

## 3-terminal Filters

For power line

### ACH series

|                         |         |              |
|-------------------------|---------|--------------|
| Type:                   | ACH32C  | [1206 inch]* |
|                         | ACH3218 | [1207 inch]  |
|                         | ACH4518 | [1807 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 Power Line

Conformity to RoHS Directive

## ACH Series ACH32C

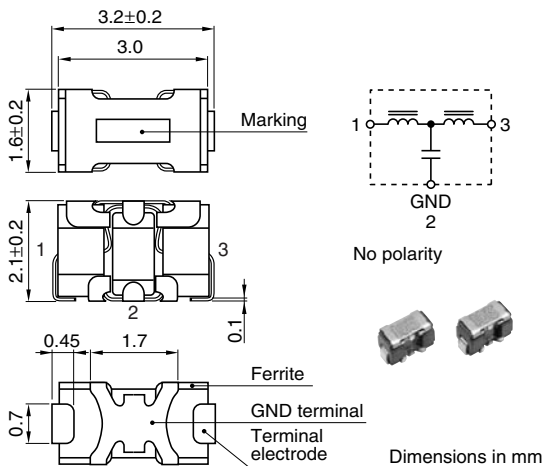
### FEATURES

- These T-type EMC filters comprise ferrite beads and chip capacitors and are engineered to handle high current levels.
- The series offers even greater attenuation characteristics when used in a stable circuit on the ground.
- The ACH series is ideal for high-density circuit design, since the series is vertically mounted and does not require much mounting space.
- Because guarantee temperature range is  $-40$  to  $+125^{\circ}\text{C}$ , it is possible to use in strict environmental condition.
- Available for reflow soldering.

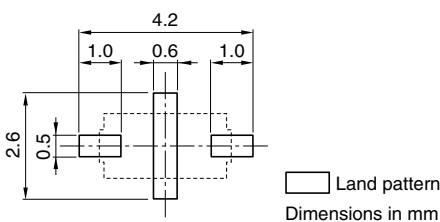
### APPLICATIONS

Home electronic equipment, (TVs, VCRs, CD players, DAT players, electric musical instruments, PCs, etc.), office automation equipment (computers, terminals, stand-alone word processors, fax machines, etc.), factory automation equipment (robots, numerical control devices, process controllers, etc.), automotive electronics (car navigation, ECU, etc.)

### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### RECOMMENDED PC BOARD PATTERN REFLOW SOLDERING



### PRODUCT IDENTIFICATION

|     |     |     |     |     |   |     |
|-----|-----|-----|-----|-----|---|-----|
| ACH | 32C | -   | 103 | -   | T | □□□ |
| (1) | (2) | (3) | (4) | (5) |   |     |

- (1) Series name  
 (2) Dimensions  
     32C: 3216 type(3.2×1.6mm)  
 (3) Capacitance  
     103: 10000pF  
 (4) Packaging style  
     T:  $\phi$ 180mm reel taping  
 (5) TDK internal code

### TEMPERATURE RANGES

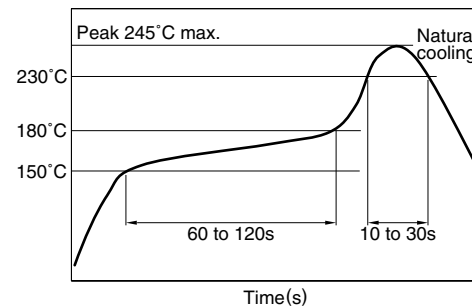
|                      |                                 |
|----------------------|---------------------------------|
| Operating            | $-40$ to $+125^{\circ}\text{C}$ |
| Storage(After mount) | $-40$ to $+125^{\circ}\text{C}$ |

### PACKAGING STYLE AND QUANTITIES

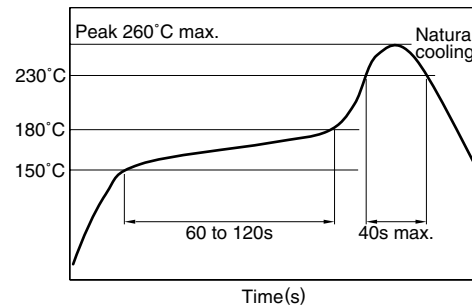
|                 |              |                  |
|-----------------|--------------|------------------|
| Packaging style | Reel         | Quantity         |
| Taping          | $\phi$ 180mm | 2000 pieces/reel |

### RECOMMENDED SOLDERING CONDITIONS

#### RECOMMENDED TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



#### REFLOW PROFILE FOR SOLDER HEAT RESISTANCE



- 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.

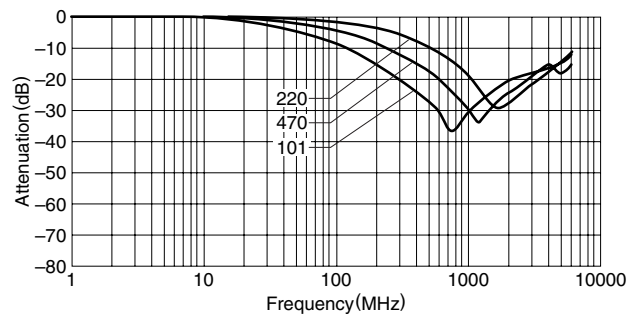
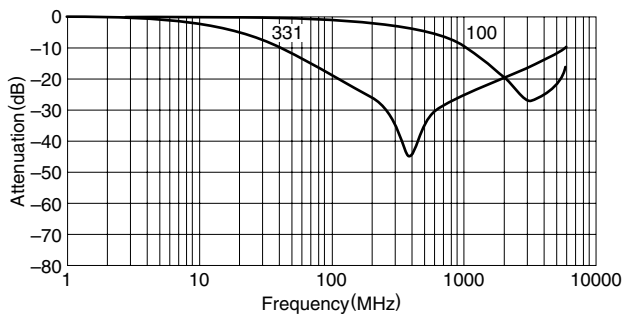
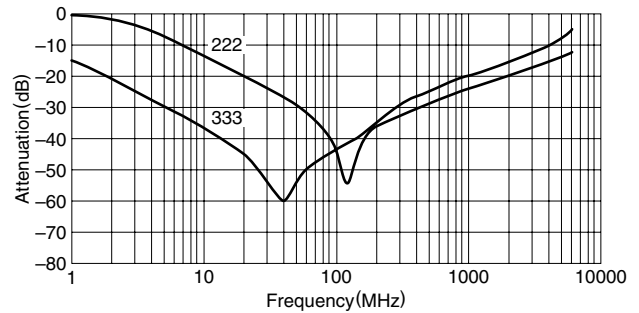
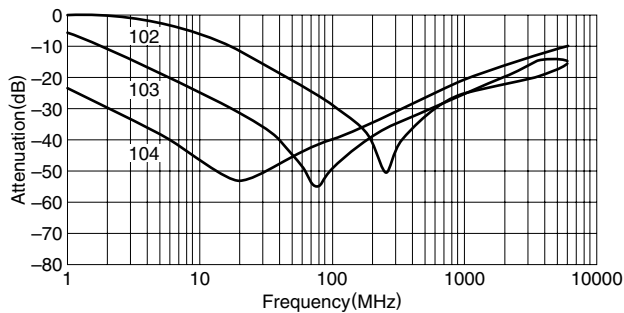
## ELECTRICAL CHARACTERISTICS

| Part No.        | Rated voltage<br>E <sub>dc</sub> (V)max. | Rated current<br>(A)max. | Insulation resistance<br>(M $\Omega$ )min. | DC resistance<br>(m $\Omega$ )max. | Guaranteed<br>attenuation<br>(dB) | Guaranteed frequency<br>bandwidth<br>(MHz) |
|-----------------|------------------------------------------|--------------------------|--------------------------------------------|------------------------------------|-----------------------------------|--------------------------------------------|
| ACH32C-100-T001 | 50                                       | 6                        | 100                                        | 2                                  | -15                               | 2000 to 6000                               |
| ACH32C-220-T001 | 50                                       | 6                        | 100                                        | 2                                  | -15                               | 1300 to 2500                               |
| ACH32C-470-T001 | 50                                       | 6                        | 100                                        | 2                                  | -15                               | 650 to 2500                                |
| ACH32C-101-T001 | 50                                       | 6                        | 100                                        | 2                                  | -20                               | 450 to 1300                                |
| ACH32C-331-T001 | 50                                       | 6                        | 100                                        | 2                                  | -20                               | 200 to 800                                 |
| ACH32C-102-T001 | 50                                       | 6                        | 100                                        | 2                                  | -25                               | 100 to 350                                 |
| ACH32C-222-T001 | 50                                       | 6                        | 100                                        | 2                                  | -25                               | 55 to 300                                  |
| ACH32C-103-T001 | 50                                       | 6                        | 100                                        | 2                                  | -25                               | 30 to 200                                  |
| ACH32C-333-T001 | 50                                       | 6                        | 100                                        | 2                                  | -25                               | 10 to 300                                  |
| ACH32C-104-T001 | 50                                       | 6                        | 100                                        | 2                                  | -25                               | 3.5 to 200                                 |

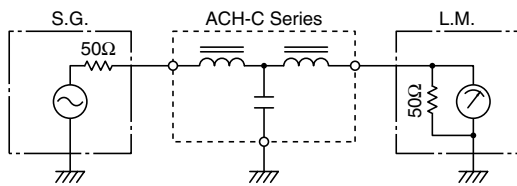
## TYPICAL ELECTRICAL CHARACTERISTICS

### ATTENUATION vs. FREQUENCY CHARACTERISTICS

(Glass epoxy coated double side mounting PCB)



## CIRCUIT DIAGRAM



# 3-terminal Filters

## For Power Line

Conformity to RoHS Directive

### ACH Series ACH3218, ACH4518

#### FEATURES

- The ACH 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 ACH 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

|     |      |     |     |     |   |   |   |   |
|-----|------|-----|-----|-----|---|---|---|---|
| ACH | 3218 | -   | 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            | -40 to +125°C |
| Storage(After mount) | -40 to +125°C |

#### PACKAGING STYLE AND QUANTITIES

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

#### HANDLING AND PRECAUTIONS

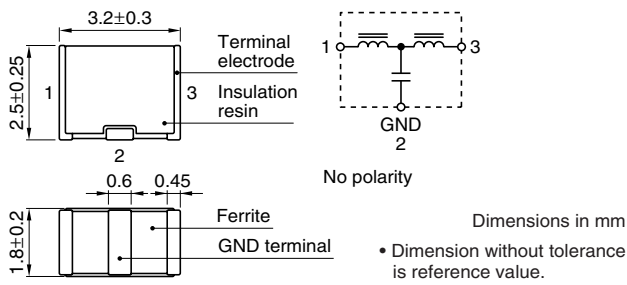
- Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending 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.

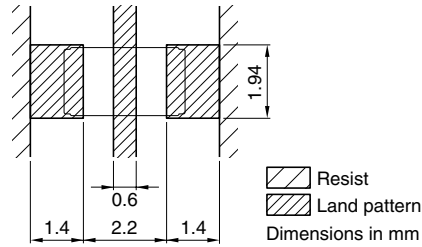
• Please contact our Sales office when your application is considered the following:  
 The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

• All specifications are subject to change without notice.

## ACH3218 TYPE SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



## RECOMMENDED PC BOARD PATTERN REFLOW SOLDERING

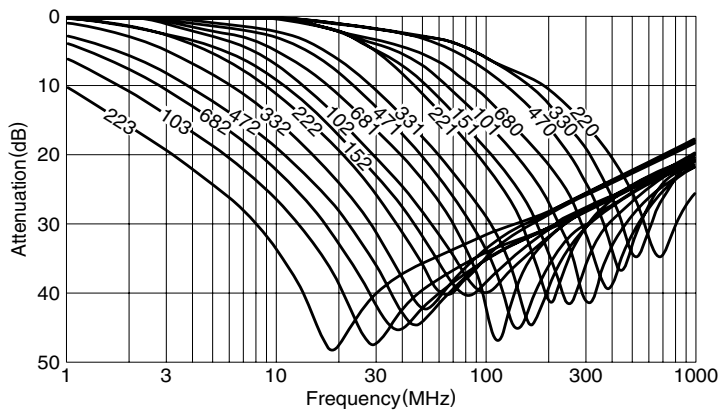


## ELECTRICAL CHARACTERISTICS

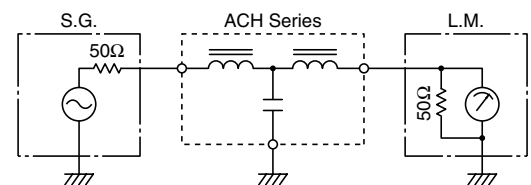
| Part No.    | 25dB attenuation frequency range (MHz) | Rated voltage E <sub>dc</sub> (V)max. | Rated current (A)max. | DC resistance (Ω)max. [Terminal No.1 to 3] | Insulation resistance (MΩ)min. [Terminal No.1 to 2/No.2 to 3] |
|-------------|----------------------------------------|---------------------------------------|-----------------------|--------------------------------------------|---------------------------------------------------------------|
| ACH3218-223 | 11 to 55                               | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-103 | 17 to 60                               | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-682 | 22 to 75                               | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-472 | 30 to 85                               | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-332 | 37 to 90                               | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-222 | 45 to 105                              | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-152 | 60 to 115                              | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-102 | 80 to 140                              | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-681 | 95 to 150                              | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-471 | 120 to 180                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-331 | 130 to 210                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-221 | 170 to 250                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-151 | 205 to 280                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-101 | 265 to 340                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-680 | 340 to 420                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-470 | 420 to 500                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-330 | 500 to 600                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |
| ACH3218-220 | 600 to 700                             | 20                                    | 1.5                   | 0.06                                       | 1000                                                          |

## TYPICAL ELECTRICAL CHARACTERISTICS

### ATTENUATION vs. FREQUENCY CHARACTERISTICS

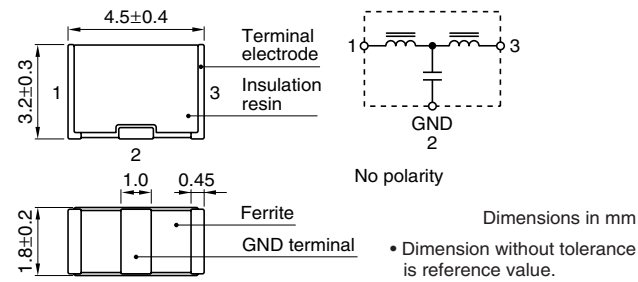


### MEASURING CIRCUIT

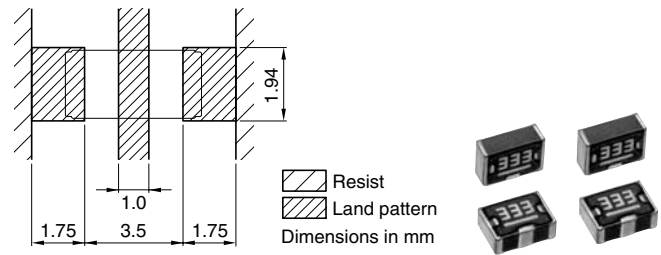


## ACH4518 TYPE

### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### RECOMMENDED PC BOARD PATTERN REFLOW SOLDERING

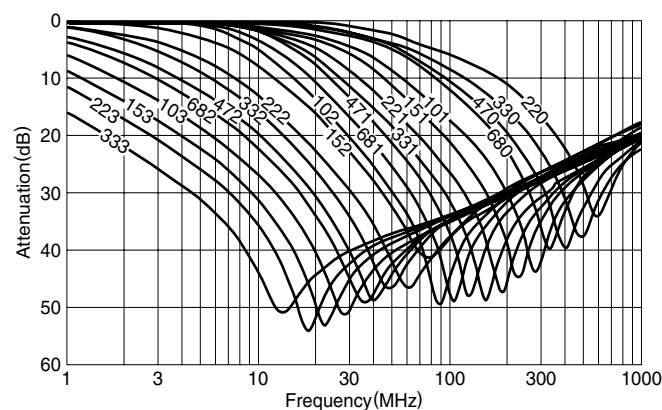


### ELECTRICAL CHARACTERISTICS

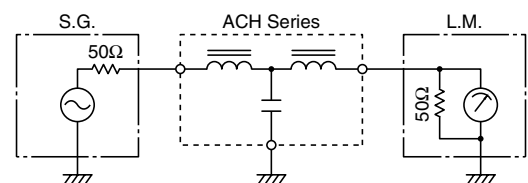
| Part No.    | 25dB attenuation<br>frequency range<br>(MHz) | Rated<br>voltage<br>Edc<br>(V)max. | Rated<br>current<br>(A)max. | DC resistance<br>( $\Omega$ )max.<br>[Terminal No.1 to 3] | Insulation<br>resistance<br>(M $\Omega$ )min.<br>[Terminal No.1 to 2/No.2 to 3] |
|-------------|----------------------------------------------|------------------------------------|-----------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------|
| ACH4518-333 | 6 to 60                                      | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-223 | 9 to 65                                      | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-153 | 11 to 70                                     | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-103 | 15 to 75                                     | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-682 | 20 to 85                                     | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-472 | 25 to 90                                     | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-332 | 35 to 100                                    | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-222 | 40 to 110                                    | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-152 | 50 to 130                                    | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-102 | 65 to 150                                    | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-681 | 75 to 160                                    | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-471 | 95 to 180                                    | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-331 | 115 to 205                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-221 | 150 to 250                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-151 | 190 to 290                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-101 | 235 to 335                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-680 | 290 to 395                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-470 | 360 to 460                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-330 | 450 to 550                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |
| ACH4518-220 | 530 to 650                                   | 50                                 | 2.0                         | 0.06                                                      | 1000                                                                            |

### TYPICAL ELECTRICAL CHARACTERISTICS

#### ATTENUATION vs. FREQUENCY CHARACTERISTICS



#### MEASURING CIRCUIT



Technical drawing of a circular component, showing front and side views with dimensions in mm.

**Front View Dimensions:**

- Overall Diameter:  $\varnothing 178 \pm 2.0$
- Central Hole Diameter:  $\varnothing 13 \pm 0.5$
- Spoke Width:  $2.0 \pm 0.5$
- Inner Hub Diameter:  $\varnothing 21 \pm 0.8$

**Side View Dimensions:**

- Overall Thickness:  $17.0 \pm 1.4$
- Central Hole Depth:  $13.0 \pm 0.3$

**Detail View (Top):**

- Spoke Thickness: 1.0

Dimensions in mm

40 to 80      Taping      200min.

Drawing direction

300min.

Dimensions in mm

# AMEYA360

## Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit [www.ameya360.com](http://www.ameya360.com)

Contact Us :

➤ Address :

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