

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

## Toroidal Core Type TF Series

Conformity to RoHS Directive

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.

### FEATURES

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

### PRODUCT IDENTIFICATION

TF     V - A    Y   R  - 01

(1) (2) (3) (4) (5) (6) (7)

- (1) Core shape  
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*<br>$L \times I^2$ (mH×A <sup>2</sup> ) | Weight (g)typ. | Minimum package quantity (pieces/box) |
|--------|---------------------------------------|------------|-----------------------|-------------------|--------------------------------------------------------|----------------|---------------------------------------|
| TF     | Vertical type                         | TF1813V    | 2 to 20mH             | 0.7 to 3.2        | 20                                                     | 5              | 960                                   |
|        |                                       | TF2518V    | 0.65 to 9mH           | 2.5 to 10         | 50                                                     | 15             | 560                                   |
|        |                                       | TF2721V    | 1 to 13mH             | 2.5 to 10         | 75                                                     | 20             | 460                                   |
|        |                                       | TF3020V    | 0.35 to 13mH          | 3 to 20           | 130                                                    | 30             | 440                                   |
|        |                                       | TF3525V    | 0.65 to 20mH          | 3 to 20           | 195                                                    | 41             | 240                                   |
|        | Horizontal type                       | TF1713H    | 2 to 20mH             | 0.7 to 3.2        | 20                                                     | 5.3            | 960                                   |
|        |                                       | TF2520H    | 0.65 to 9mH           | 2.5 to 10         | 50                                                     | 15             | 550                                   |
|        |                                       | TF2722H    | 1 to 13mH             | 2.5 to 10         | 75                                                     | 20             | 380                                   |
|        |                                       | TF3022H    | 0.35 to 13mH          | 3 to 20           | 130                                                    | 32             | 320                                   |
|        |                                       | TF3526H    | 0.65 to 20mH          | 3 to 20           | 195                                                    | 42             | 280                                   |
|        | Vertical type<br>(For high frequency) | TF2628V-1H | 25 to 65 $\mu$ H      | 6 to 12           | 3.65                                                   | 18             | 700                                   |
|        |                                       | TF3524V-1H | 25 to 120 $\mu$ H     | 8 to 20           | 10.8                                                   | 40             | 320                                   |

\* 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.

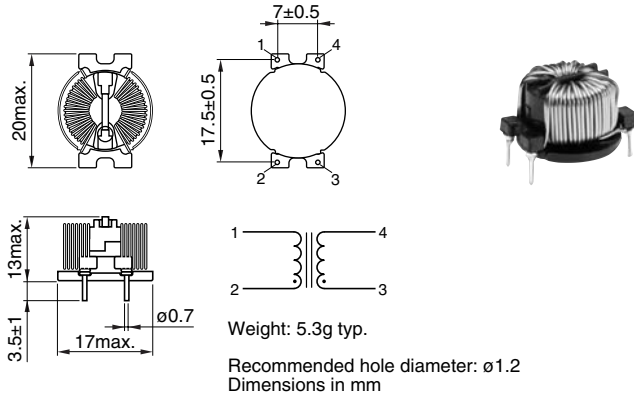
• All specifications are subject to change without notice.

## Horizontal Type TF Series

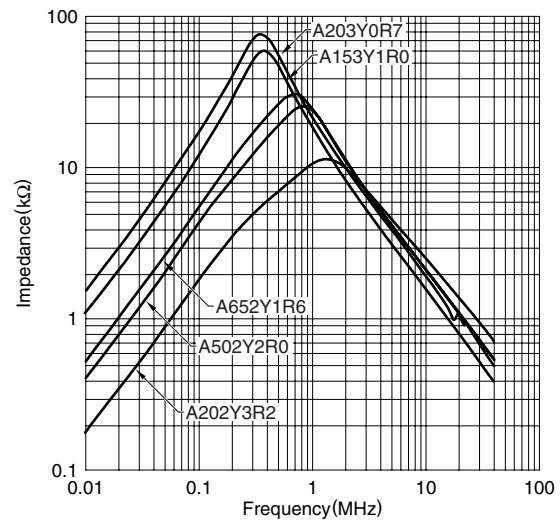
### FEATURES

- This series uses a high permeability toroidal ferrite core and therefore provide 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.

### TF1713H-A(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.            | Inductance<br>(mH)min. | DC resistance<br>( $\Omega$ )max. | Rated current<br>Iac(A)max. |
|---------------------|------------------------|-----------------------------------|-----------------------------|
| TF1713H-A203Y0R7-01 | 20                     | 0.73                              | 0.7                         |
| TF1713H-A153Y1R0-01 | 15                     | 0.44                              | 1                           |
| TF1713H-A652Y1R6-01 | 6.5                    | 0.19                              | 1.6                         |
| TF1713H-A502Y2R0-01 | 5                      | 0.14                              | 2                           |
| TF1713H-A202Y3R2-01 | 2                      | 0.065                             | 3.2                         |

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

### PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF1713H-A | 960pieces/box |
|-----------|---------------|

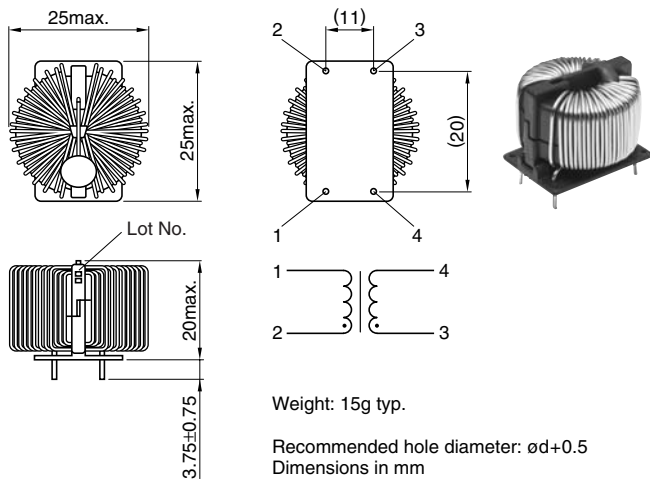
### RATINGS

| Item                                       | Standard value                                                                      | Conditions                        |
|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                           | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)         | 2000                                                                                | Between each winding for 1 minute |
| 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 +120                                                                         | Including self-temperature rise   |
| Storage temperature range( $^{\circ}$ C)   | -20 to +85                                                                          |                                   |
| Resistance to soldering temperature*1      | 260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec                                             | Solder bath method                |
|                                            | 350 $\pm$ 5 $^{\circ}$ C, 5sec max.                                                 | Soldering iron method             |
| Applicable safety standard*2               | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

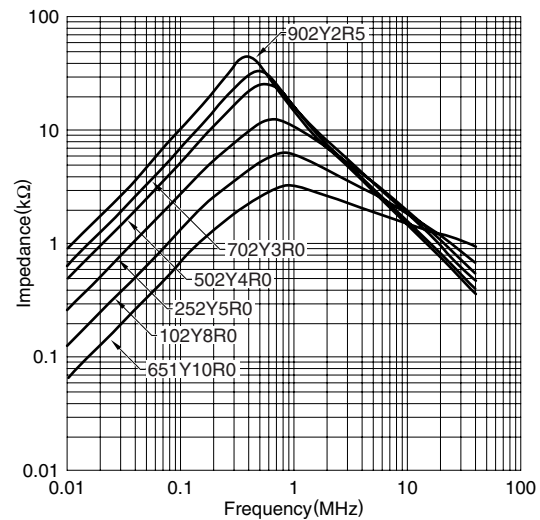
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF2520H-A(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>( $\Omega$ )max. | Rated<br>current<br>I <sub>ac</sub> (A)max. | $\phi d$<br>(mm) |
|----------------------|------------------------|--------------------------------------|---------------------------------------------|------------------|
| TF2520H-A902Y2R5-01  | 9                      | 0.12                                 | 2.5                                         | 0.6              |
| TF2520H-A702Y3R0-01  | 7                      | 0.095                                | 3                                           | 0.65             |
| TF2520H-A502Y4R0-01  | 5                      | 0.075                                | 4                                           | 0.7              |
| TF2520H-A252Y5R0-01  | 2.5                    | 0.05                                 | 5                                           | 0.75             |
| TF2520H-A102Y8R0-01  | 1                      | 0.025                                | 8                                           | 0.95             |
| TF2520H-A651Y10R0-01 | 0.65                   | 0.02                                 | 10                                          | 1                |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF2520H-A | 550pieces/box |
|-----------|---------------|

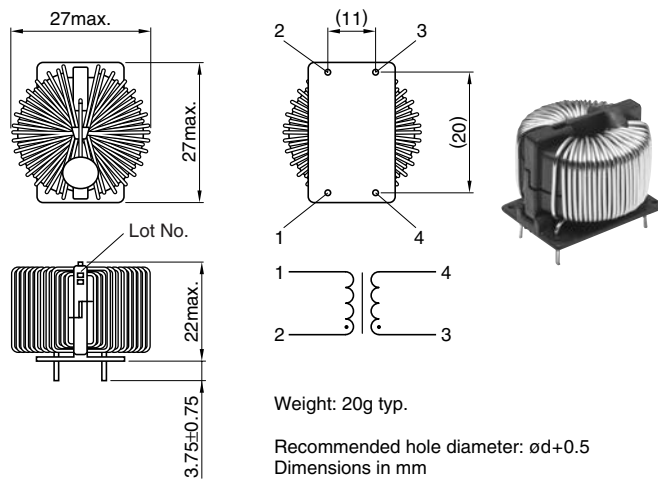
## RATINGS

| Item                                       | Standard value                                                                      | Conditions                        |
|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                           | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)         | 2000                                                                                | Between each winding for 1 minute |
| 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 +120                                                                         | Including self-temperature rise   |
| Storage temperature range( $^{\circ}$ C)   | -20 to +85                                                                          |                                   |
| Resistance to soldering temperature*1      | 260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec                                             | Solder bath method                |
| Applicable safety standard*2               | 350 $\pm$ 5 $^{\circ}$ C, 5sec max.                                                 | Soldering iron method             |
|                                            | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

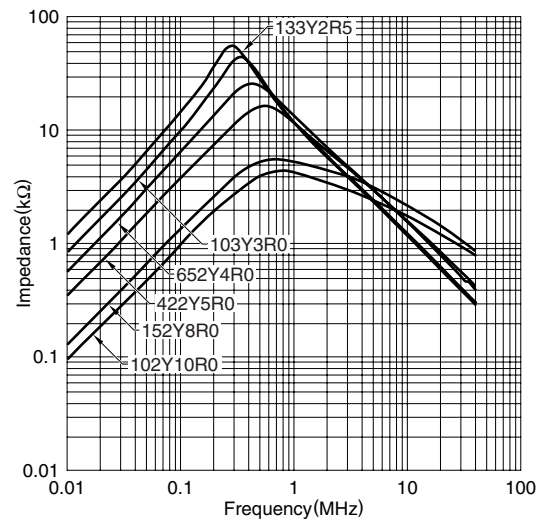
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF2722H-A(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>(mΩ)max. | Rated<br>current<br>I <sub>ac</sub> (A)max. | $\phi d$<br>(mm) |
|----------------------|------------------------|------------------------------|---------------------------------------------|------------------|
| TF2722H-A133Y2R5-01  | 13                     | 130                          | 2.5                                         | 0.65             |
| TF2722H-A103Y3R0-01  | 10                     | 90                           | 3                                           | 0.7              |
| TF2722H-A652Y4R0-01  | 6.5                    | 60                           | 4                                           | 0.8              |
| TF2722H-A422Y5R0-01  | 4.2                    | 40                           | 5                                           | 0.9              |
| TF2722H-A152Y8R0-01  | 1.5                    | 20                           | 8                                           | 1                |
| TF2722H-A102Y10R0-01 | 1                      | 11                           | 10                                          | 1.2              |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF2722H-A | 380pieces/box |
|-----------|---------------|

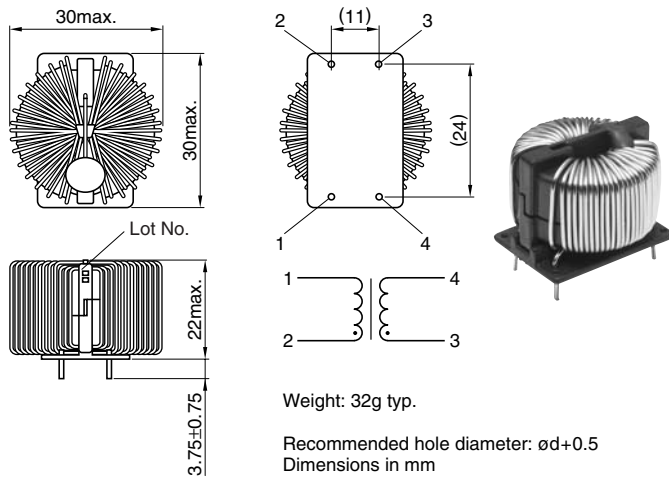
## RATINGS

| Item                                     | Standard value                                                                         | Conditions                           |
|------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------|
| Rated voltage(V)                         | 80 to 280                                                                              | 50Hz/60Hz                            |
| Dielectric withstanding<br>voltage(V)    | 2000                                                                                   | Between each winding for<br>1 minute |
| Insulation resistance<br>(MΩ)            | 100min.                                                                                | Between each winding for<br>DC.500V  |
| Temperature rise(°C)                     | 45max.                                                                                 | With line resistance                 |
| Operating temperature<br>range(°C)       | -20 to +120                                                                            | Including self-temperature<br>rise   |
| Storage temperature<br>range(°C)         | -20 to +85                                                                             |                                      |
| Resistance to<br>soldering temperature*1 | 260±5°C, 10±1sec                                                                       | Solder bath method                   |
| Applicable safety<br>standard*2          | 350±5°C, 5sec max.                                                                     | Soldering iron method                |
|                                          | Electrical Appliance and Material Safety<br>Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                      |

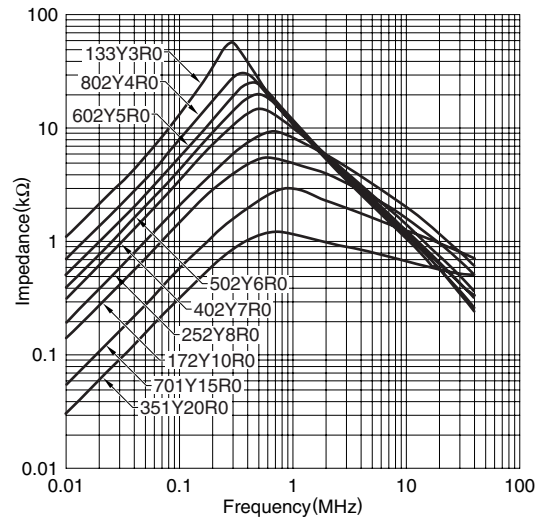
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF3022H-A(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>( $\Omega$ )max. | Rated<br>current<br>Iac(A)max. | $\phi d$<br>(mm) |
|----------------------|------------------------|--------------------------------------|--------------------------------|------------------|
| TF3022H-A133Y3R0-01  | 13                     | 0.1                                  | 3                              | 0.75             |
| TF3022H-A802Y4R0-01  | 8                      | 0.07                                 | 4                              | 0.8              |
| TF3022H-A602Y5R0-01  | 6                      | 0.05                                 | 5                              | 0.9              |
| TF3022H-A502Y6R0-01  | 5                      | 0.04                                 | 6                              | 0.95             |
| TF3022H-A402Y7R0-01  | 4                      | 0.035                                | 7                              | 1                |
| TF3022H-A252Y8R0-01  | 2.5                    | 0.025                                | 8                              | 1.1              |
| TF3022H-A172Y10R0-01 | 1.7                    | 0.015                                | 10                             | 1.3              |
| TF3022H-A701Y15R0-01 | 0.7                    | 0.007                                | 15                             | 1.6              |
| TF3022H-A351Y20R0-01 | 0.35                   | 0.005                                | 20                             | 1.7              |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF3022H-A | 320pieces/box |
|-----------|---------------|

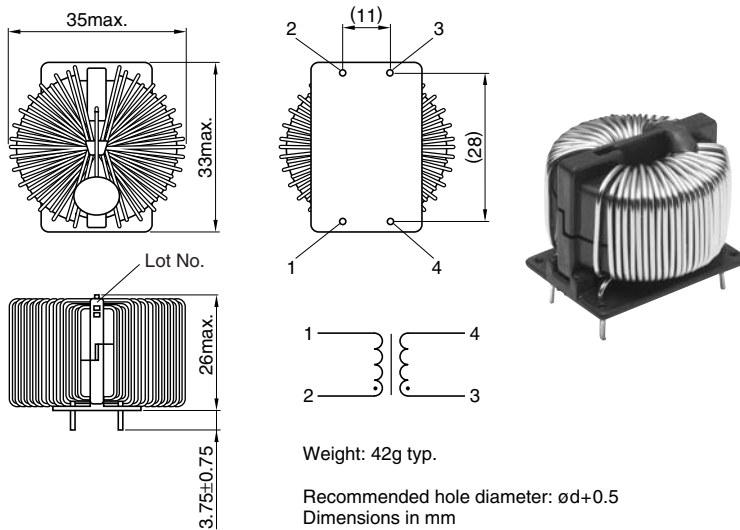
## RATINGS

| Item                                       | Standard value                                                                      | Conditions                        |
|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                           | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)         | 2000                                                                                | Between each winding for 1 minute |
| 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 +120                                                                         | Including self-temperature rise   |
| Storage temperature range( $^{\circ}$ C)   | -20 to +85                                                                          |                                   |
| Resistance to soldering temperature*1      | 260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec                                             | Solder bath method                |
| Applicable safety standard*2               | 350 $\pm$ 5 $^{\circ}$ C, 5sec max.                                                 | Soldering iron method             |
|                                            | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

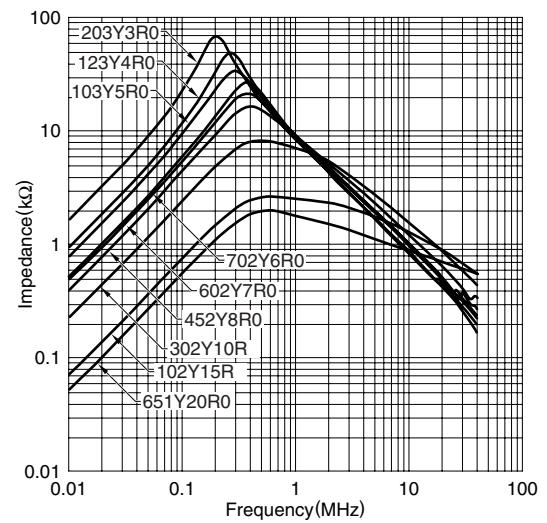
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF3526H-A(HORIZONTAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>(mΩ)max. | Rated<br>current<br>I <sub>ac</sub> (A)max. | ød<br>(mm) |
|----------------------|------------------------|------------------------------|---------------------------------------------|------------|
| TF3526H-A203Y3R0-01  | 20                     | 130                          | 3                                           | 0.75       |
| TF3526H-A123Y4R0-01  | 12                     | 75                           | 4                                           | 0.85       |
| TF3526H-A103Y5R0-01  | 10                     | 55                           | 5                                           | 0.95       |
| TF3526H-A702Y6R0-01  | 7                      | 45                           | 6                                           | 1          |
| TF3526H-A602Y7R0-01  | 6                      | 35                           | 7                                           | 1.1        |
| TF3526H-A452Y8R0-01  | 4.5                    | 25                           | 8                                           | 1.2        |
| TF3526H-A302Y10R0-01 | 3                      | 18                           | 10                                          | 1.3        |
| TF3526H-A102Y15R0-01 | 1                      | 6                            | 15                                          | 1.7        |
| TF3526H-A651Y20R0-01 | 0.65                   | 4                            | 20                                          | 1.8        |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF3526H-A | 280pieces/box |
|-----------|---------------|

## RATINGS

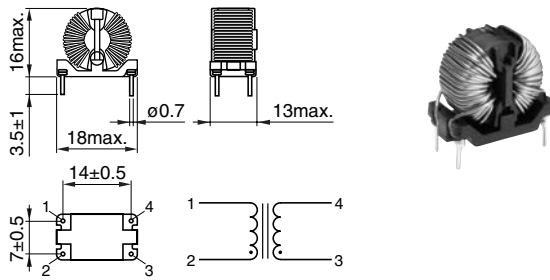
| Item                                  | Standard value                                                                      | Conditions                        |
|---------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                      | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)    | 2000                                                                                | Between each winding for 1 minute |
| Insulation resistance (MΩ)            | 100min.                                                                             | Between each winding for DC.500V  |
| 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*1 | 260±5°C, 10±1sec                                                                    | Solder bath method                |
|                                       | 350±5°C, 5sec max.                                                                  | Soldering iron method             |
| Applicable safety standard*2          | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## Vertical Type TF Series

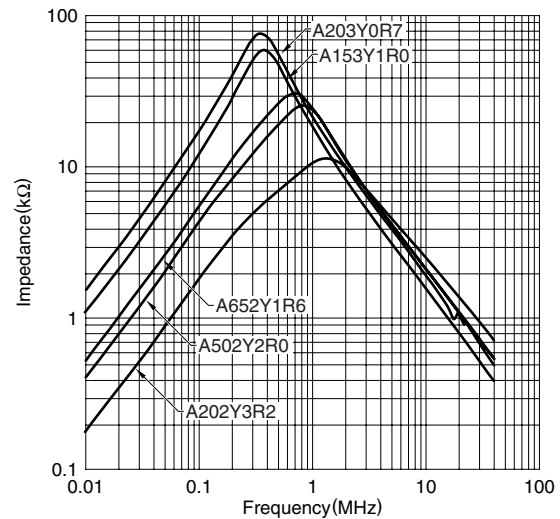
### TF1813V-A(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight: 5g typ.

Recommended hole diameter:  $\phi 1.2$   
Dimensions in mm

### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.            | Inductance<br>(mH)min. | DC resistance<br>( $\Omega$ )max. | Rated current<br>I <sub>ac</sub> (A)max. |
|---------------------|------------------------|-----------------------------------|------------------------------------------|
| TF1813V-A203Y0R7-01 | 20                     | 0.73                              | 0.7                                      |
| TF1813V-A153Y1R0-01 | 15                     | 0.44                              | 1                                        |
| TF1813V-A652Y1R6-01 | 6.5                    | 0.19                              | 1.6                                      |
| TF1813V-A502Y2R0-01 | 5                      | 0.14                              | 2                                        |
| TF1813V-A202Y3R2-01 | 2                      | 0.065                             | 3.2                                      |

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

### PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF1813V-A | 960pieces/box |
|-----------|---------------|

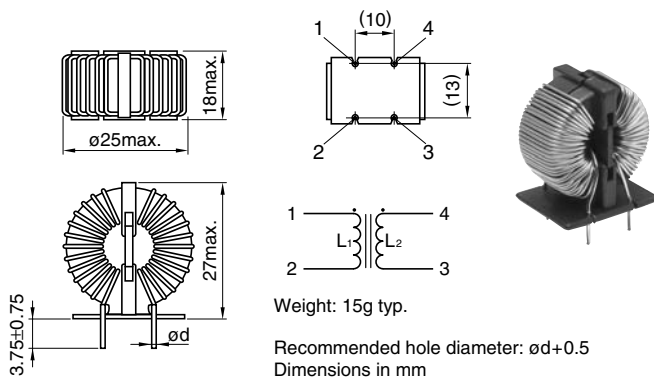
### RATINGS

| Item                                       | Standard value                                                                      | Conditions                        |
|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                           | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)         | 2000                                                                                | Between each winding for 1 minute |
| 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 +120                                                                         | Including self-temperature rise   |
| Storage temperature range( $^{\circ}$ C)   | -20 to +85                                                                          |                                   |
| Resistance to soldering temperature*1      | 260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec                                             | Solder bath method                |
| Applicable safety standard*2               | 350 $\pm$ 5 $^{\circ}$ C, 5sec max.                                                 | Soldering iron method             |
|                                            | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

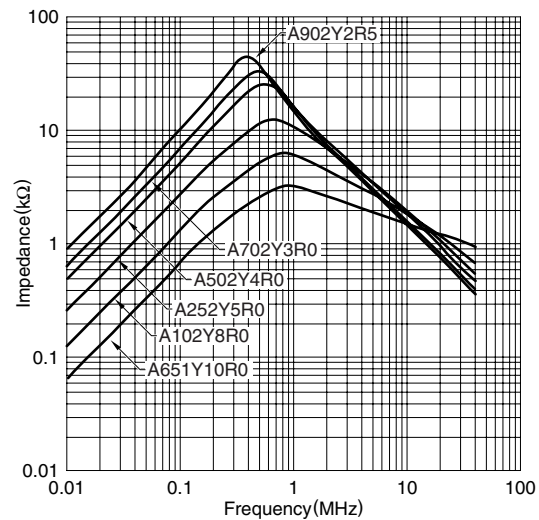
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF2518V-A(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>( $\Omega$ )max. | Rated<br>current<br>Iac(A)max. | $\phi d$<br>(mm) |
|----------------------|------------------------|--------------------------------------|--------------------------------|------------------|
| TF2518V-A902Y2R5-01  | 9                      | 0.12                                 | 2.5                            | 0.6              |
| TF2518V-A702Y3R0-01  | 7                      | 0.095                                | 3                              | 0.65             |
| TF2518V-A502Y4R0-01  | 5                      | 0.075                                | 4                              | 0.7              |
| TF2518V-A252Y5R0-01  | 2.5                    | 0.05                                 | 5                              | 0.75             |
| TF2518V-A102Y8R0-01  | 1                      | 0.025                                | 8                              | 0.95             |
| TF2518V-A651Y10R0-01 | 0.65                   | 0.02                                 | 10                             | 1                |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF2518V-A | 560pieces/box |
|-----------|---------------|

## RATINGS

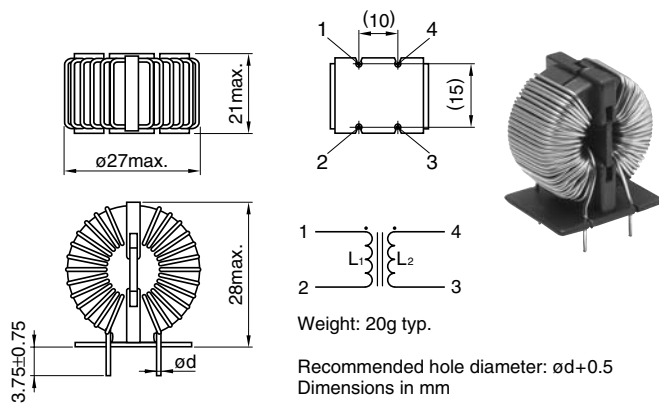
| Item                                       | Standard value                                                                      | Conditions                        |
|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                           | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)         | 2000                                                                                | Between each winding for 1 minute |
| 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 +120                                                                         | Including self-temperature rise   |
| Storage temperature range( $^{\circ}$ C)   | -20 to +85                                                                          |                                   |
| Resistance to soldering temperature*1      | 260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec                                             | Solder bath method                |
| Applicable safety standard*2               | 350 $\pm$ 5 $^{\circ}$ C, 5sec max.                                                 | Soldering iron method             |
|                                            | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

\*1 Pb free solder(Sn-3Ag-0.5Cu)

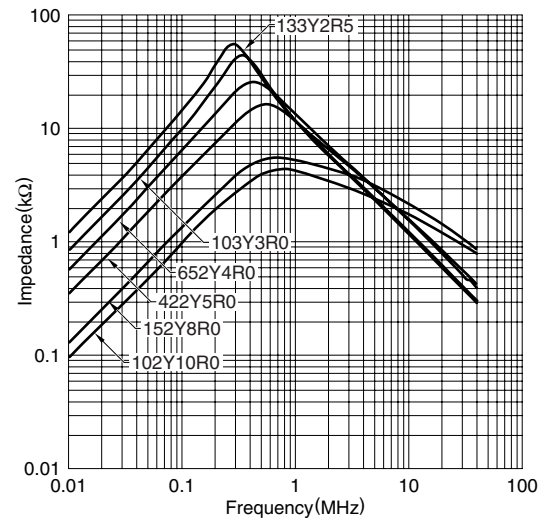
\*2 However, this product is not recognized by each regulations.



## TF2721V-A(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>(mΩ)max. | Rated<br>current<br>Iac(A)max. | $\phi d$<br>(mm) |
|----------------------|------------------------|------------------------------|--------------------------------|------------------|
| TF2721V-A133Y2R5-01  | 13                     | 130                          | 2.5                            | 0.65             |
| TF2721V-A103Y3R0-01  | 10                     | 90                           | 3                              | 0.7              |
| TF2721V-A652Y4R0-01  | 6.5                    | 60                           | 4                              | 0.8              |
| TF2721V-A422Y5R0-01  | 4.2                    | 40                           | 5                              | 0.9              |
| TF2721V-A152Y8R0-01  | 1.5                    | 20                           | 8                              | 1                |
| TF2721V-A102Y10R0-01 | 1                      | 11                           | 10                             | 1.2              |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF2721V-A | 460pieces/box |
|-----------|---------------|

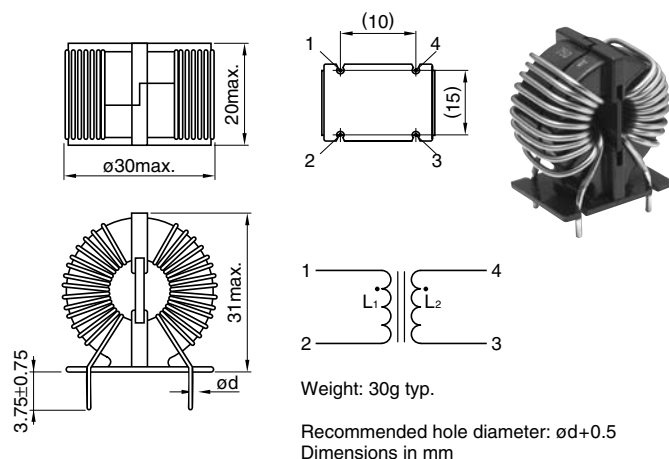
## RATINGS

| Item                                     | Standard value                                                                         | Conditions                           |
|------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------|
| Rated voltage(V)                         | 80 to 280                                                                              | 50Hz/60Hz                            |
| Dielectric withstanding<br>voltage(V)    | 2000                                                                                   | Between each winding for<br>1 minute |
| Insulation resistance<br>(MΩ)            | 100min.                                                                                | Between each winding for<br>DC.500V  |
| Temperature rise(°C)                     | 45max.                                                                                 | With line resistance                 |
| Operating temperature<br>range(°C)       | -20 to +120                                                                            | Including self-temperature<br>rise   |
| Storage temperature<br>range(°C)         | -20 to +85                                                                             |                                      |
| Resistance to<br>soldering temperature*1 | 260±5°C, 10±1sec                                                                       | Solder bath method                   |
| Applicable safety<br>standard*2          | 350±5°C, 5sec max.                                                                     | Soldering iron method                |
|                                          | Electrical Appliance and Material Safety<br>Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                      |

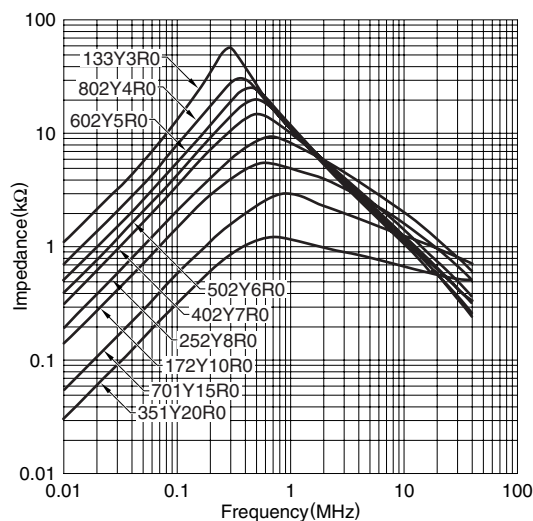
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF3020V-A(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>( $\Omega$ )max. | Rated<br>current<br>Iac(A)max. | $\phi d$<br>(mm) |
|----------------------|------------------------|--------------------------------------|--------------------------------|------------------|
| TF3020V-A133Y3R0-01  | 13                     | 0.1                                  | 3                              | 0.75             |
| TF3020V-A802Y4R0-01  | 8                      | 0.07                                 | 4                              | 0.8              |
| TF3020V-A602Y5R0-01  | 6                      | 0.05                                 | 5                              | 0.9              |
| TF3020V-A502Y6R0-01  | 5                      | 0.04                                 | 6                              | 0.95             |
| TF3020V-A402Y7R0-01  | 4                      | 0.035                                | 7                              | 1                |
| TF3020V-A252Y8R0-01  | 2.5                    | 0.025                                | 8                              | 1.1              |
| TF3020V-A172Y10R0-01 | 1.7                    | 0.015                                | 10                             | 1.3              |
| TF3020V-A701Y15R0-01 | 0.7                    | 0.007                                | 15                             | 1.6              |
| TF3020V-A351Y20R0-01 | 0.35                   | 0.005                                | 20                             | 1.7              |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF3020V-A | 440pieces/box |
|-----------|---------------|

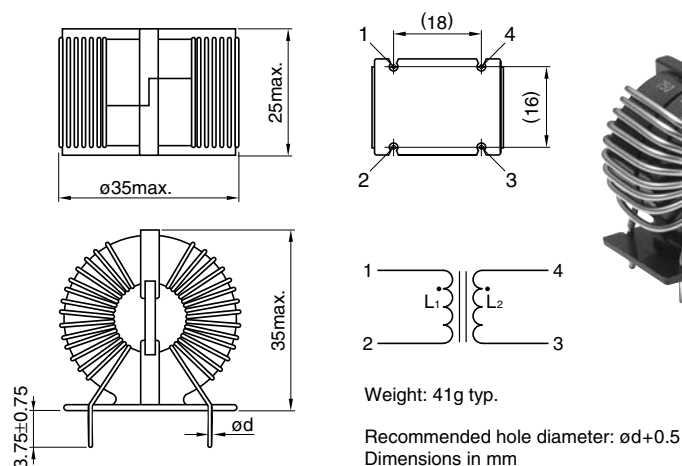
## RATINGS

| Item                                       | Standard value                          | Conditions                        |
|--------------------------------------------|-----------------------------------------|-----------------------------------|
| Rated voltage(V)                           | 80 to 280                               | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)         | 2000                                    | Between each winding for 1 minute |
| 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 +120                             | Including self-temperature rise   |
| Storage temperature range( $^{\circ}$ C)   | -20 to +85                              |                                   |
| Resistance to soldering temperature*1      | 260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec | Solder bath method                |
|                                            | 350 $\pm$ 5 $^{\circ}$ C, 5sec max.     | Soldering iron method             |

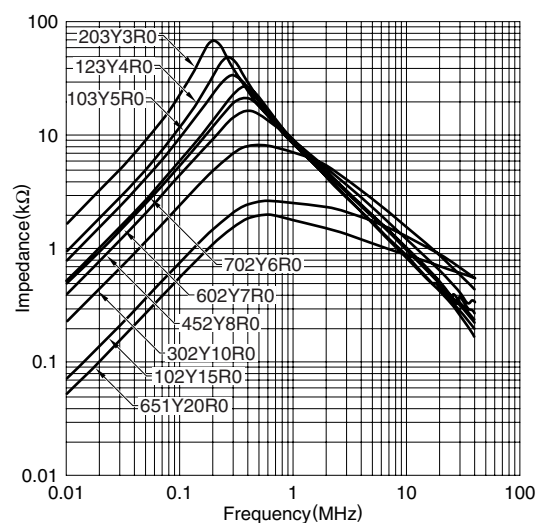
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF3525V-A(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.             | Inductance<br>(mH)min. | DC<br>resistance<br>(mΩ)max. | Rated<br>current<br>I <sub>ac</sub> (A)max. | ød<br>(mm) |
|----------------------|------------------------|------------------------------|---------------------------------------------|------------|
| TF3525V-A203Y3R0-01  | 20                     | 130                          | 3                                           | 0.75       |
| TF3525V-A123Y4R0-01  | 12                     | 75                           | 4                                           | 0.85       |
| TF3525V-A103Y5R0-01  | 10                     | 55                           | 5                                           | 0.95       |
| TF3525V-A702Y6R0-01  | 7                      | 45                           | 6                                           | 1          |
| TF3525V-A602Y7R0-01  | 6                      | 35                           | 7                                           | 1.1        |
| TF3525V-A452Y8R0-01  | 4.5                    | 25                           | 8                                           | 1.2        |
| TF3525V-A302Y10R0-01 | 3                      | 18                           | 10                                          | 1.3        |
| TF3525V-A102Y15R0-01 | 1                      | 6                            | 15                                          | 1.7        |
| TF3525V-A651Y20R0-01 | 0.65                   | 4                            | 20                                          | 1.8        |

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

## PACKAGING QUANTITIES

|           |               |
|-----------|---------------|
| TF3525V-A | 240pieces/box |
|-----------|---------------|

## RATINGS

| Item                                  | Standard value                                                                      | Conditions                        |
|---------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                      | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)    | 2000                                                                                | Between each winding for 1 minute |
| Insulation resistance (MΩ)            | 100min.                                                                             | Between each winding for DC.500V  |
| 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*1 | 260±5°C, 10±1sec                                                                    | Solder bath method                |
|                                       | 350±5°C, 5sec max.                                                                  | Soldering iron method             |
| Applicable safety standard*2          | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

\*1 Pb free solder(Sn-3Ag-0.5Cu)

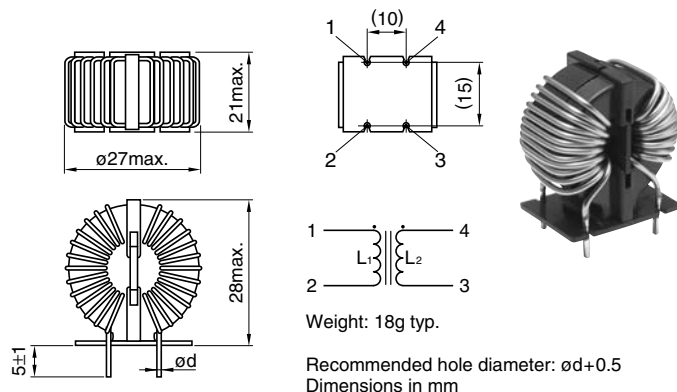
\*2 However, this product is not recognized by each regulations.

## Vertical Type (For High Frequency) TF Series

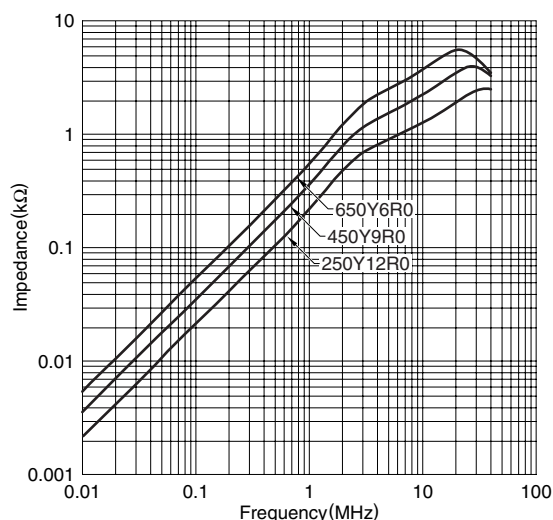
### FEATURES

- This series is designed to reduce stray capacity between windings by using a single-layer coil construction on Ni-Zn ferrite cores, which offer excellent high frequency characteristics.
- This series provides excellent noise suppression for high frequency ranges including the FM band.

### TF2628V-1H(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



### ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.            | Inductance<br>( $\mu$ H)min. | DC<br>resistance<br>(m $\Omega$ )max. | Rated<br>current<br>I <sub>ac</sub> (A)max. | $\phi d$<br>(mm) |
|---------------------|------------------------------|---------------------------------------|---------------------------------------------|------------------|
| TF2628V-650Y6R0-1H  | 65                           | 20                                    | 6                                           | 0.8              |
| TF2628V-450Y9R0-1H  | 45                           | 12                                    | 9                                           | 1                |
| TF2628V-250Y12R0-1H | 25                           | 9                                     | 12                                          | 1.2              |

- Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent)[f=10kHz]

### PACKAGING QUANTITIES

|            |               |
|------------|---------------|
| TF2628V-1H | 700pieces/box |
|------------|---------------|

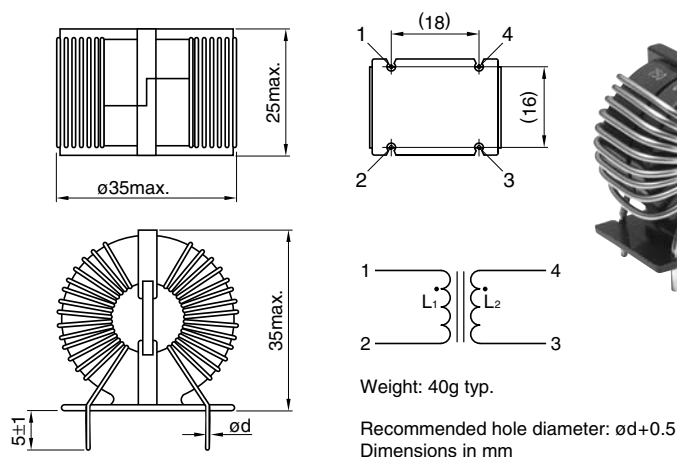
### RATINGS

| Item                                  | Standard value                                                                      | Conditions                        |
|---------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                      | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)    | 2000                                                                                | Between each winding for 1 minute |
| Insulation resistance (M $\Omega$ )   | 100min.                                                                             | Between each winding for DC.500V  |
| 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*1 | 260 $\pm$ 5°C, 10 $\pm$ 1sec                                                        | Solder bath method                |
|                                       | 350 $\pm$ 5°C, 5sec max.                                                            | Soldering iron method             |
| Applicable safety standard*2          | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

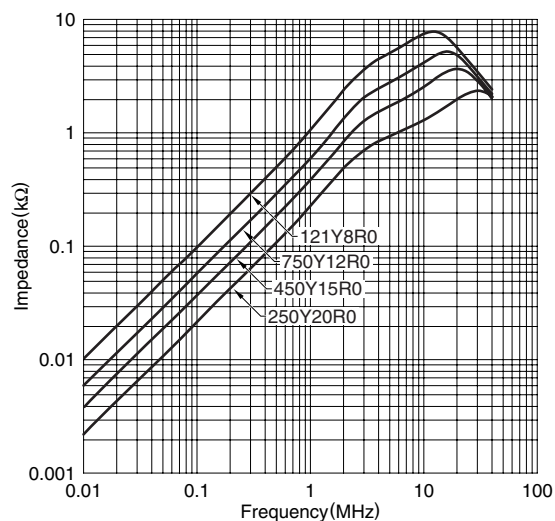
\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.

## TF3524V-1H(VERTICAL TYPE WITH TERMINAL BASE) TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



## ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No.            | Inductance<br>( $\mu$ H)min. | DC<br>resistance<br>(m $\Omega$ )max. | Rated<br>current<br>Iac(A)max. | $\phi d$<br>(mm) |
|---------------------|------------------------------|---------------------------------------|--------------------------------|------------------|
| TF3524V-121Y8R0-1H  | 120                          | 20                                    | 8                              | 1                |
| TF3524V-750Y12R0-1H | 75                           | 10                                    | 12                             | 1.3              |
| TF3524V-450Y15R0-1H | 45                           | 7                                     | 15                             | 1.6              |
| TF3524V-250Y20R0-1H | 25                           | 5                                     | 20                             | 1.8              |

- Measuring equipment of inductance value:  
LCR meter(HP4261A, HP4263B or equivalent)[f=10kHz]

## PACKAGING QUANTITIES

|            |               |
|------------|---------------|
| TF3524V-1H | 320pieces/box |
|------------|---------------|

## RATINGS

| Item                                       | Standard value                                                                      | Conditions                        |
|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| Rated voltage(V)                           | 80 to 280                                                                           | 50Hz/60Hz                         |
| Dielectric withstanding voltage(V)         | 2000                                                                                | Between each winding for 1 minute |
| 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 +120                                                                         | Including self-temperature rise   |
| Storage temperature range( $^{\circ}$ C)   | -20 to +85                                                                          |                                   |
| Resistance to soldering temperature*1      | 260 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 1sec                                             | Solder bath method                |
|                                            | 350 $\pm$ 5 $^{\circ}$ C, 5sec max.                                                 | Soldering iron method             |
| Applicable safety standard*2               | Electrical Appliance and Material Safety Law ("DENAN"), IEC60065, UL6500, CSA C22.2 |                                   |

\*1 Pb free solder(Sn-3Ag-0.5Cu)

\*2 However, this product is not recognized by each regulations.