

# Chip Beads

## For Power Line

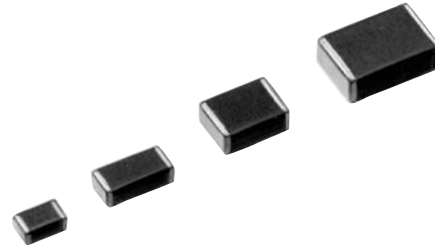
Conformity to RoHS Directive

### ACC Series

HFxxACC2012, HFxxACC3216, HFxxACC3225, HFxxACC4532

#### FEATURES

- With 4 types rated at 1.5A and 3 types rated at 3A, and with a range of frequency characteristics available for each type, the ACC series facilitates selection of the most appropriate part for any given application.
- Effective EMC suppression over a broad band can be achieved simply by inserting this product into the DC power line on the circuit board.
- Available reflow soldering.
- It is a product conforming to RoHS directive.



#### PRODUCT IDENTIFICATION

|      |     |        |   |     |
|------|-----|--------|---|-----|
| HF70 | ACC | 201209 | - | T   |
| (1)  | (2) | (3)    |   | (4) |

- (1) Material name  
 (2) Series name  
 (3) Dimension code  
 (4) Packaging style  
 T: ø180mm reel taping  
 TL: ø330mm reel taping

#### SPECIFICATIONS

|                             |                            |
|-----------------------------|----------------------------|
| Operating temperature range | -40 to +125°C              |
| Storage temperature range   | -40 to +125°C(After mount) |

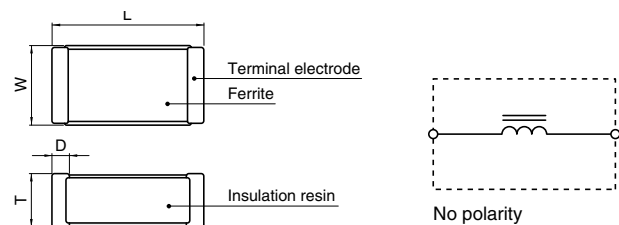
#### PACKAGING STYLE AND QUANTITIES

| Packaging style | Type   | Quantity         |
|-----------------|--------|------------------|
| Taping          | 201209 | 2000 pieces/reel |
|                 | 321611 | 2000 pieces/reel |
|                 | 322513 | 2000 pieces/reel |
|                 | 453215 | 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.
- 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.

#### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

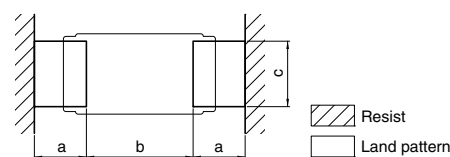


Dimensions in mm

| Type   | L        | W        | T        | D       |
|--------|----------|----------|----------|---------|
| 201209 | 2.0±0.2  | 1.25±0.2 | 0.9±0.2  | 0.3±0.2 |
| 321611 | 3.2±0.2  | 1.6±0.2  | 1.1±0.2  | 0.3±0.2 |
| 322513 | 3.2±0.2  | 2.5±0.2  | 1.3±0.2  | 0.3±0.2 |
| 453215 | 4.5±0.25 | 3.2±0.25 | 1.5±0.25 | 0.3±0.2 |

• Dimension without tolerance is reference value.

#### RECOMMENDED PC BOARD PATTERN REFLOW SOLDERING



Dimensions in mm

| Type   | a   | b   | c   |
|--------|-----|-----|-----|
| 201209 | 1.0 | 1.0 | 1.0 |
| 321611 | 1.1 | 2.2 | 1.4 |
| 322513 | 1.1 | 2.2 | 2.3 |
| 453215 | 1.5 | 3.0 | 3.0 |

• 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.

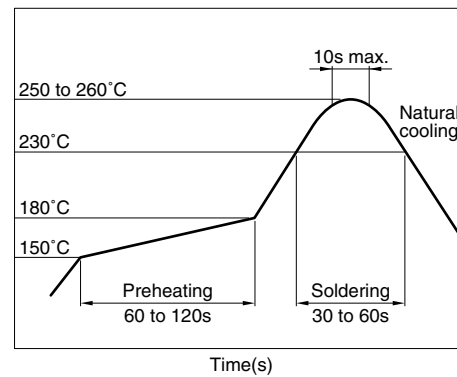
• Please contact our Sales office when your application is considered the following:  
 The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

• All specifications are subject to change without notice.

## ELECTRICAL CHARACTERISTICS

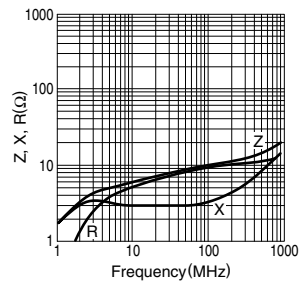
| Shape  | Part No.      | Impedance<br>( $\Omega$ )[100MHz] | DC<br>resistance<br>( $\Omega$ )max. | Rated<br>current<br>(A)max. |
|--------|---------------|-----------------------------------|--------------------------------------|-----------------------------|
| 201209 | HF70ACC201209 | 10 $\pm$ 25%                      | 0.03                                 | 1.5                         |
|        | HF50ACC201209 | 11 $\pm$ 25%                      | 0.03                                 | 1.5                         |
|        | HF30ACC201209 | 7 $\pm$ 25%                       | 0.03                                 | 1.5                         |
| 321611 | HF70ACC321611 | 26 $\pm$ 25%                      | 0.04                                 | 1.5                         |
|        | HF50ACC321611 | 31 $\pm$ 25%                      | 0.04                                 | 1.5                         |
|        | HF30ACC321611 | 19 $\pm$ 25%                      | 0.04                                 | 1.5                         |
| 322513 | HF70ACC322513 | 52 $\pm$ 25%                      | 0.05                                 | 1.5                         |
|        | HF50ACC322513 | 60 $\pm$ 25%                      | 0.05                                 | 1.5                         |
|        | HF30ACC322513 | 31 $\pm$ 25%                      | 0.05                                 | 1.5                         |
| 453215 | HF70ACC453215 | 120 $\pm$ 25%                     | 0.05                                 | 1.5                         |
|        | HF50ACC453215 | 125 $\pm$ 25%                     | 0.05                                 | 1.5                         |
|        | HF30ACC453215 | 70 $\pm$ 25%                      | 0.05                                 | 1.5                         |

## RECOMMENDED SOLDERING CONDITION REFLOW SOLDERING

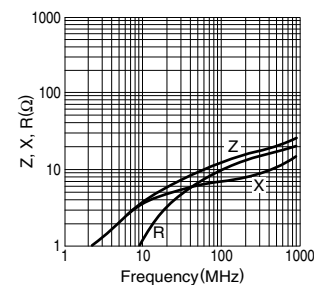


## TYPICAL ELECTRICAL CHARACTERISTICS Z, X, R vs. FREQUENCY CHARACTERISTICS

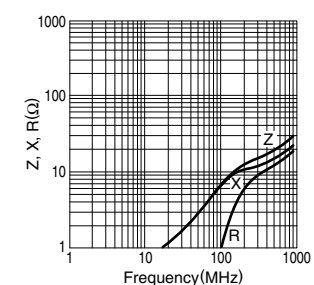
HF70ACC201209



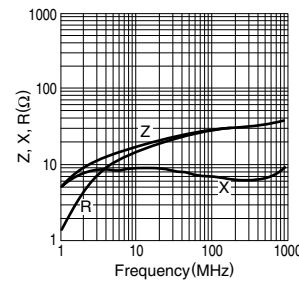
HF50ACC201209



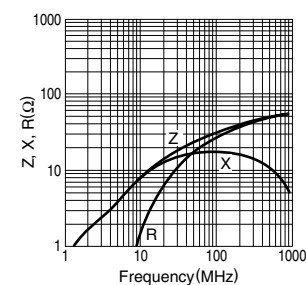
HF30ACC201209



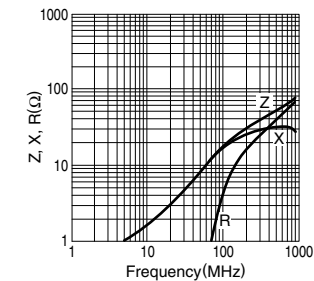
HF70ACC321611



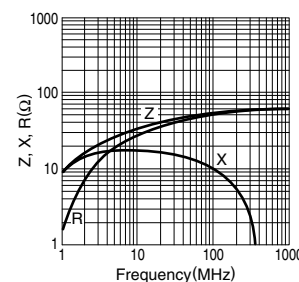
HF50ACC321611



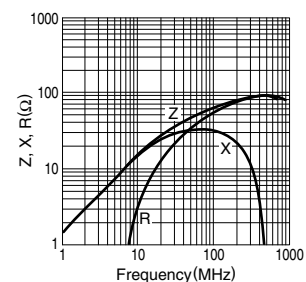
HF30ACC321611



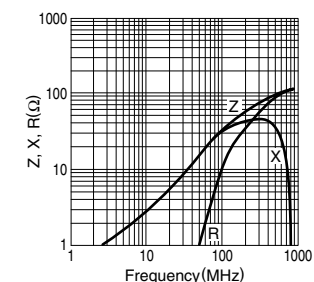
HF70ACC322513



HF50ACC322513



HF30ACC322513



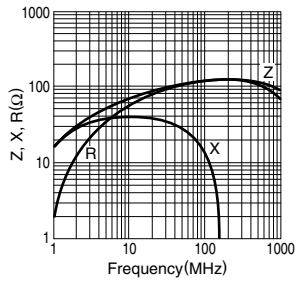
• TEST EQUIPMENT: RF IMPEDANCE ANALYZER YHP4191A

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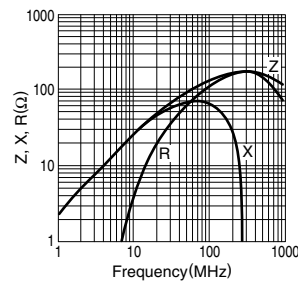
## TYPICAL ELECTRICAL CHARACTERISTICS

### Z, X, R vs. FREQUENCY CHARACTERISTICS

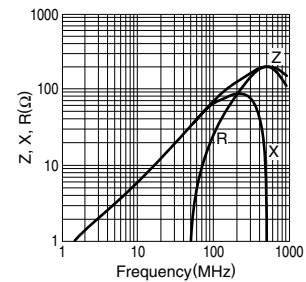
#### HF70ACC453215



#### HF50ACC453215



#### HF30ACC453215

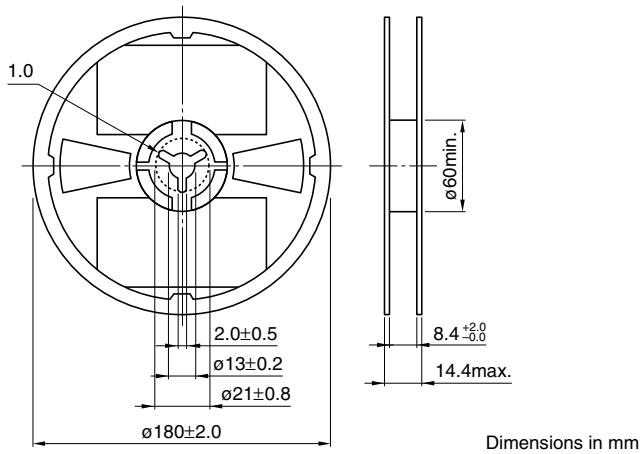


• TEST EQUIPMENT: RF IMPEDANCE ANALYZER YHP4191A

## PACKAGING STYLES

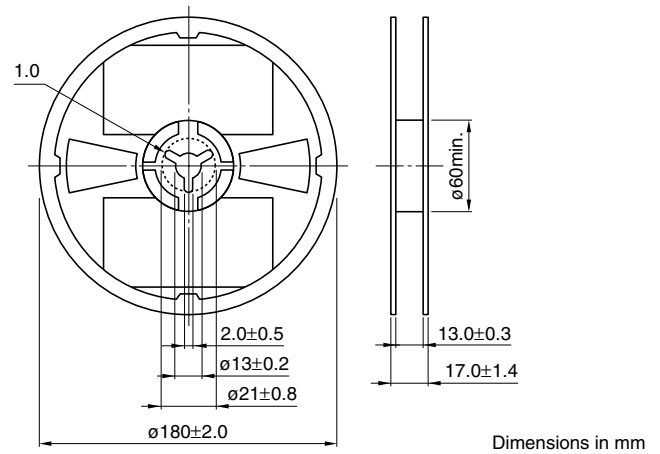
### 201209 TO 322513 TYPES

#### REEL DIMENSIONS

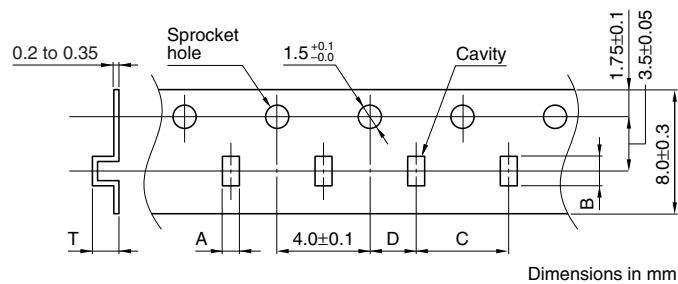


### 453215 TYPE

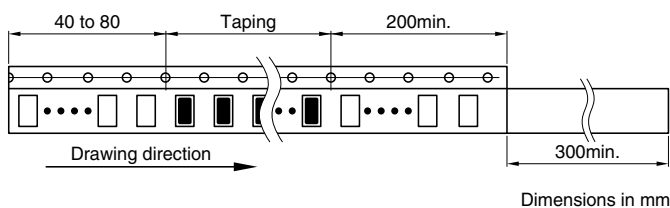
#### REEL DIMENSIONS



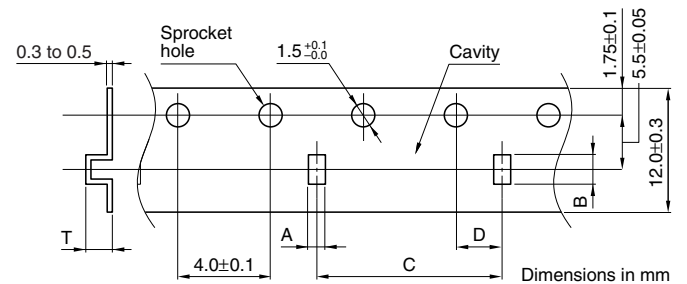
## TAPE DIMENSIONS



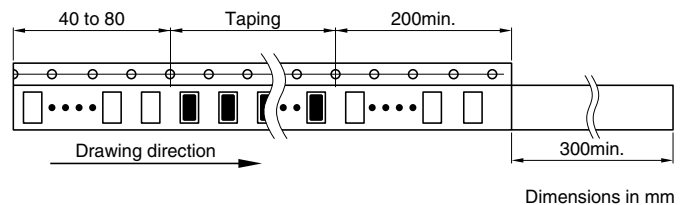
| Type   | A        | B        | C       | D        | T        |
|--------|----------|----------|---------|----------|----------|
| 201209 | 1.4±0.1  | 2.25±0.1 | 4.0±0.1 | 2.0±0.05 | 1.25max. |
| 321611 | 1.75±0.1 | 3.45±0.1 | 4.0±0.1 | 2.0±0.05 | 1.4max.  |
| 322513 | 2.6±0.1  | 3.45±0.1 | 4.0±0.1 | 2.0±0.05 | 1.6max.  |



## TAPE DIMENSIONS



| Type   | A        | B        | C       | D        | T       |
|--------|----------|----------|---------|----------|---------|
| 453215 | 3.37±0.1 | 4.75±0.1 | 8.0±0.1 | 2.0±0.05 | 1.8max. |



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