

## 3-terminal Filters

For signal line

### ACF series

|       |         |                         |
|-------|---------|-------------------------|
| Type: | ACF3225 | [1210 inch]*            |
|       | ACF4532 | [1812 inch]             |
|       |         | * Dimensions Code [EIA] |

Issue date: September 2011

- All specifications are subject to change without notice.
- 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.

# 3-terminal Filters

## For Signal Line

Conformity to RoHS Directive

ACF Series ACF321825, ACF451832

### FEATURES

- The ACF series consists of products with superior attenuation characteristics, in which the T-type filter circuit is magnetically shielded with ferrite.
- The series offers even greater attenuation characteristics when used in a stable circuit on the ground.
- The ACF series is ideal for high-density circuit design, since the series is vertically mounted and does not require much mounting space.
- Available for reflow soldering.
- It is a product conforming to RoHS directive.

### PRODUCT IDENTIFICATION

|     |        |     |     |     |   |     |
|-----|--------|-----|-----|-----|---|-----|
| ACF | 321825 | -   | 223 | -   | T | D□□ |
| (1) | (2)    | (3) | (4) | (5) |   |     |

- (1) Series name  
 (2) Dimensions  
 (3) Type  
 (4) Packaging style  
 (5) TDK internal code

### TEMPERATURE RANGES

|                   |              |
|-------------------|--------------|
| Operating/Storage | -25 to +85°C |
|-------------------|--------------|

### PACKAGING STYLE AND QUANTITIES

|                 |                  |
|-----------------|------------------|
| Packaging style | Quantity         |
| Taping          | 1000 pieces/reel |

### HANDLING AND PRECAUTIONS

- Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- The inductance value may change due to magnetic saturation if the current exceeds the rated maximum.
- Do not expose the inductors to stray magnetic fields.
- Avoid static electricity discharge during handling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 350°C. Soldering time should not exceed 3 seconds.

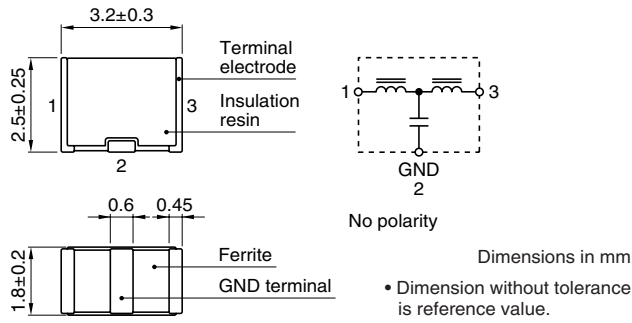
• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• Please contact our Sales office when your application is considered the following:  
 The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

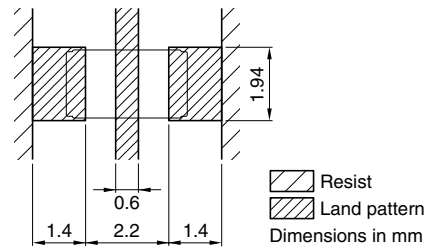
• All specifications are subject to change without notice.

## ACF321825 TYPE

### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### RECOMMENDED PC BOARD PATTERN REFLOW SOLDERING

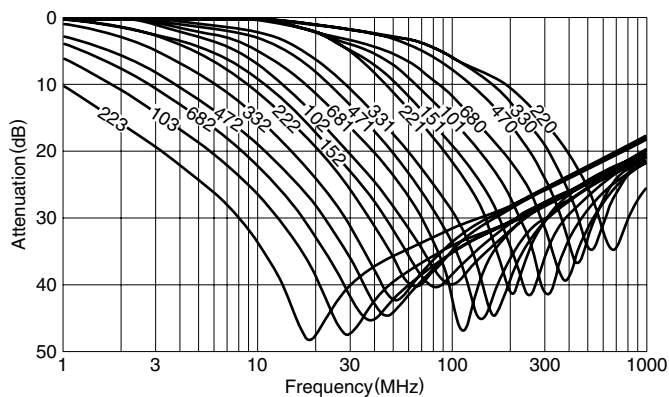


### ELECTRICAL CHARACTERISTICS

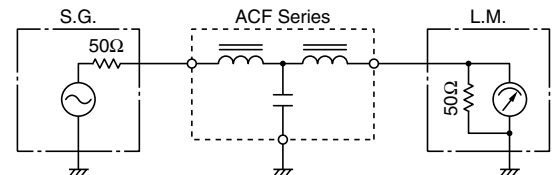
| Part No.      | 25dB attenuation<br>frequency range<br>(MHz) | Rated voltage E <sub>dc</sub><br>(V)max. | Rated current<br>(mA)max. | DC resistance<br>(Ω)max.<br>[Terminal No.1 to 3] | Insulation resistance<br>(MΩ)min.<br>[Terminal No.1 to 2/No.2 to 3] |
|---------------|----------------------------------------------|------------------------------------------|---------------------------|--------------------------------------------------|---------------------------------------------------------------------|
| ACF321825-223 | 11 to 55                                     | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-103 | 17 to 60                                     | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-682 | 22 to 75                                     | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-472 | 30 to 85                                     | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-332 | 37 to 90                                     | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-222 | 45 to 105                                    | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-152 | 60 to 115                                    | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-102 | 80 to 140                                    | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-681 | 95 to 150                                    | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-471 | 120 to 180                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-331 | 130 to 210                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-221 | 170 to 250                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-151 | 205 to 280                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-101 | 265 to 340                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-680 | 340 to 420                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-470 | 420 to 500                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-330 | 500 to 600                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF321825-220 | 600 to 700                                   | 20                                       | 300                       | 0.15                                             | 1000                                                                |

### TYPICAL ELECTRICAL CHARACTERISTICS

#### ATTENUATION vs. FREQUENCY CHARACTERISTICS

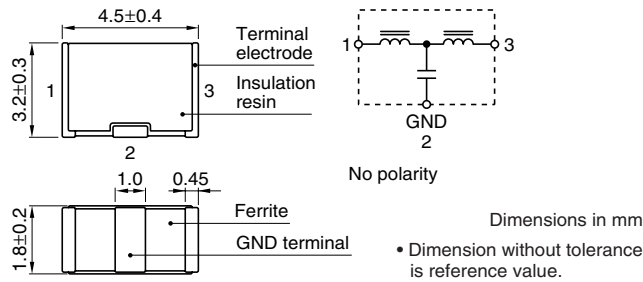


#### MEASURING CIRCUIT

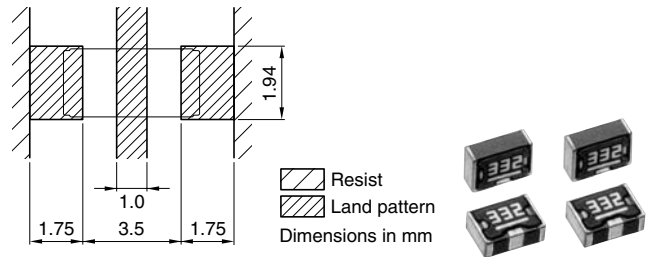


## ACF451832 TYPE

### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### RECOMMENDED PC BOARD PATTERN REFLOW SOLDERING

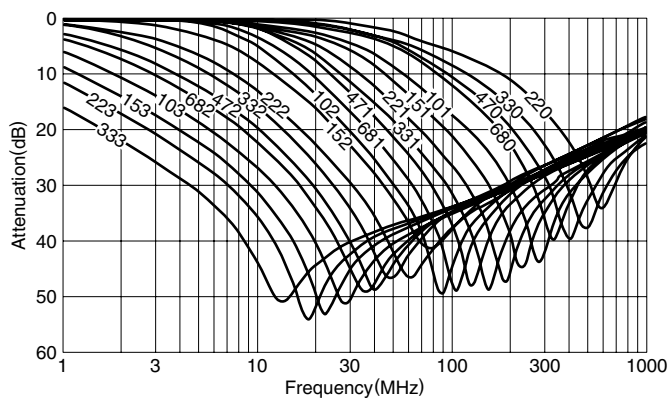


### ELECTRICAL CHARACTERISTICS

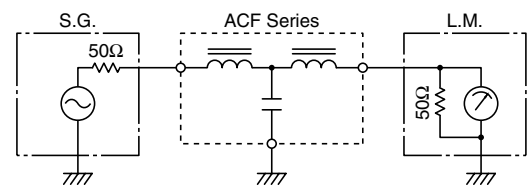
| Part No.      | 25dB attenuation<br>frequency range<br>(MHz) | Rated voltage E <sub>dc</sub><br>(V)max. | Rated current<br>(mA)max. | DC resistance<br>(Ω)max.<br>[Terminal No.1 to 3] | Insulation resistance<br>(MΩ)min.<br>[Terminal No.1 to 2/No.2 to 3] |
|---------------|----------------------------------------------|------------------------------------------|---------------------------|--------------------------------------------------|---------------------------------------------------------------------|
| ACF451832-333 | 7 to 60                                      | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-223 | 9 to 65                                      | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-153 | 11 to 70                                     | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-103 | 15 to 75                                     | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-682 | 20 to 85                                     | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-472 | 25 to 90                                     | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-332 | 35 to 100                                    | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-222 | 40 to 110                                    | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-152 | 50 to 130                                    | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-102 | 65 to 150                                    | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-681 | 75 to 160                                    | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-471 | 95 to 180                                    | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-331 | 115 to 205                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-221 | 150 to 250                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-151 | 190 to 290                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-101 | 235 to 335                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-680 | 295 to 395                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-470 | 360 to 460                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-330 | 450 to 550                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |
| ACF451832-220 | 550 to 650                                   | 50                                       | 300                       | 0.15                                             | 1000                                                                |

### TYPICAL ELECTRICAL CHARACTERISTICS

#### ATTENUATION vs. FREQUENCY CHARACTERISTICS



#### MEASURING CIRCUIT



Technical drawing of a circular mechanical part, showing a front view and a side view. The drawing includes dimensions in millimeters.

**Front View Dimensions:**

- Overall diameter:  $\varnothing 178 \pm 2.0$
- Central hole diameter:  $\varnothing 13 \pm 0.5$
- Flange thickness:  $1.0$
- Inner diameter of the central hub:  $\varnothing 21 \pm 0.8$
- Radius of the central hub:  $2.0 \pm 0.5$

**Side View Dimensions:**

- Overall height:  $17.0 \pm 1.4$
- Central hole diameter:  $\varnothing 60 \pm 2.0$
- Flange thickness:  $13.0 \pm 0.3$

Dimensions in mm

| Type   | A       | B       | C       | D        | T       |
|--------|---------|---------|---------|----------|---------|
| 321825 | 2.2±0.2 | 3.7±0.2 | 4.0±0.1 | 2.0±0.05 | 3.3max. |
| 451832 | 2.2±0.2 | 5.2±0.2 | 4.0±0.1 | 2.0±0.05 | 3.8max. |

