

July 2015

### 3-terminal Filters

For Power Line

# YFF-P Series

YFF15PC 1005 [0402 inch]\* Feed through filter YFF18PC 1608 [0603 inch]\* Feed through filter

YFF18PH 1608 [0603 inch]\* Feed through filter (Thickness: 0.8mm)

YFF18PW 1608 [0603 inch]\* Feed through filter (Low ESL)

YFF21PC 2012 [0805 inch]\* Feed through filter YFF31PC 3216 [1206 inch]\* Feed through filter

\* Dimensions Code JIS[EIA]



### **3-terminal Filters**

#### **For Power Line**

Conformity to RoHS Directive Lead-free Compatible

### **Overview of YFF-P Series**

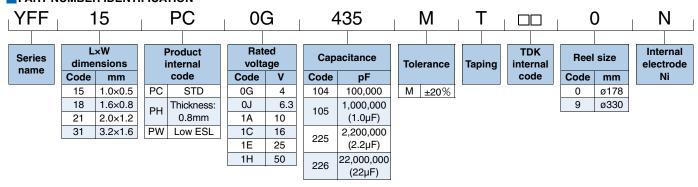
#### **FEATURES**

- Small and high-performance EMC components.
- O Good attenuation characteristic in a wide band range.
- O For large current (2A to 4A) applications

#### APPLICATIONS

For the power line of communication terminal devices, such as a smart phone, and AV and information devices.

#### PART NUMBER IDENTIFICATION



#### PACKAGING STYLE AND SPECIFICATIONS

Type	Package quantit	Cinalo woight (a)	
Туре	ø178	ø330	Single weight (g)
YFF15PC	10,000	50,000	0.0008*
YFF18PC	4,000	10,000	0.0038
YFF18PH	4,000	10,000	0.0051
YFF18PW	4,000	10,000	0.0038
YFF21PC	4,000	10,000	0.0095
YFF31PC	2,000	10,000	0.0342

 $<sup>^{\</sup>ast}$  In the case of YFF15PC0G435M, the weight is 0.0015g.

Oconformity 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.

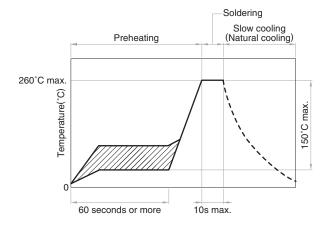
OPlease contact our Sales office when your application is considered the following:

The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

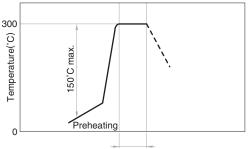
### **Overview of YFF-P Series**

#### RECOMMENDED SOLDERING CONDITION

#### **□ REFLOW SOLDERING**



#### ☐HAND SOLDERING



Make as short as possilble (within three seconds)

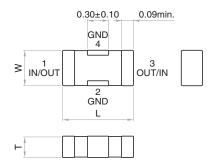
#### PRECAUTIONS FOR USE

- $\bigcirc$  Before soldering, be sure to preheat components. The  $\Delta T$  preheating temperature must be 150°C max. with attention paid to thermal shock.
- Onatural 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.

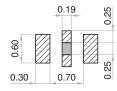


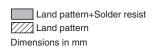
# YFF-P Series YFF15PC Type(Feed Through Filter)

#### SHAPES AND DIMENSIONS



#### RECOMMENDED LAND PATTERN





Part No.	L	W	Т
YFF15PC0G435MT00□N	1.05±0.05	0.65±0.05	0.45±0.05
YFF15PC0G105MT00□N	1.00±0.05	0.55±0.05	0.30±0.05
YFF15PC0J474MT00□N	1.00±0.05	0.55±0.05	0.30±0.05
YFF15PC1A224MT00□N	1.00±0.05	0.55±0.05	0.30±0.05
YFF15PC1C104MT00□N	1.00±0.05	0.55±0.05	0.30±0.05

<sup>\*</sup> 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**

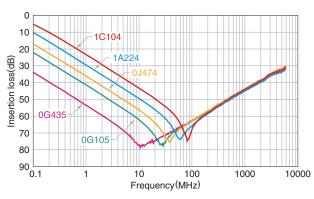
#### **CHARACTERISTICS SPECIFICATION TABLE**

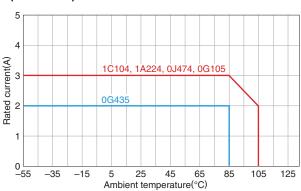
Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current ldc (A)	Operating temperature range (°C)	Storage temperature range(After mount) (°C)	Part No.*
0.2 to 1000	4	2	-55 to 85	-55 to 85	YFF15PC0G435MT00□N
0.8 to 1000	4	3	–55 to 105	-55 to 105	YFF15PC0G105MT00□N
2 to 1000	6.3	3	-55 to 105	-55 to 105	YFF15PC0J474MT00□N
4 to 1000	10	3	-55 to 105	-55 to 105	YFF15PC1A224MT00□N
9 to 1000	16	3	-55 to 105	-55 to 105	YFF15PC1C104MT00□N

<sup>\*</sup> The part numbers are TDK's standard specification products.

#### **ELECTRICAL CHARACTERISTICS GRAPH**

#### **INSERTION LOSS vs. FREQUENCY CHARACTERISTICS**



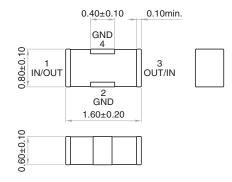


<sup>\* :</sup> Please specify reel size code, 0 (ø178) or 9 (ø330)

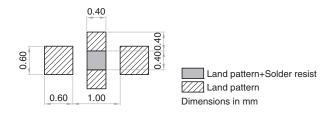


# YFF-P Series YFF18PC Type(Feed Through Filter)

#### SHAPES AND 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**

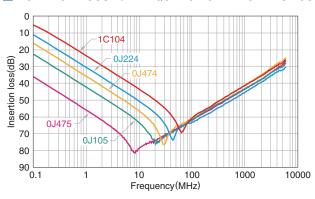
#### **CHARACTERISTICS SPECIFICATION TABLE**

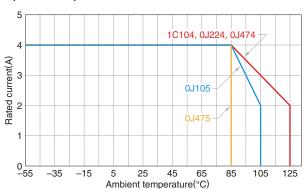
Insertion loss	Rated voltage	Rated current	Operating	Storage temperature	
40dB bandwidth	Edc	ldc	temperature range	range(After mount)	Part No.*
(MHz)	(V)	(A)	(°C)	(°C)	
0.2 to 1000	6.3	4	-55 to 85	-55 to 85	YFF18PC0J475MT0H□N
0.8 to 1000	6.3	4	-55 to 105	-55 to 105	YFF18PC0J105MT0H□N
2 to 1000	6.3	4	-55 to 125	-55 to 125	YFF18PC0J474MT0H□N
3 to 1000	6.3	4	-55 to 125	-55 to 125	YFF18PC0J224MT0H□N
7 to 1000	16	4	-55 to 125	-55 to 125	YFF18PC1C104MT0H□N

<sup>\*</sup> The part numbers are TDK's standard specification products.

#### **ELECTRICAL CHARACTERISTICS GRAPH**

#### **INSERTION LOSS vs. FREQUENCY CHARACTERISTICS**



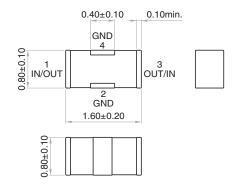


<sup>\* □:</sup> Please specify reel size code, 0 (ø178) or 9 (ø330)

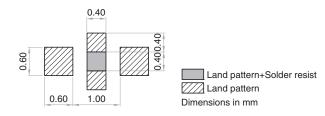


# YFF-P Series YFF18PH Type(Feed Through Filter)

#### SHAPES AND 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**

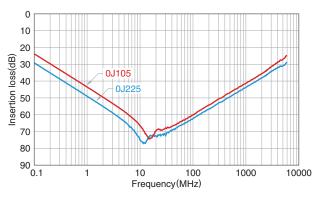
#### **CHARACTERISTICS SPECIFICATION TABLE**

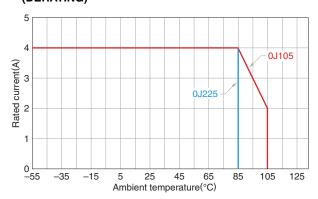
Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	Operating temperature range (°C)	Storage temperature range(After mount) (°C)	Part No.*
0.4 to 1000	6.3	4	-55 to 85	-55 to 85	YFF18PH0J225MT00□N
0.8 to 1000	6.3	4	-55 to 105	-55 to 105	YFF18PH0J105MT00□N

<sup>\*</sup> The part numbers are TDK's standard specification products.

#### **ELECTRICAL CHARACTERISTICS GRAPH**

#### ☐INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



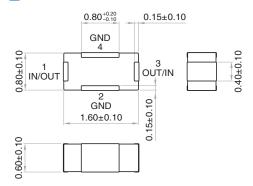


<sup>\* □:</sup> Please specify reel size code, 0 (ø178) or 9 (ø330)

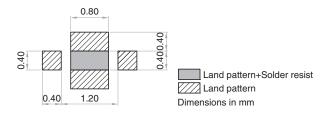


# YFF-P Series YFF18PW Type(Feed Through Filter)

#### SHAPES AND DIMENSIONS



#### RECOMMENDED LAND PATTERN



#### **ELECTRICAL CHARACTERISTICS**

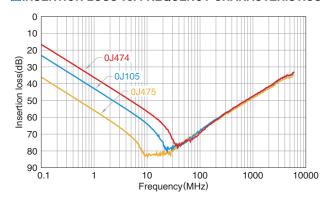
#### **CHARACTERISTICS SPECIFICATION TABLE**

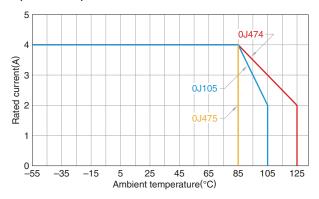
Insertion loss 40dB bandwidth	Rated voltage Edc	Rated current Idc	Operating temperature range	Storage temperature range(After mount)	Part No.*
(MHz)	(V)	(A)	(°C)	(°C)	
0.2 to 2000	6.3	4	-55 to 85	-55 to 85	YFF18PW0J475MT0H□N
0.8 to 2000	6.3	4	–55 to 105	-55 to 105	YFF18PW0J105MT0H□N
2 to 2000	6.3	4	-55 to 125	-55 to 125	YFF18PW0J474MT0H□N

<sup>\*</sup> The part numbers are TDK's standard specification products.

#### **ELECTRICAL CHARACTERISTICS GRAPH**

#### ☐INSERTION LOSS vs. FREQUENCY CHARACTERISTICS





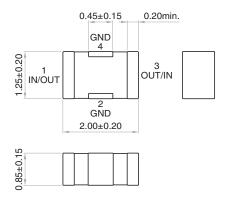
<sup>\*</sup> Make sure to connect the GND terminal of this product and the GND of the mounting circuit board by using through holes so that the distance between them is the shortest.

<sup>\*</sup>  $\square$ : Please specify reel size code, 0 (ø178) or 9 (ø330)

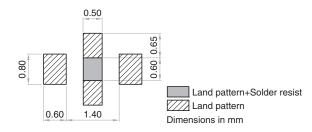


# YFF-P Series YFF21PC Type(Feed Through Filter)

#### SHAPES AND 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**

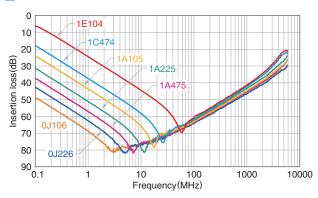
#### **CHARACTERISTICS SPECIFICATION TABLE**

Insertion loss 40dB bandwidth	Rated voltage Edc	Rated current Idc	Operating temperature range	Storage temperature range(After mount)	Part No.*
(MHz)	(V)	(A)	(°C)	(°C) `	
0.04 to 1000	6.3	4	-55 to 85	-55 to 85	YFF21PC0J226MT00□N
0.08 to 1000	6.3	4	-55 to 85	-55 to 85	YFF21PC0J106MT00□N
0.2 to 1000	10	3	-55 to 85	-55 to 85	YFF21PC1A475MT00□N
0.3 to 1000	10	2	-55 to 85	-55 to 85	YFF21PC1A225MT00□N
0.7 to 1000	10	4	-55 to 85	-55 to 85	YFF21PC1A105MT00□N
2 to 1000	16	2	-55 to 125	-55 to 125	YFF21PC1C474MT00□N
7 to 1000	25	2	-55 to 125	-55 to 125	YFF21PC1E104MT00□N

<sup>\*</sup> The part numbers are TDK's standard specification products.

#### **ELECTRICAL CHARACTERISTICS GRAPH**

#### ☐INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

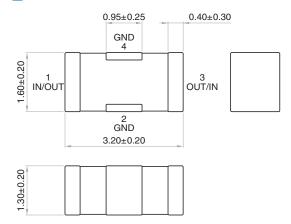


<sup>\*</sup>  $\square$ : Please specify reel size code, 0 (ø178) or 9 (ø330)

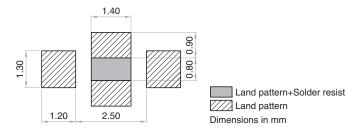


# YFF-P Series YFF31PC Type(Feed Through Filter)

#### SHAPES AND 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**

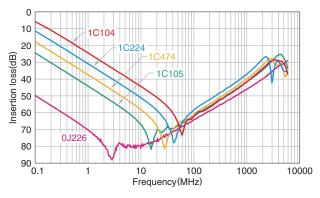
#### **CHARACTERISTICS SPECIFICATION TABLE**

Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current ldc (A)	Operating temperature range (°C)	Storage temperature range(After mount) (°C)	Part No.*
0.04 to 1000	6.3	4	-55 to 85	-55 to 85	YFF31PC0J226MT00□N
0.7 to 1000	16	2	-55 to 125	-55 to 125	YFF31PC1C105MT00□N
2 to 1000	16	2	-55 to 125	-55 to 125	YFF31PC1C474MT00□N
3 to 600	16	2	-55 to 125	-55 to 125	YFF31PC1C224MT00□N
7 to 1000	16	2	-55 to 125	-55 to 125	YFF31PC1C104MT00 N

<sup>\*</sup> The part numbers are TDK's standard specification products.

#### ■ ELECTRICAL CHARACTERISTICS GRAPH

#### ☐INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

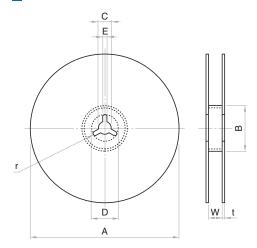


<sup>\* 
☐:</sup> Please specify reel size code, 0 (ø178) or 9 (ø330)



# YFF-P Series Packing Style

#### REEL DIMENSIONS

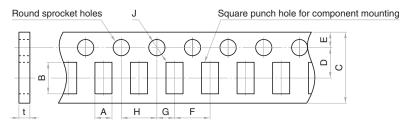


Dimensions in mm

Reel	A	В	С	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±0.05	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±0.05	1.0

#### **TAPE DIMENSIONS**

#### Paper tape

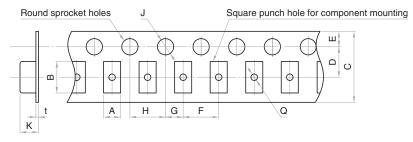


Dimensions in mm

Туре	Α	В	С	D	Е	F	G	Н	J	t
YFF15PC	0.62 typ. (0.75 typ.)*	1.12 typ. (1.18 typ.)*	8.0±0.3	3.5±0.05	1.75±0.1	2.0±0.05	2.0±0.05	4.0±0.1	ø1.5+0.1/–0	0.7 max.
YFF18PC										
YFF18PH	1.10 typ.	1.90 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	1.1 max.
YFF18PW										
YFF21PC	1.50 typ.	2.30 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	1.1 max.

<sup>\*</sup> Applies to YFF15PC0G435M

#### Plastic tape



Dimensions in mm

Туре	Α	В	С	D	Е	F	G	Н	J	K	t	Q
YFF31PC	1.90 typ.	3.50 typ.	8.0±0.3	3.5±0.05	1.75±0.1	4.00±0.1	2.0±0.05	4.00±0.1	ø1.5+0.1/-0	2.50 max.	0.30 max.	ø0.50 max.

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