TDK

June 2021

3-terminal filters

Feedthrough filter 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]***	**Feedthrough filter (low ESL type)**
YFF21PC	**2012 [0805 inch]***	**Feed through filter**
YFF31PC	**3216 [1206 inch]***	**Feed through filter**

* Dimensions Code JIS[EIA]

3-terminal filters

Feedthrough filter for power line

Product compatible with RoHS directive
Compatible with lead-free solders

Overview of the YFF-P series

FEATURES

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

APPLICATION

Power line of communication terminal devices such as a smart phone, AV and information devices

PART NUMBER CONSTRUCTION

YFF	15	PC	0G	435	M	T	□□	0	N
Series name	L x W dimensions	Product internal code	Rated voltage	Capacitance	Tolerance	Taping	TDK internal code	Reel size	Internal electrode Ni

L x W dimensions

Code	mm
15	1.0×0.5
18	1.6×0.8
21	2.0×1.2
31	3.2×1.6

Product internal code

PC	Standard
PH	Thickness 0.8mm
PW	low ESL

Rated voltage

Code	V
0G	4
0J	6.3
1A	10
1C	16
1E	25

Capacitance

Code	pF
104	100,000
105	1,000,000 (1.0μF)
435	4,300,000 (4.3μF)
226	22,000,000 (22μF)

Tolerance

M	±20%

Reel size

Code	mm
0	ø178
9	ø330

PACKAGE QUANTITY

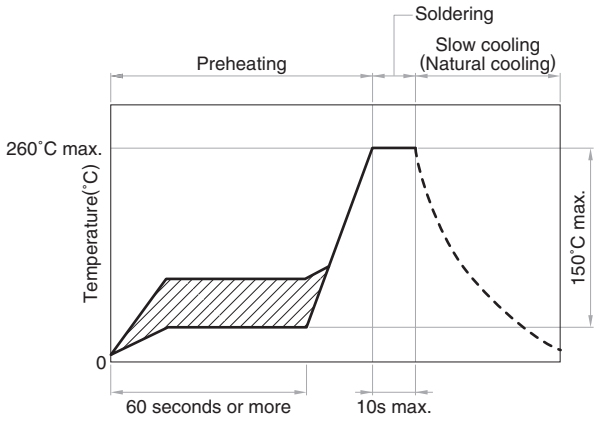
Type	Package quantity (piece/reel)	
	ø178 (mm)	ø330 (mm)
YFF15PC	10,000	50,000
YFF15PC0G435M	10,000	50,000
YFF18PC	4,000	10,000
YFF18PH	4,000	10,000
YFF18PW	4,000	10,000
YFF21PC	4,000	10,000
YFF31PC	2,000	10,000

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

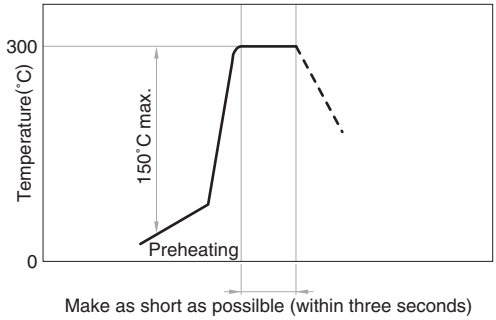
Overview of YFF-P series

RECOMMENDED SOLDERING CONDITION

□REFLOW SOLDERING



□HAND SOLDERING

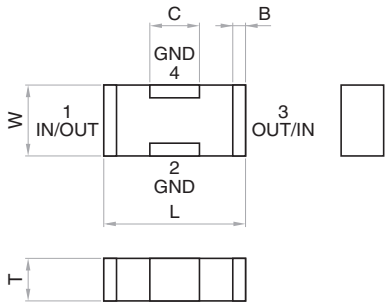


REMINDERS FOR USING THESE PRODUCTS

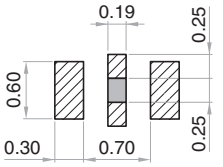
- Before soldering, be sure to preheat components. The ΔT preheating temperature must be 150°C max. with attention paid to thermal shock.
- Natural cooling of components in the air is recommended. On the other hand, when dipping them in a solvent for purposes, such as cleaning, make sure that the temperature difference (ΔT) 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

SHAPE & DIMENSIONS



RECOMMENDED LAND PATTERN



Land pattern+Solder resist
Land pattern
Dimensions in mm

Part No.	L (mm)	W (mm)	T (mm)	B (mm)	C (mm)
YFF15PC0G435MT000N	1.05±0.05	0.65±0.05	0.45±0.05	0.09min.	0.30±0.10
YFF15PC0G435MT009N	1.05±0.05	0.65±0.05	0.45±0.05	0.09min.	0.30±0.10
YFF15PC0J105MT000N	1.05±0.05	0.65±0.05	0.45±0.05	0.09min.	0.30±0.10
YFF15PC0J105MT009N	1.05±0.05	0.65±0.05	0.45±0.05	0.09min.	0.30±0.10
YFF15PC0G105MT000N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10
YFF15PC0G105MT009N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10
YFF15PC0J474MT000N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10
YFF15PC0J474MT009N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10
YFF15PC1A224MT000N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10
YFF15PC1A224MT009N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10
YFF15PC1C104MT000N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10
YFF15PC1C104MT009N	1.00±0.05	0.55±0.05	0.30±0.05	0.09min.	0.30±0.10

* Make sure to connect GND terminals of a component and GND of a circuit board by using such as through-holes so that the distance between them becomes the shortest.

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

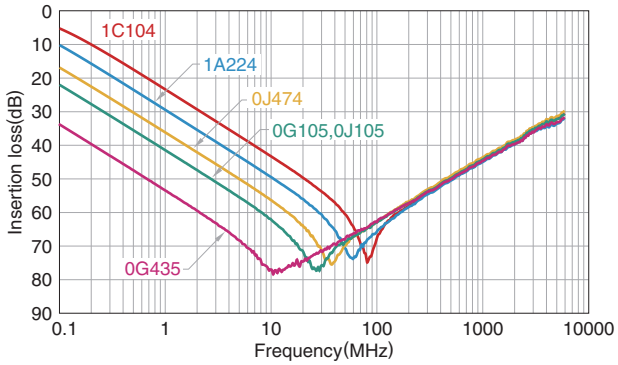
Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	DC resistance (Max.) Rdc (mΩ)	Operating temperature range (°C)	Storage temperature range (After mount) (°C)	Part No.
0.2 to 1000	4	2	12	–55 to +85	–55 to +85	YFF15PC0G435MT000N
0.2 to 1000	4	2	12	–55 to +85	–55 to +85	YFF15PC0G435MT009N
0.8 to 1000	4	3	12	–55 to +105	–55 to +105	YFF15PC0J105MT000N
0.8 to 1000	4	3	12	–55 to +105	–55 to +105	YFF15PC0J105MT009N
0.8 to 1000	4	3	12	–55 to +105	–55 to +105	YFF15PC0G105MT000N
0.8 to 1000	4	3	12	–55 to +105	–55 to +105	YFF15PC0G105MT009N
2 to 1000	6.3	3	30	–55 to +105	–55 to +105	YFF15PC0J474MT000N
2 to 1000	6.3	3	30	–55 to +105	–55 to +105	YFF15PC0J474MT009N
4 to 1000	10	3	30	–55 to +105	–55 to +105	YFF15PC1A224MT000N
4 to 1000	10	3	30	–55 to +105	–55 to +105	YFF15PC1A224MT009N
9 to 1000	16	3	30	–55 to +105	–55 to +105	YFF15PC1C104MT000N
9 to 1000	16	3	30	–55 to +105	–55 to +105	YFF15PC1C104MT009N

Click the part number for details.

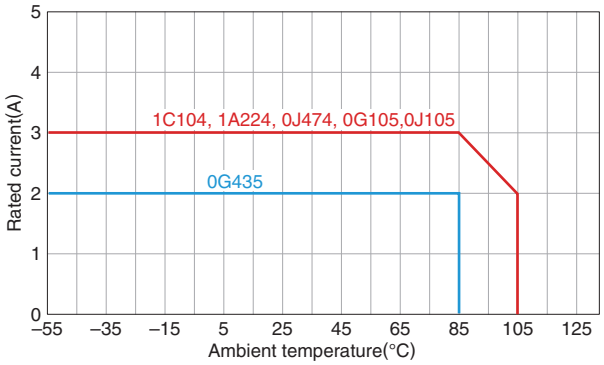
YFF-P series YFF15PC type

ELECTRICAL CHARACTERISTICS GRAPH

INSERTION LOSS VS. FREQUENCY CHARACTERISTICS

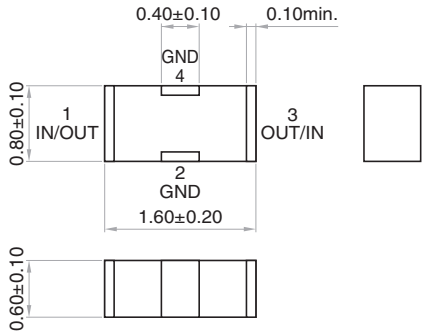


RATED CURRENT VS. TEMPERATURE CHARACTERISTICS (DERATING)

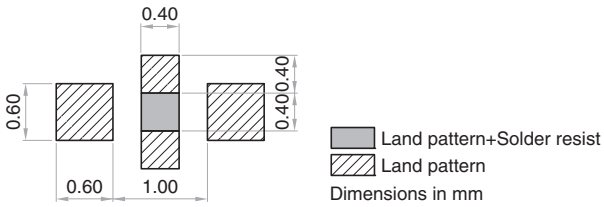


YFF-P series YFF18PC type

SHAPE & DIMENSIONS



RECOMMENDED LAND PATTERN



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ELECTRICAL CHARACTERISTICS

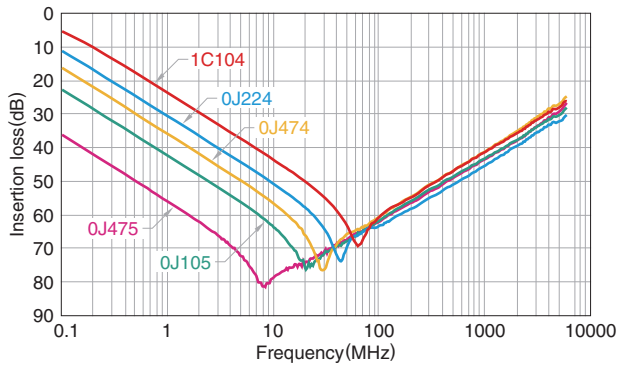
CHARACTERISTICS SPECIFICATION TABLE

Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	DC resistance (Max.) Rdc (mΩ)	Operating temperature range (°C)	Storage temperature range (After mount) (°C)	Part No.
0.2 to 1000	6.3	4	12	–55 to +85	–55 to +85	YFF18PC0J475MT0H0N
0.2 to 1000	6.3	4	12	–55 to +85	–55 to +85	YFF18PC0J475MT0H9N
0.8 to 1000	6.3	4	12	–55 to +105	–55 to +105	YFF18PC0J105MT0H0N
0.8 to 1000	6.3	4	12	–55 to +105	–55 to +105	YFF18PC0J105MT0H9N
2 to 1000	6.3	4	30	–55 to +125	–55 to +125	YFF18PC0J474MT0H0N
2 to 1000	6.3	4	30	–55 to +125	–55 to +125	YFF18PC0J474MT0H9N
3 to 1000	6.3	4	30	–55 to +125	–55 to +125	YFF18PC0J224MT0H0N
3 to 1000	6.3	4	30	–55 to +125	–55 to +125	YFF18PC0J224MT0H9N
7 to 1000	16	4	30	–55 to +125	–55 to +125	YFF18PC1C104MT0H0N
7 to 1000	16	4	30	–55 to +125	–55 to +125	YFF18PC1C104MT0H9N

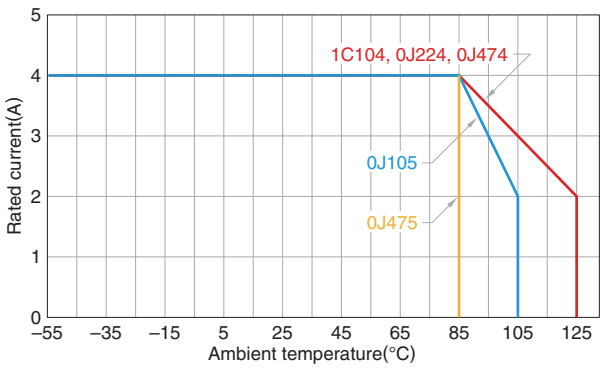
Click the part number for details.

ELECTRICAL CHARACTERISTICS GRAPH

INSERTION LOSS VS. FREQUENCY CHARACTERISTICS

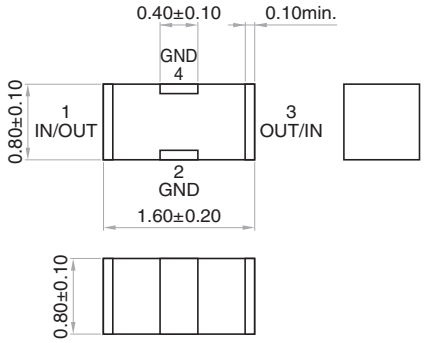


RATED CURRENT VS. TEMPERATURE CHARACTERISTICS (DERATING)

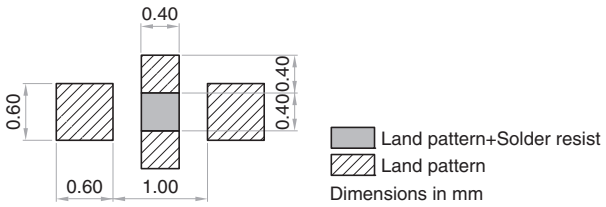


YFF-P series YFF18PH type

SHAPE & DIMENSIONS



RECOMMENDED LAND PATTERN



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ELECTRICAL CHARACTERISTICS

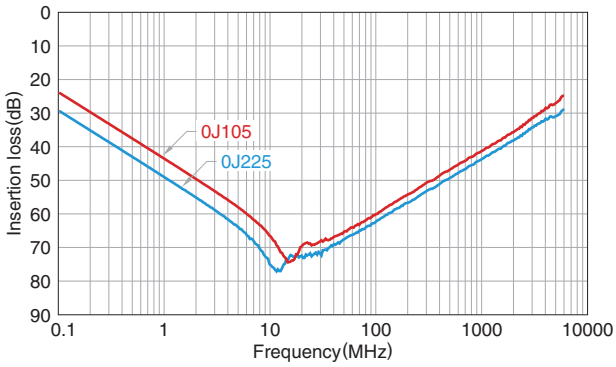
CHARACTERISTICS SPECIFICATION TABLE

Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	DC resistance (Max.) Rdc (mΩ)	Operating temperature range (°C)	Storage temperature range (After mount) (°C)	Part No.
0.4 to 1000	6.3	4	12	–55 to +85	–55 to +85	YFF18PH0J225MT000N
0.4 to 1000	6.3	4	12	–55 to +85	–55 to +85	YFF18PH0J225MT009N
0.8 to 1000	6.3	4	12	–55 to +105	–55 to +105	YFF18PH0J105MT000N
0.8 to 1000	6.3	4	12	–55 to +105	–55 to +105	YFF18PH0J105MT009N

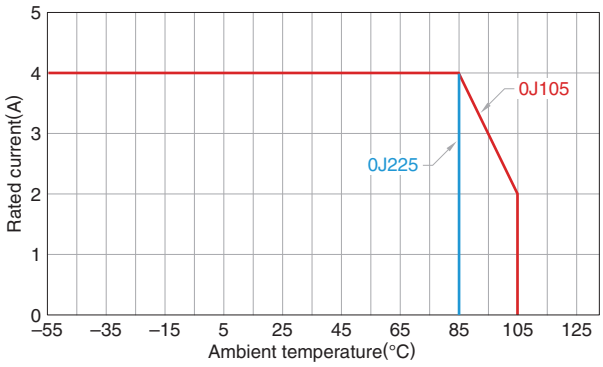
Click the part number for details.

ELECTRICAL CHARACTERISTICS GRAPH

INSERTION LOSS VS. FREQUENCY CHARACTERISTICS

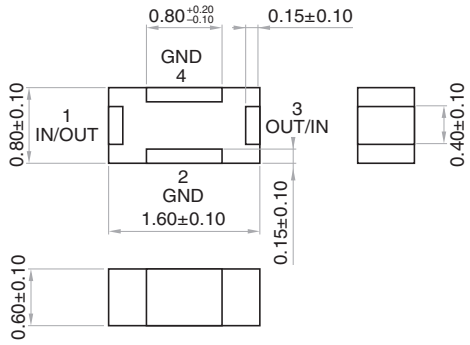


RATED CURRENT VS. TEMPERATURE CHARACTERISTICS (DERATING)

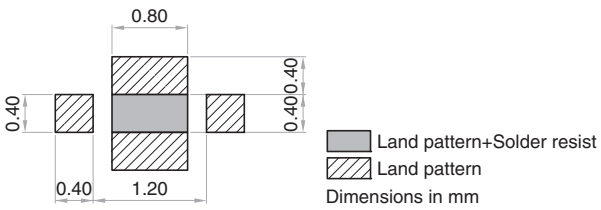


YFF-P series YFF18PW type

SHAPE & DIMENSIONS



RECOMMENDED LAND PATTERN



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ELECTRICAL CHARACTERISTICS

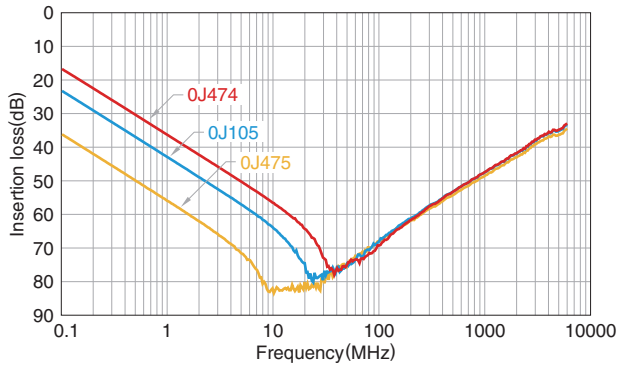
CHARACTERISTICS SPECIFICATION TABLE

Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	DC resistance (Max.) Rdc (mΩ)	Operating temperature range (°C)	Storage temperature range (After mount) (°C)	Part No.
0.2 to 2000	6.3	4	12	–55 to +85	–55 to +85	YFF18PW0J475MT0H0N
0.2 to 2000	6.3	4	12	–55 to +85	–55 to +85	YFF18PW0J475MT0H9N
0.8 to 2000	6.3	4	30	–55 to +105	–55 to +105	YFF18PW0J105MT0H0N
0.8 to 2000	6.3	4	30	–55 to +105	–55 to +105	YFF18PW0J105MT0H9N
2 to 2000	6.3	4	30	–55 to +125	–55 to +125	YFF18PW0J474MT0H0N
2 to 2000	6.3	4	30	–55 to +125	–55 to +125	YFF18PW0J474MT0H9N

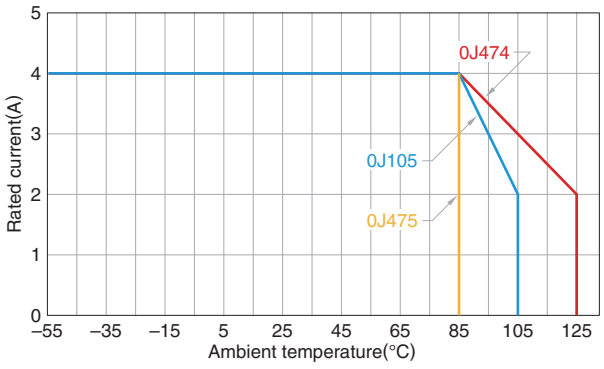
Click the part number for details.

ELECTRICAL CHARACTERISTICS GRAPH

INSERTION LOSS VS. FREQUENCY CHARACTERISTICS

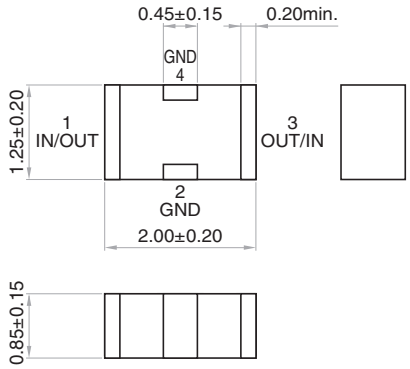


RATED CURRENT VS. TEMPERATURE CHARACTERISTICS (DERATING)

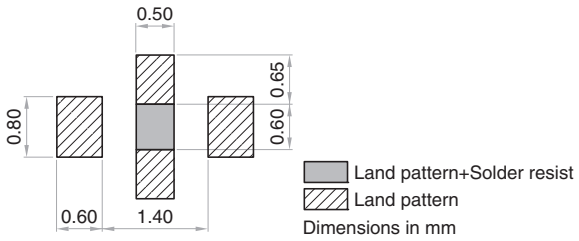


YFF-P series YFF21PC type

SHAPE & DIMENSIONS



RECOMMENDED LAND PATTERN



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ELECTRICAL CHARACTERISTICS

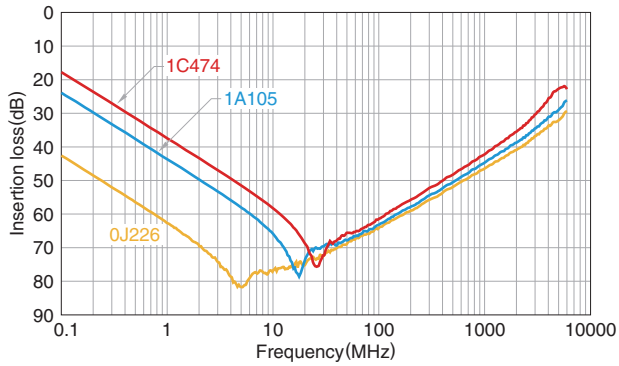
CHARACTERISTICS SPECIFICATION TABLE

Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	DC resistance (Max.) Rdc (mΩ)	Operating temperature range (°C)	Storage temperature range (After mount) (°C)	Part No.
0.04 to 1000	6.3	4	5	–55 to +85	–55 to +85	YFF21PC0J226MT000N
0.04 to 1000	6.3	4	5	–55 to +85	–55 to +85	YFF21PC0J226MT009N
0.7 to 1000	10	4	12	–55 to +85	–55 to +85	YFF21PC1A105MT000N
0.7 to 1000	10	4	12	–55 to +85	–55 to +85	YFF21PC1A105MT009N
2 to 1000	16	2	30	–55 to +125	–55 to +125	YFF21PC1C474MT000N
2 to 1000	16	2	30	–55 to +125	–55 to +125	YFF21PC1C474MT009N

Click the part number for details.

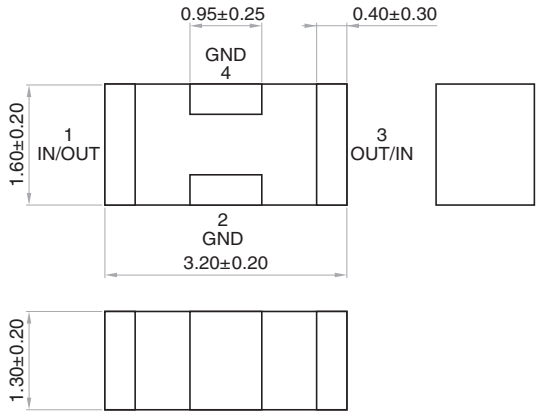
ELECTRICAL CHARACTERISTICS GRAPH

INSERTION LOSS VS. FREQUENCY CHARACTERISTICS

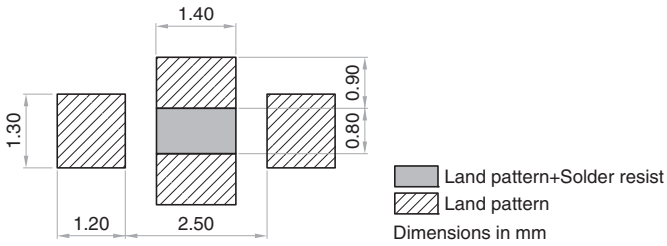


YFF-P series YFF31PC type

SHAPE & DIMENSIONS



RECOMMENDED LAND PATTERN



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ELECTRICAL CHARACTERISTICS

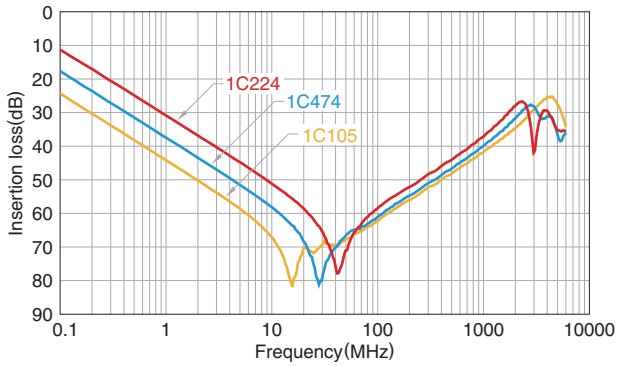
CHARACTERISTICS SPECIFICATION TABLE

Insertion loss 40dB bandwidth (MHz)	Rated voltage Edc (V)	Rated current Idc (A)	DC resistance (Max.) Rdc (mΩ)	Operating temperature range (°C)	Storage temperature range (After mount) (°C)	Part No.
0.7 to 1000	16	2	40	–55 to +125	–55 to +125	YFF31PC1C105MT000N
0.7 to 1000	16	2	40	–55 to +125	–55 to +125	YFF31PC1C105MT009N
2 to 1000	16	2	40	–55 to +125	–55 to +125	YFF31PC1C474MT000N
2 to 1000	16	2	40	–55 to +125	–55 to +125	YFF31PC1C474MT009N
3 to 600	16	2	40	–55 to +125	–55 to +125	YFF31PC1C224MT000N
3 to 600	16	2	40	–55 to +125	–55 to +125	YFF31PC1C224MT009N

Click the part number for details.

ELECTRICAL CHARACTERISTICS GRAPH

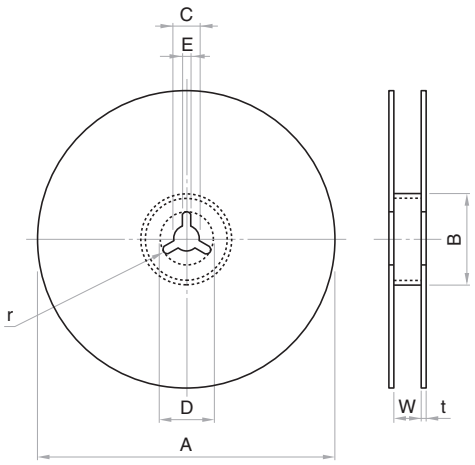
INSERTION LOSS VS. FREQUENCY CHARACTERISTICS



YFF-P series

Packaging style

REEL DIMENSIONS

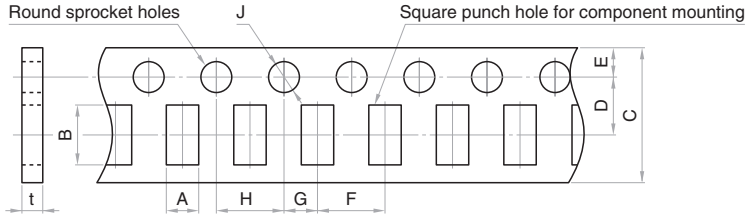


Unit: mm

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±0.05	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

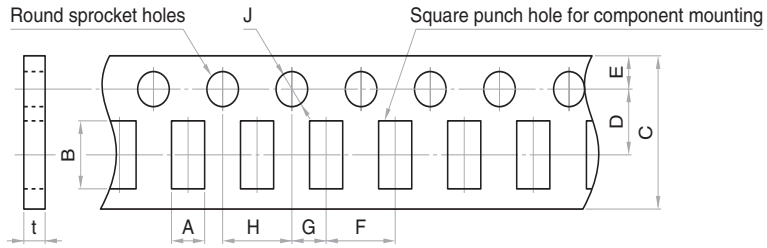
Paper tape



Unit: mm

Type	A	B	C	D	E	F	G	H	J	t
YFF15PC	0.62 typ.	1.12 typ.	8.00±0.30	3.50±0.05	1.75±0.10	2.00±0.05	2.00±0.05	4.00±0.10	ø1.5+0.1/–0	0.7 max.
YFF15PC0G435M	0.75 typ	1.18 typ.								
YFF18PC YFF18PH YFF18PW	1.10 typ.	1.90 typ.	8.00±0.30	3.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	ø1.5+0.1/–0	1.2 max.
YFF21PC	1.50 typ.	2.30 typ.	8.00±0.30	3.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	ø1.5+0.1/–0	1.2 max.

Plastic tape



Unit: mm

Type	A	B	C	D	E	F	G	H	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.