



## 3-terminal Filters

For Automotive Large-current Power Line

# YFF-AH series

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**YFF31AH    3216 [1206 inch]\*    Feed through filter**

\* Dimensions code JIS[EIA]

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## 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 this product.

 **REMINDERS**

- 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 product 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.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The product described in this catalogue are used by applications using a standard automotive electronic equipment and such electronic equipment is intended to be used during normal operation can be used.  
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.
 

<ul style="list-style-type: none"> <li>(1) Aerospace/aviation equipment</li> <li>(2) Transportation equipment (electric trains, ships, etc.)</li> <li>(3) Medical equipment</li> <li>(4) Power-generation control equipment</li> <li>(5) Atomic energy-related equipment</li> <li>(6) Seabed equipment</li> <li>(7) Transportation control equipment</li> </ul>	<ul style="list-style-type: none"> <li>(8) Public information-processing equipment</li> <li>(9) Military equipment</li> <li>(10) Electric heating apparatus, burning equipment</li> <li>(11) Disaster prevention/crime prevention equipment</li> <li>(12) Safety equipment</li> <li>(13) Other applications that are not considered general-purpose applications</li> </ul>
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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.

Product compatible with RoHS directive  
Lead-free compatible

## 3-terminal Filters

### For Automotive Large-current Power Line

# Overview of YFF-AH series

#### FEATURES

- Small and high-performance EMC components for Automotive applications and effective for the decoupling use.
- Reliability characteristics evaluated based on AEC-Q200 condition.
- Good attenuation characteristic in wide bandwidth.
- For large current (6A to 10A) applications.

#### APPLICATION

EMC countermeasure and decoupling in power lines for Automotive applications such as ECUs, car navigation systems, camera systems, millimeter wave radar systems, etc.


#### PART NUMBER CONSTRUCTION

Series name	L x W dimensions (mm)		Product internal code		Rated voltage (V)		Capacitance (pF)		Tolerance		Taping	Internal-code	Reel size (mm)		Internal electrode Ni
YFF	31	3.2x1.6	AH	For Automotive Large-current Power Line	2A	100	104	100,000 (0.1μF)	M	±20%			0	ø178	N
							105	1,000,000 (1μF)					9	ø330	

#### PACKAGING STYLE AND SPECIFICATIONS

Type	Package quantity (piece/reel)		Single weight (g)
	ø178	ø330	
YFF31AH	2,000	10,000	0.0342

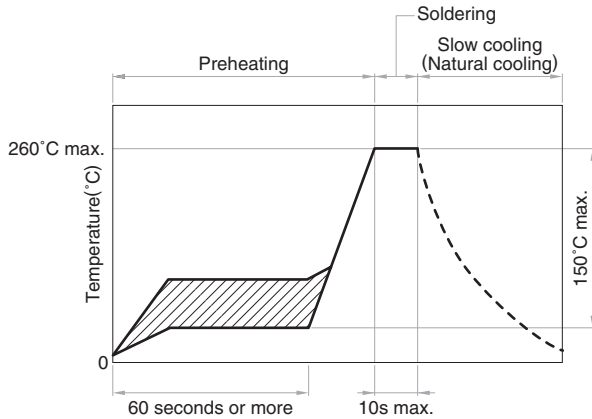
○ RoHS Directive Compliant Product: See the following for more details. <https://product.tdk.com/info/en/environment/rohs/index.html>

 Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

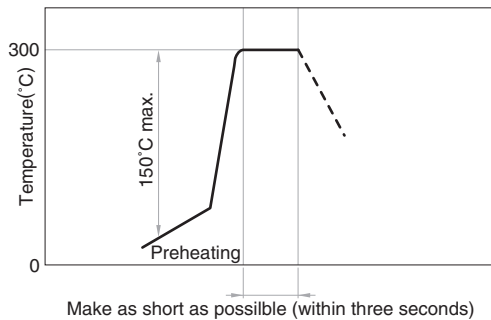
# Overview of YFF-AH series

## RECOMMENDED SOLDERING CONDITION

### REFLOW SOLDERING



### HAND SOLDERING

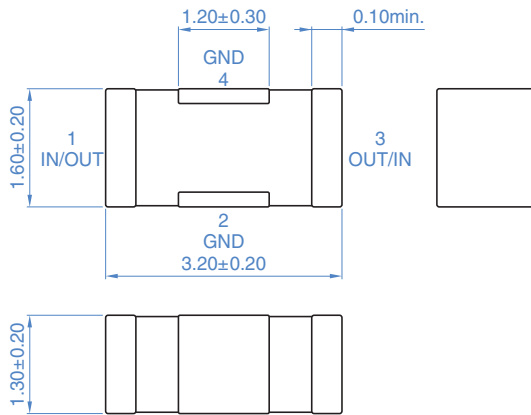


## PRECAUTIONS FOR HANDLING

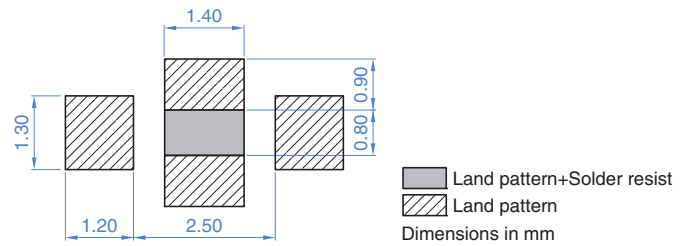
- Before soldering, be sure to preheat components. The  $\Delta T$  preheating temperature must be 150°C max. with attention paid to thermal shock.
- Natural cooling of components in the air is recommended. On the other hand, when dipping them in a solvent for purposes, such as cleaning, make sure that the temperature difference ( $\Delta T$ ) is 100°C.
- When performing hand soldering for circuit modification, apply the soldering iron to the copper foil area of the printed circuit board for 3 seconds or less. The temperature of the iron tip should not exceed 300°C.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- When incorporating the printed circuit board on which this product is mounted into a frame, etc., do not apply stress to the product through local bending of the board by tightening of screws, etc.

# YFF-AH series YFF31AH type (Feed through filter)

## SHAPE & DIMENSIONS



## RECOMMENDED LAND PATTERN



\* Make sure to connect the GND terminal of this product and the GND of the mounting circuit board by using through holes so that the distance between them is the shortest.

## ELECTRICAL CHARACTERISTICS

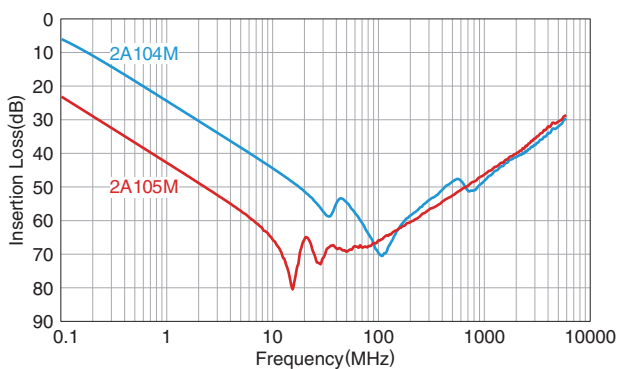
### CHARACTERISTICS SPECIFICATION TABLES

Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	Operating temperature range (°C)	Storage temperature range (After mount) (°C)	Part No.*
0.8 to 2000	100	DC6A/105°C, DC4A/125°C	-55 to 125	-55 to 125	YFF31AH2A105MT0Y □ N
7 to 2000	100	DC10A/105°C, DC6A/125°C	-55 to 125	-55 to 125	YFF31AH2A104MT0Y □ N

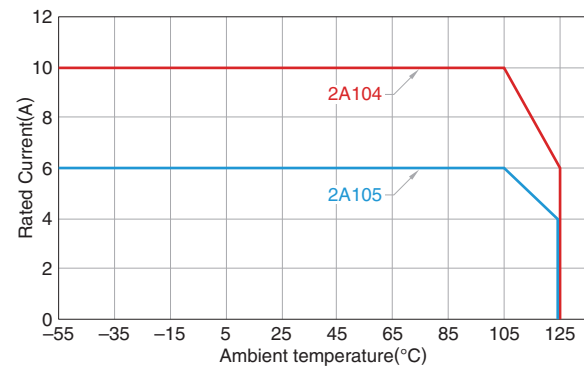
\* The part numbers are TDK's standard specification products.

\* □: Please specify reel size code, 0 (ø178) or 9 (ø330)

## INSERTION LOSS VS. FREQUENCY CHARACTERISTICS

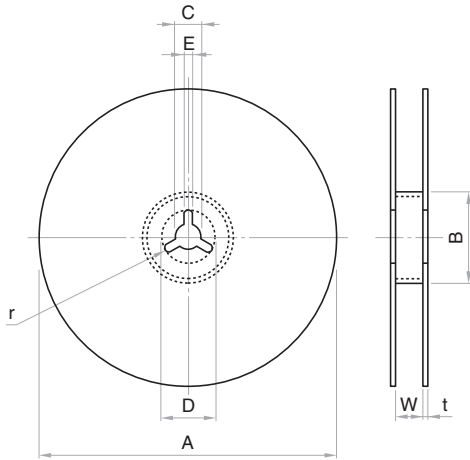


## ELECTRICAL CURRENT RATING DERATING



# YFF-AH series Packaging style

## REEL DIMENSIONS

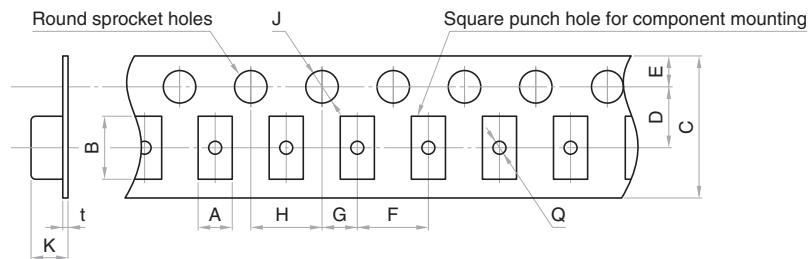


Unit: mm

Reel	A	B	C	D	E	W	t	r
ø178	ø178±2.0	ø60±2.0	ø13±0.5	ø21±0.8	2.0±0.5	9.0±0.3	2.0±0.5	1.0
ø330	ø382 max.(ø330 nom.)	ø50 min.	ø13±0.5	ø21±0.8	2.0±0.5	10.0±1.5	2.0±0.5	1.0

## TAPE DIMENSIONS

### PLASTIC TAPE



Unit: mm

Type	A	B	C	D	E	F	G	H	J	K	t	Q
YFF31AH	1.9 typ.	3.5 typ.	8.0±0.3	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	ø1.5+0.1/-0	2.5 max.	0.3 max.	ø0.5 min.

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[SSM1-402E-10T1](#) [SSM1-152P-05T1](#) [4700-009MLF](#) [SSM1-101Z-05B](#) [SSM1F-402E-10T1](#) [SSM1-202P-05T1](#) [0805J0500471MATE03](#)  
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[CX0805MRX7R0BB103](#) [CX1206MKX7R7BB224](#) [0805J0500473MXTE03](#) [0805J0500223MXTE03](#) [0805J1000102MXTE07](#)  
[CX0603MRX7R0BB472](#) [PSM4-103Z-20B](#) [DSS1NB32A223Q91A](#) [DSS1NB31H104Q91A](#) [NFE61PT330B1H9L](#) [NFM21HC223R1H3D](#)  
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[DSS1NB32A102Q91A](#) [NFM18CC222R1C3D](#) [NFM18PS474R0J3D](#) [NFM21HC105R1C3D](#) [NFM21PC224R1C3D](#) [NFM31KC104R2A3L](#)  
[NFM31KC223R1H3L](#)