | D max. | W max. | H max. | (a) | (b) |  |  |
| TF2326VU-H type      |                              |  |                                       |                                 |                |        |        |        |     |     |  |  |
| TF2326VU-500Y4R0-1H  | 50                           | 10   | 25                                    | 4                               | 0.7            | 23     | 20     | 26     | 10  | 15  |  |  |
| TF2326VU-300Y5R0-1H  | 30                           | 10   | 20                                    | 5                               | 0.8            | 23     | 20     | 26     | 10  | 15  |  |  |
| TF3435VU-H type      |                              |  |                                       |                                 |                |        |        |        |     |     |  |  |
| TF3435VU-600Y8R0-1H  | 60                           | 10   | 16                                    | 8                               | 1              | 32     | 22     | 34     | 18  | 16  |  |  |
| TF3435VU-500Y10R0-1H | 50                           | 10   | 11                                    | 10                              | 1.2            | 33     | 22     | 34     | 18  | 16  |  |  |
| TF3435VU-300Y15R0-1H | 30                           | 10   | 8                                     | 15                              | 1.4            | 33     | 22     | 34     | 18  | 16  |  |  |

# EMC Components

## TF Series

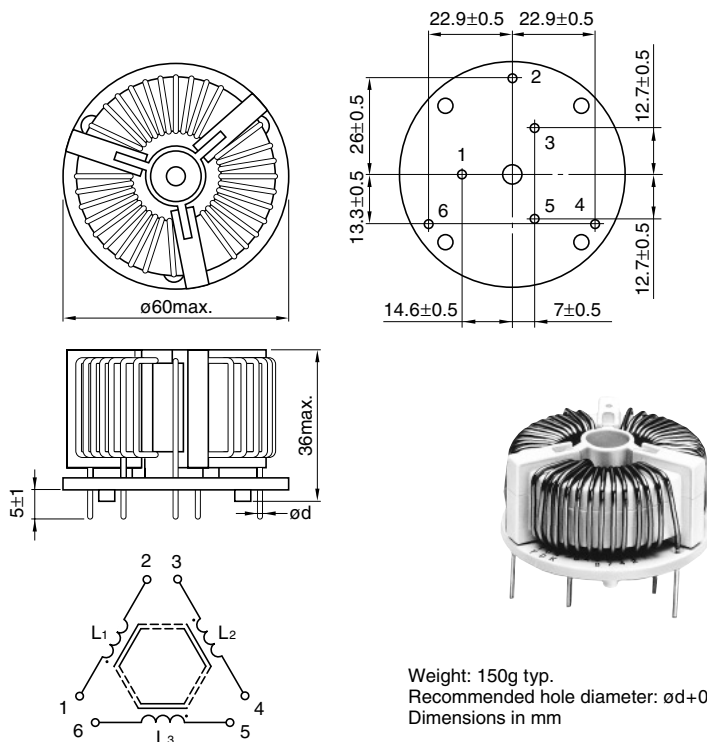
### Common Mode Choke Coils(Line Filters) for AC Power Supply Toroidal Core Type for 3-Phase

#### TOROIDAL CORE TYPE FOR THREE PHASE LINES TF SERIES

#### FEATURES

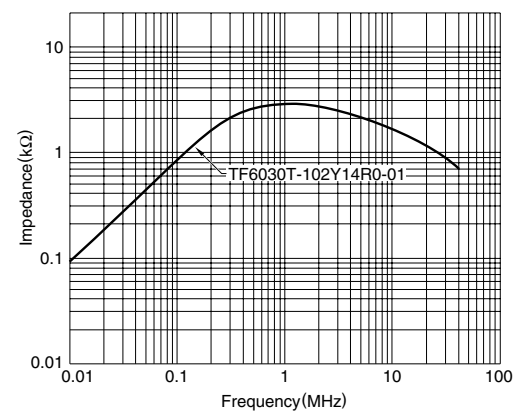
- This series uses a high permeability toroidal ferrite core and can handle heavy currents with fewer number of turns.

#### TF6030T(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight: 150g typ.  
Recommended hole diameter:  $\phi d + 0.3$   
Dimensions in mm

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



#### ELECTRICAL CHARACTERISTICS

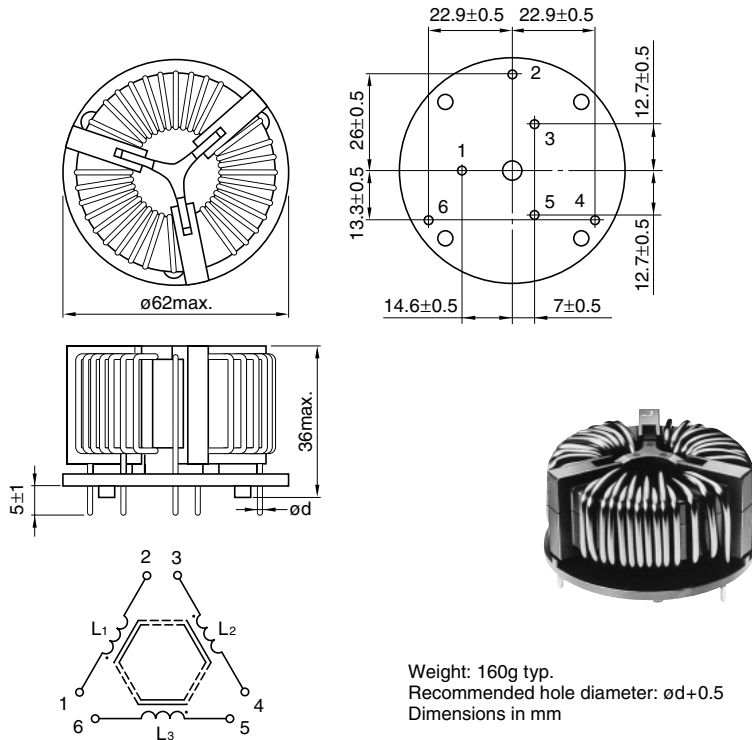
| Part No.            | Inductance<br>(mH)min. | L1-L2, L2-L3, L3-L1<br>inductance difference<br>(μH)max. | DC<br>resistance<br>(Ω)max. | Rated current<br>Iac<br>(A)max. | Dimensions(mm) |
|---------------------|------------------------|--|-----------------------------|---------------------------------|----------------|
|                     |                        |  |                             |                                 | $\phi d$       |
| TF6030T-752Y5R0-01  | 7.5                    | 150  | 0.1                         | 5                               | 0.9            |
| TF6030T-162Y10R0-01 | 1.6                    | 100  | 0.02                        | 10                              | 1.3            |
| TF6030T-102Y14R0-01 | 1                      | 75   | 0.02                        | 14                              | 1.5            |

# EMC Components

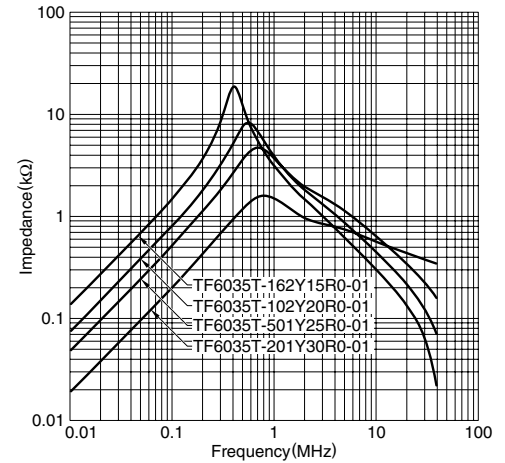
## TF Series

Common Mode Choke Coils (Line Filters) for AC Power Supply  
Toroidal Core Type for 3-Phase

### TF6035T (HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

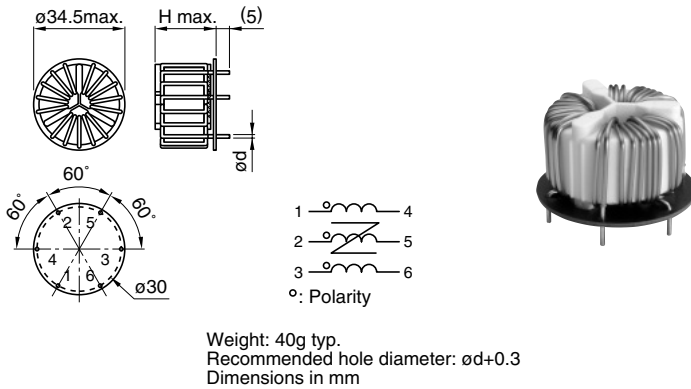
| Part No.            | Inductance (mH) min. | L <sub>1</sub> -L <sub>2</sub> , L <sub>2</sub> -L <sub>3</sub> , L <sub>3</sub> -L <sub>1</sub> inductance difference (μH) max. | DC resistance (Ω) max. | Rated current I <sub>ac</sub> (A) max. | Dimensions (mm) |
|---------------------|----------------------|--|------------------------|--|-----------------|
|                     |                      |  |                        |  | $\phi d$        |
| TF6035T-201Y30R0-01 | 0.2                  | 10   | 3                      | 30                                     | 2.6             |
| TF6035T-501Y25R0-01 | 0.5                  | 15   | 5                      | 25                                     | 2.3             |
| TF6035T-102Y20R0-01 | 1                    | 20   | 8                      | 20                                     | 2               |
| TF6035T-162Y15R0-01 | 1.6                  | 30   | 12                     | 15                                     | 1.8             |

# EMC Components

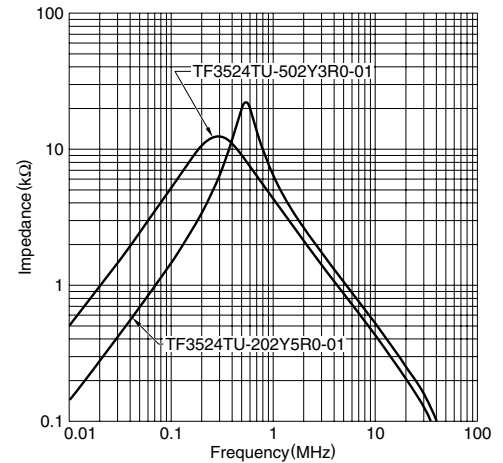
## TF Series

### Common Mode Choke Coils(Line Filters) for AC Power Supply Toroidal Core Type for 3-Phase

#### TF3524TU(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



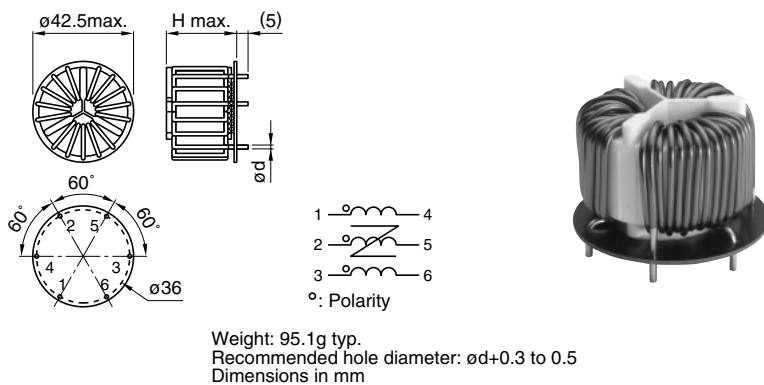
#### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



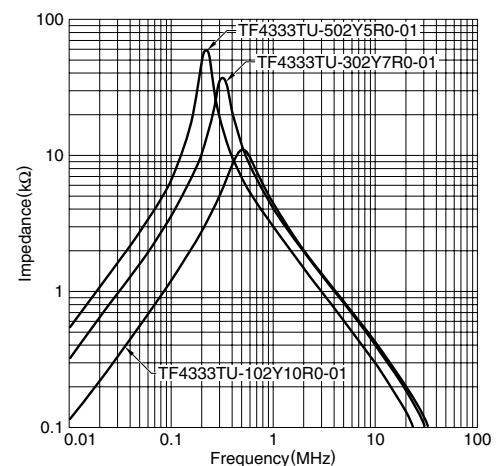
#### ELECTRICAL CHARACTERISTICS

| Part No.            | Inductance (mH)min. | L1-L2, L2-L3, L3-L1 inductance difference (μH)max. | DC resistance (mΩ)max. | Rated current I <sub>ac</sub> (A)max. | Dimensions(mm) |        |
|---------------------|---------------------|--|------------------------|---------------------------------------|----------------|--------|
|                     |                     |  |                        |                                       | ød             | H max. |
| TF3524TU-302Y3R0-01 | 3                   | 150  | 100                    | 3                                     | 0.8            | 23     |
| TF3524TU-502Y3R0-01 | 5                   | 200  | 130                    | 3                                     | 0.8            | 23     |
| TF3524TU-102Y5R0-01 | 1                   | 50   | 50                     | 5                                     | 1              | 23     |
| TF3524TU-202Y5R0-01 | 2                   | 150  | 60                     | 5                                     | 1              | 24     |

#### TF4333TU(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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



#### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance (mH)min. | L1-L2, L2-L3, L3-L1 inductance difference (μH)max. | DC resistance (mΩ)max. | Rated current I <sub>ac</sub> (A)max. | Dimensions(mm) |        |
|----------------------|---------------------|--|------------------------|---------------------------------------|----------------|--------|
|                      |                     |  |                        |                                       | ød             | H max. |
| TF4333TU-502Y5R0-01  | 5                   | 200  | 55                     | 5                                     | 1.1            | 31     |
| TF4333TU-302Y7R0-01  | 3                   | 250  | 35                     | 7                                     | 1.3            | 32     |
| TF4333TU-102Y10R0-01 | 1                   | 50   | 15                     | 10                                    | 1.5            | 32     |
| TF4333TU-501Y15R0-01 | 0.5                 | 30   | 8                      | 15                                    | 1.8            | 33     |

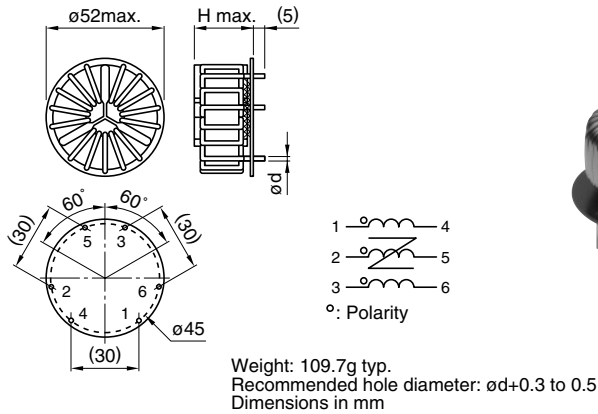


# EMC Components

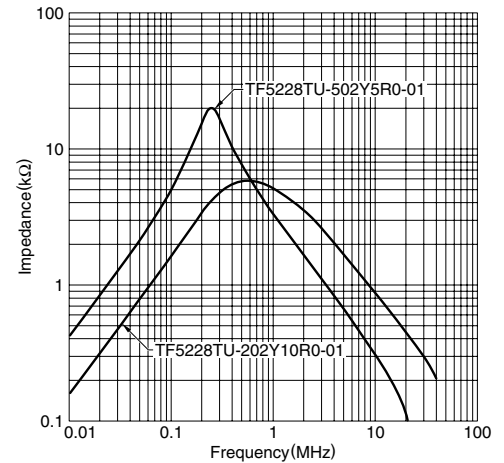
## TF Series

Common Mode Choke Coils (Line Filters) for AC Power Supply  
Toroidal Core Type for 3-Phase

### TF5228TU (HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

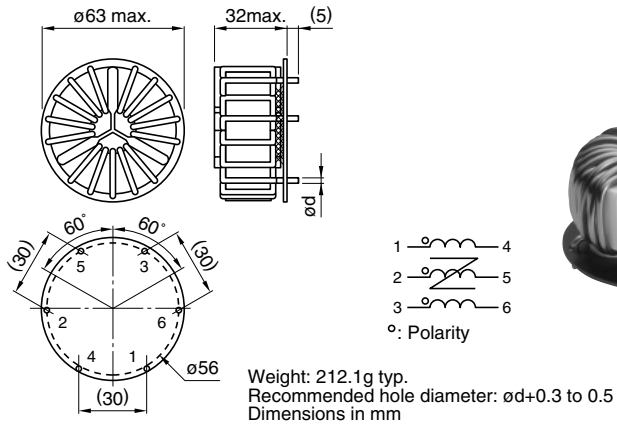
| Part No.             | Inductance<br>(mH)min. | L <sub>1</sub> -L <sub>2</sub> , L <sub>2</sub> -L <sub>3</sub> , L <sub>3</sub> -L <sub>1</sub><br>inductance difference<br>( $\mu$ H)max. | DC<br>resistance<br>(m $\Omega$ )max. | Rated current<br>I <sub>ac</sub><br>(A)max. | Dimensions (mm) |        |
|----------------------|------------------------|---|---------------------------------------|---|-----------------|--------|
|                      |                        |   |                                       |   | $\phi d$        | H max. |
| TF5228TU-102Y5R0-01  | 1                      | 50  | 45                                    | 5   | 1               | 26     |
| TF5228TU-502Y5R0-01  | 5                      | 200   | 95                                    | 5   | 1               | 26     |
| TF5228TU-302Y8R0-01  | 3                      | 150   | 40                                    | 8   | 1.2             | 26     |
| TF5228TU-102Y10R0-01 | 1                      | 50  | 20                                    | 10  | 1.3             | 26     |
| TF5228TU-202Y10R0-01 | 2                      | 80  | 25                                    | 10  | 1.5             | 28     |

# EMC Components

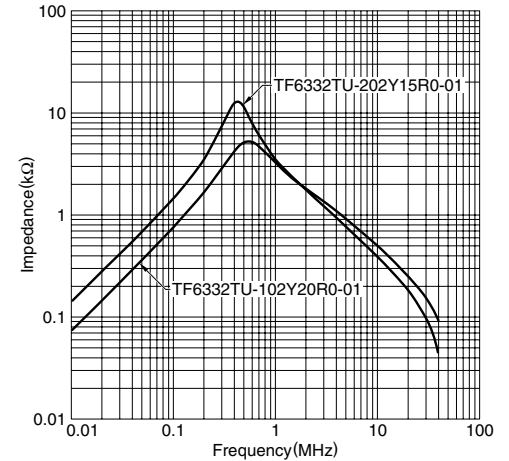
## TF Series

Common Mode Choke Coils(Line Filters) for AC Power Supply  
Toroidal Core Type for 3-Phase

### TF6332TU(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS

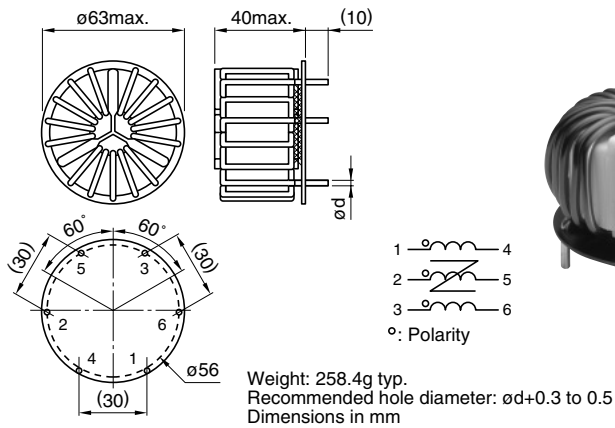
| Part No.             | Inductance<br>(mH)min. | L <sub>1</sub> -L <sub>2</sub> , L <sub>2</sub> -L <sub>3</sub> , L <sub>3</sub> -L <sub>1</sub><br>inductance difference<br>( $\mu$ H)max. | DC<br>resistance<br>( $\Omega$ )max. | Rated current<br>I <sub>ac</sub><br>(A)max. | Dimensions(mm) |
|----------------------|------------------------|---|--------------------------------------|---|----------------|
|                      |                        |   |                                      |   | $\phi d$       |
| TF6332TU-202Y15R0-01 | 2                      | 80  | 20                                   | 15  | 2              |
| TF6332TU-152Y18R0-01 | 1.5                    | 50  | 15                                   | 18  | 2.1            |
| TF6332TU-102Y20R0-01 | 1                      | 50  | 8                                    | 20  | 2.3            |
| TF6332TU-501Y25R0-01 | 0.5                    | 30  | 6                                    | 25  | 2.5            |

# EMC Components

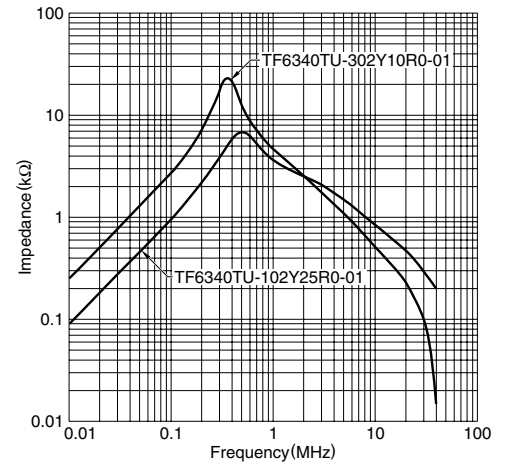
## TF Series

Common Mode Choke Coils(Line Filters) for AC Power Supply  
Toroidal Core Type for 3-Phase

### TF6340TU(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



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### ELECTRICAL CHARACTERISTICS

| Part No.             | Inductance<br>(mH)min. | L <sub>1</sub> -L <sub>2</sub> , L <sub>2</sub> -L <sub>3</sub> , L <sub>3</sub> -L <sub>1</sub><br>inductance difference<br>( $\mu$ H)max. | DC<br>resistance<br>( $\Omega$ )max. | Rated current<br>I <sub>ac</sub><br>(A)max. | Dimensions(mm) |
|----------------------|------------------------|---|--------------------------------------|---|----------------|
|                      |                        |   |                                      |   | $\phi d$       |
| TF6340TU-302Y10R0-01 | 3                      | 150   | 35                                   | 10  | 1.5            |
| TF6340TU-202Y15R0-01 | 2                      | 120   | 25                                   | 15  | 1.8            |
| TF6340TU-102Y20R0-01 | 1                      | 50  | 10                                   | 20  | 2.3            |
| TF6340TU-102Y25R0-01 | 1                      | 50  | 8                                    | 25  | 2.4            |