



December 2013

## Chip Beads

For power line

# HFxxACC series (For automobiles)

**HFxxACC2012** [0805 inch]\*

**HFxxACC3216** [1206 inch]

**HFxxACC3225** [1210 inch]

**HFxxACC4532** [1812 inch]

\* Dimensions Code JIS[EIA]

## REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

### SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

#### REMINDERS

- The storage period is less than 12 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH or less).

If the storage period elapses, the soldering of the terminal electrodes may deteriorate.

- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).

- Before soldering, be sure to preheat components.

The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.

- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.

If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.

- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.

- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.

- Carefully lay out the coil for the circuit board design of the non-magnetic shield type.

A malfunction may occur due to magnetic interference.

- Use a wrist band to discharge static electricity in your body through the grounding wire.

- Do not expose the products to magnets or magnetic fields.

- Do not use for a purpose outside of the contents regulated in the delivery specifications.

- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment

- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

## Chip Beads

### For power line

Product compatible with RoHS directive  
Halogen-free  
Compatible with lead-free solders  
AEC-Q200

# Overview of the HFxxACC Series

## ■ FEATURES

- Noise reduction solution for power line.
- Lineup includes 4 sizes from 201209 to 453215.
- Achieves various frequency characteristics by using 3 materials with different features.
- There is no directivity.

## ■ APPLICATION

Various ECUs, powertrains, body controls, and car multimedia (telematics).

## ■ PART NUMBER CONSTRUCTION

HF70	ACC	201209	-	T	D25
Material name	Series name	LxWxT Dimensions (mm)		Packaging style	Internal code
HF70		201209	2.0×1.25×0.9	T	Taping
HF50		321611	3.2×1.6×1.1		
HF30		322513	3.2×2.5×1.3		
		453215	4.5×3.2×1.5		

## ■ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

Type	Temperature range		Package quantity	Individual weight
	Operating temperature	Storage temperature*		
	(°C)	(°C)		
HFxxACC2012	−40 to +125	−40 to +125	2,000	10
HFxxACC3216	−40 to +125	−40 to +125	2,000	22
HFxxACC3225	−40 to +125	−40 to +125	2,000	46
HFxxACC4532	−40 to +125	−40 to +125	1,000	94

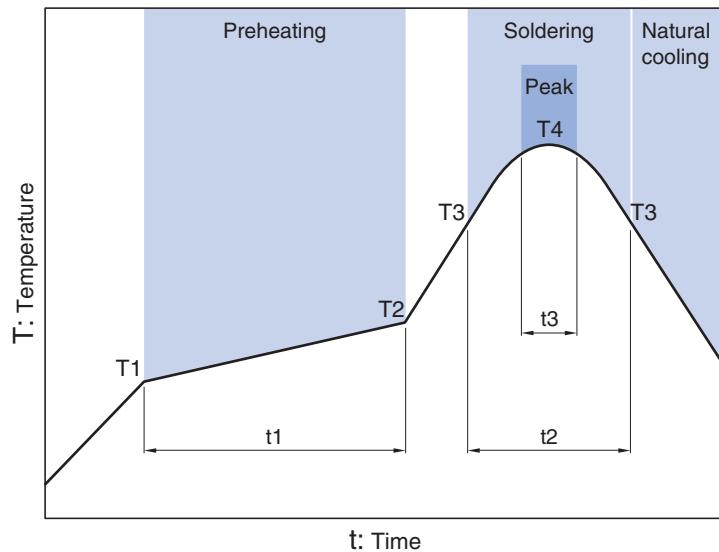
\* The Storage temperature range is for after the circuit board is mounted.

- RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://www.tdk.co.jp/rohs/>
- Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

- All specifications are subject to change without notice.

# Overview of the HFxxACC Series

## ■ RECOMMENDED REFLOW PROFILE



Preheating			Soldering		Peak	
Temp.	Temp.	Time	Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3

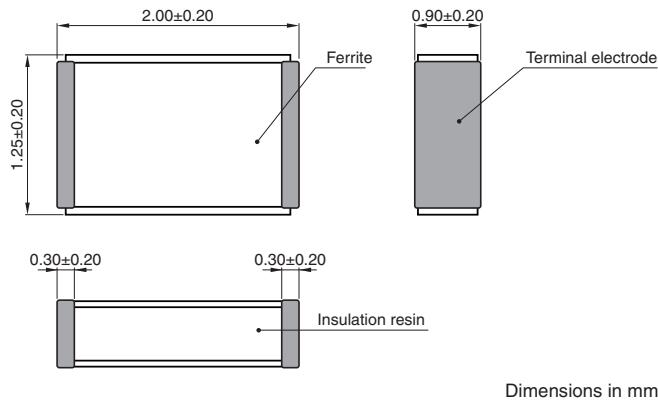
150°C 180°C 60 to 120s 230°C 30 to 60s 250 to 260°C 10s

HFxxACC series

# HFxxACC2012 Type



## ■ SHAPE & DIMENSIONS



## ■ RECOMMENDED LAND PATTERN



# HFxxACC series HFxxACC2012 Type

## ■ ELECTRICAL CHARACTERISTICS

### □ CHARACTERISTICS SPECIFICATION TABLE

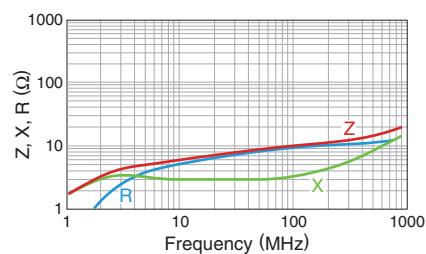
Impedance [100MHz] (Ω)	DC resistance (Ω)max.	Rated current (A)max.	Part No.
Tolerance			
10	±25%	0.03	1.5
11	±25%	0.03	1.5
7	±25%	0.03	1.5

# HFxxACC series HFxxACC2012 Type

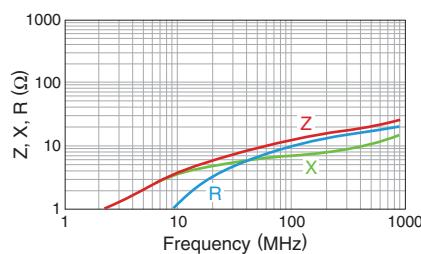
## ■ ELECTRICAL CHARACTERISTICS

### □ Z, X, R VS. FREQUENCY CHARACTERISTICS

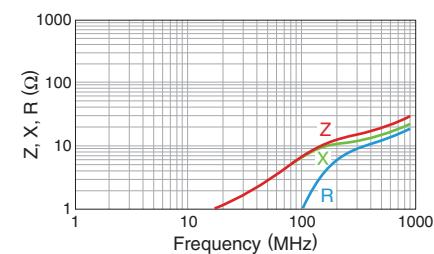
HF70ACC201209-TD25



HF50ACC201209-TD25



HF30ACC201209-TD25

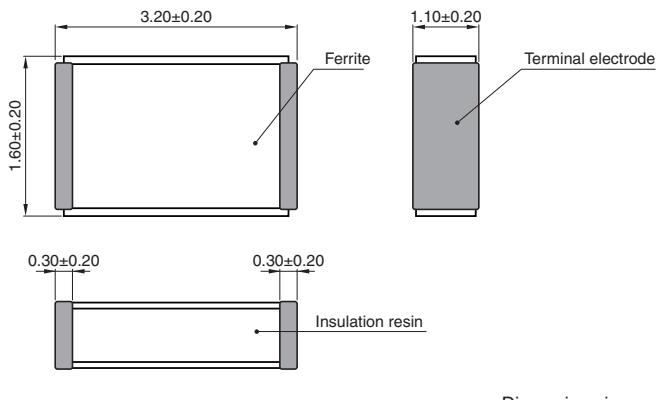


HFxxACC series

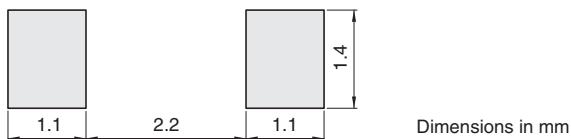
# HFxxACC3216 Type



## ■ SHAPE & DIMENSIONS



## ■ RECOMMENDED LAND PATTERN



- All specifications are subject to change without notice.

HFxxACC series **HFxxACC3216 Type****■ ELECTRICAL CHARACTERISTICS****□ CHARACTERISTICS SPECIFICATION TABLE**

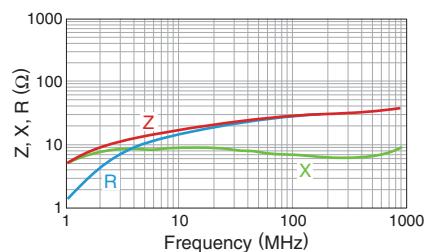
Impedance [100MHz] (Ω)	DC resistance (Ω)max. Tolerance	Rated current (A)max.	Part No.
26	±25% 0.04	1.5	HF70ACC321611-TD25
31	±25% 0.04	1.5	HF50ACC321611-TD25
19	±25% 0.04	1.5	HF30ACC321611-TD25

# HFxxACC series HFxxACC3216 Type

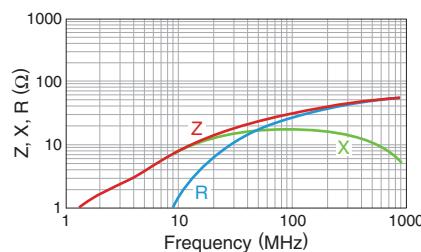
## ■ ELECTRICAL CHARACTERISTICS

### □ Z, X, R VS. FREQUENCY CHARACTERISTICS

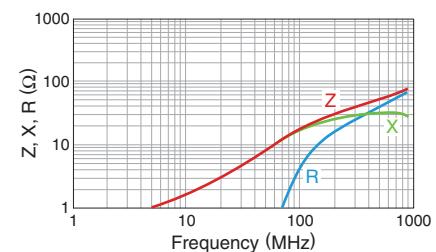
HF70ACC321611-TD25



HF50ACC321611-TD25



HF30ACC321611-TD25

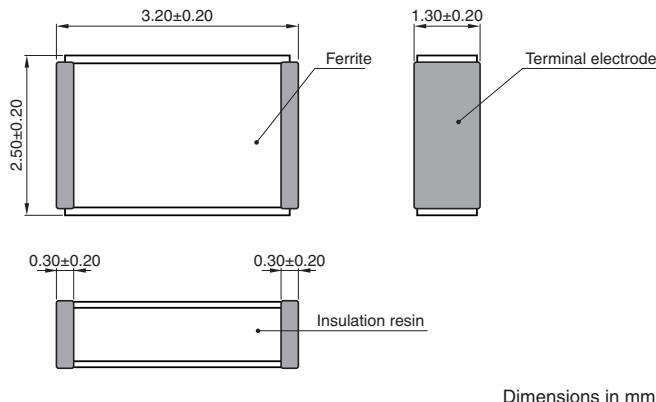


HFxxACC series

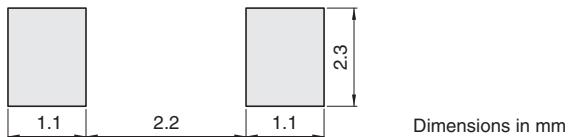
# HFxxACC3225 Type



## ■ SHAPE & DIMENSIONS



## ■ RECOMMENDED LAND PATTERN



- All specifications are subject to change without notice.

# HFxxACC series HFxxACC3225 Type

## ■ ELECTRICAL CHARACTERISTICS

### □ CHARACTERISTICS SPECIFICATION TABLE

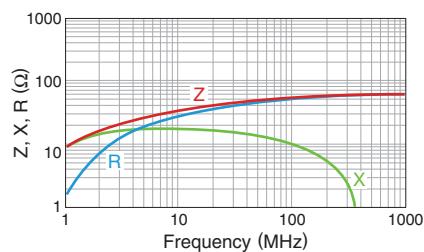
Impedance [100MHz] (Ω)	DC resistance (Ω)max. Tolerance	Rated current (A)max.	Part No.
52	±25% 0.05	1.5	HF70ACC322513-TD25
60	±25% 0.05	1.5	HF50ACC322513-TD25
31	±25% 0.05	1.5	HF30ACC322513-TD25

# HFxxACC series HFxxACC3225 Type

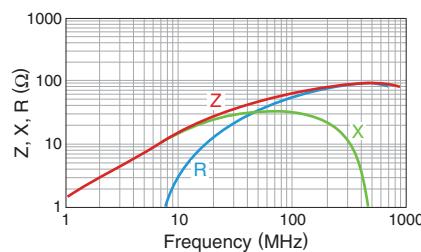
## ■ ELECTRICAL CHARACTERISTICS

### □ Z, X, R VS. FREQUENCY CHARACTERISTICS

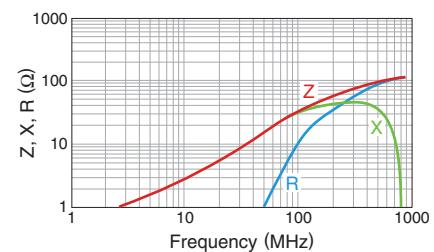
HF70ACC322513-TD25



HF50ACC322513-TD25



HF30ACC322513-TD25

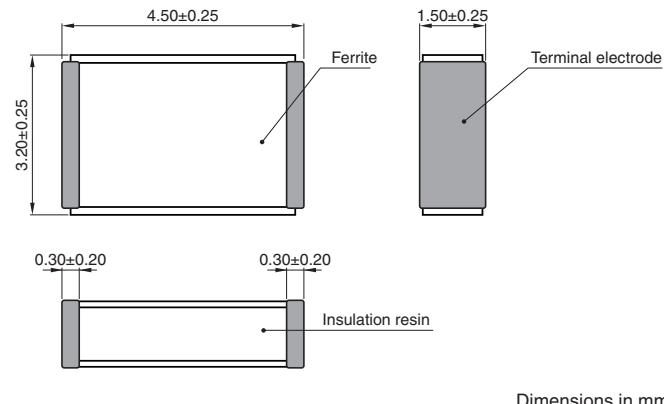


HFxxACC series

# HFxxACC4532 Type

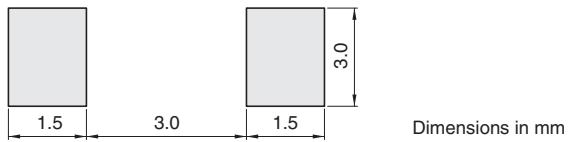


## ■ SHAPE & DIMENSIONS



Dimensions in mm

## ■ RECOMMENDED LAND PATTERN



Dimensions in mm

# HFxxACC series **HFxxACC4532 Type**

## ■ ELECTRICAL CHARACTERISTICS

### □ CHARACTERISTICS SPECIFICATION TABLE

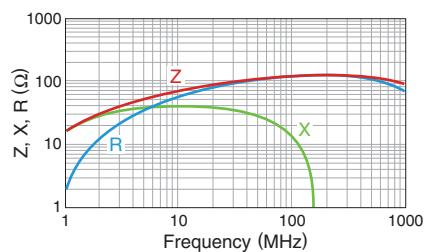
Impedance [100MHz] ( $\Omega$ )	DC resistance ( $\Omega$ )max. Tolerance	Rated current (A)max.	Part No.
120	$\pm 25\%$	0.05	1.5
125	$\pm 25\%$	0.05	HF50ACC453215-TD25
70	$\pm 25\%$	0.05	HF30ACC453215-TD25

# HFxxACC series **HFxxACC4532 Type**

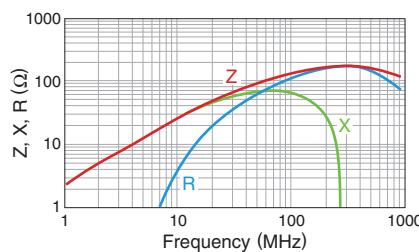
## ■ ELECTRICAL CHARACTERISTICS

### □ Z, X, R VS. FREQUENCY CHARACTERISTICS

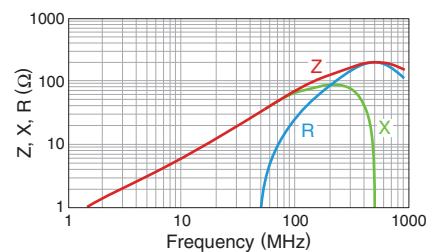
HF70ACC453215-TD25



HF50ACC453215-TD25



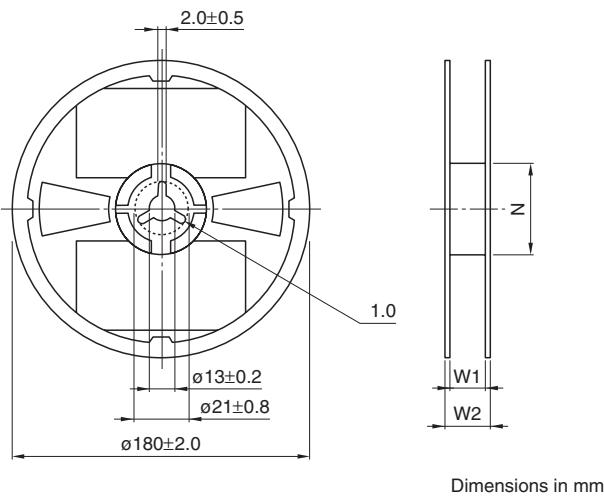
HF30ACC453215-TD25



## HFxxACC series

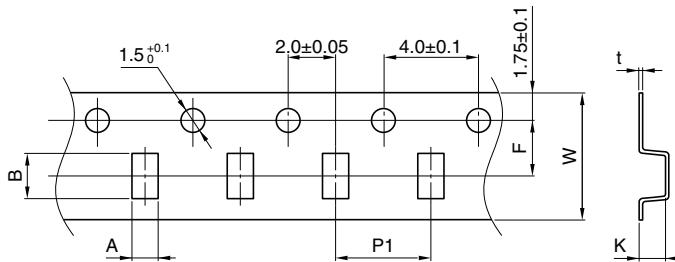
## Packaging style

## ■ REEL DIMENSIONS

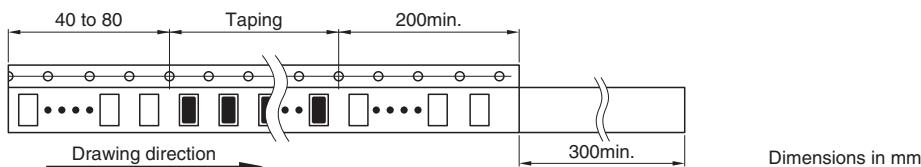


Type	W1	W2	N
HFxxACC2012	8.4+2.0/-0.0	14.4max.	ø60min.
HFxxACC3216	8.4+2.0/-0.0	14.4max.	ø60min.
HFxxACC3225	8.4+2.0/-0.0	14.4max.	ø60min.
HFxxACC4532	13.0±0.3	17.0±1.4	ø61min.

## ■ TAPE DIMENSIONS



Type	A	B	F	P1	W	K	t
HFxxACC2012	1.4±0.1	2.25±0.1	3.5±0.05	4.0±0.1	8.0±0.3	1.25max.	0.3max.
HFxxACC3216	1.75±0.1	3.45±0.1	3.5±0.05	4.0±0.1	8.0±0.3	1.4max.	0.3max.
HFxxACC3225	2.6±0.1	3.45±0.1	3.5±0.05	4.0±0.1	8.0±0.3	1.6max.	0.35max.
HFxxACC4532	3.37±0.1	4.75±0.1	5.5±0.05	8.0±0.1	12.0±0.3	1.8max.	0.4max.



# Mouser Electronics

Authorized Distributor

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TDK:

[HF30ACC322513-TD25](#) [HF70ACC321611-TD25](#) [HF50ACC453215-TD25](#) [HF50ACC201209-TD25](#)  
[HF30ACC201209-TD25](#) [HF30ACC321611-TD25](#) [HF70ACC322513-TD25](#) [HF50ACC322513-TD25](#) [HF70ACC453215-TD25](#)  
[HF30ACC453215-TD25](#) [HF70ACC201209-TD25](#) [HF50ACC321611-TD25](#)