

3-terminal filters

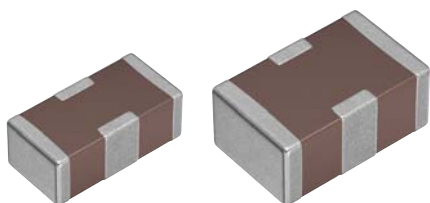
For automotive general use

YFF-AC series

YFF18AC **1608 [0603 inch]** **Feed through filter**

YFF21AC **2012 [0805 inch]** **Feed through filter**

* 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 this products.

REMINDERS

1. The products listed in this specification are intended for use in automotive applications under normal operation and usage conditions. The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality requires a more stringent level of safety or reliability, or whose failure, malfunction or defect could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet. 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 this specification, please contact us.

- | | |
|---|--|
| (1) Aerospace/aviation equipment | (8) Public information-processing equipment |
| (2) Transportation equipment (electric trains, ships, etc.) | (9) Military equipment |
| (3) Medical equipment | (10) Electric heating apparatus, burning equipment |
| (4) Power-generation control equipment | (11) Disaster prevention/crime prevention equipment |
| (5) Atomic energy-related equipment | (12) Safety equipment |
| (6) Seabed equipment | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment | |

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.

In addition, although the products listed in this specification are intended for use in automotive applications as described above, they are not prohibited to use in general electronic equipment, whose performance and/or quality doesn't require a more stringent level of safety or reliability, or whose failure, malfunction or defect could not cause serious damage to society, person or property. Therefore, the description of this caution will be applied, when the products are used in general electronic equipment under a normal operation and usage conditions.

2. We may modify products or discontinue production of a product listed in this catalog without prior notification.
3. We provide "Delivery Specification" that explain precautions for the specifications and safety of each product listed in this catalog. We strongly recommend that you exchange these delivery specifications with customers that use one of these products.
4. If you plan to export a product listed in this catalog, keep in mind that it may be a restricted item according to the "Foreign Exchange and Foreign Trade Control Law". In such cases, it is necessary to acquire export permission in harmony with this law.
5. Any reproduction or transferring of the contents of this catalog is prohibited without prior permission from our company.
6. We are not responsible for problems that occur related to the intellectual property rights or other rights of our company or a third party when you use a product listed in this catalog. We do not grant license of these rights.
7. This catalog only applies to products purchased through our company or one of our company's official agencies. This catalog does not apply to products that are purchased through other third parties.

3-terminal filters

For automotive general use

Overview of the YFF-AC series



SERIES OVERVIEW

TDK 3-terminal feed through filter_YFF-AC series is a product which has feed through structure that the direct current goes through inside the component. This structure makes the distance from the product to GND shorter and reduces the ESL. Parallel effect by GND electrodes at both sides provides low ESL.

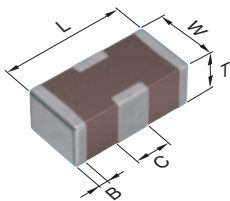
FEATURES

- Small and high-performance EMC components for automotive applications. And good attenuation characteristic in wide bandwidth.
- Very effective for the decoupling use. The number of decoupling MLCCs can be decreased because the impedance is lower than 2-terminal MLCC.
- AEC-Q200 compliant.

APPLICATIONS

- EMC countermeasure and decoupling use in power lines for automotive applications such as ADAS, Autonomous driving system, ECUs, etc.

SHAPE & DIMENSIONS



| | |
|---|--------------------|
| L | Body length |
| W | Body width |
| T | Body height |
| B | Terminal width |
| C | GND terminal width |

*See P-5 to P-6 for details of each dimension.

PRODUCT STRUCTURE



The feed through structure that the direct current goes through inside the component. This structure makes the distance from the product to GND shorter and reduces the ESL. Parallel effect by GND electrodes at both

○ 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.

CATALOG NUMBER CONSTRUCTION

| | | | | | | | | | |
|------------|-----------|-----------|-----------|------------|----------|----------|-----------|---|----------|
| YFF | 18 | AC | 0J | 105 | M | T | 0Y |  | E |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |

(1) Series

(2) Dimensions L x W (mm)

| Code | EIA | Length | Width | Terminal width |
|------|------|--------|-------|----------------|
| 18 | 0603 | 1.60 | 0.80 | 0.25 |
| 21 | 0805 | 2.00 | 1.25 | 0.30 |

(3) Product internal code

| Symbol | Description |
|--------|----------------------------|
| AC | For automotive general use |

(4) Rated voltage (DC)

| Code | Voltage (DC) |
|------|--------------|
| 0J | 6.3V |
| 1C | 16V |
| 1E | 25V |
| 1H | 50V |

(5) Nominal capacitance (pF)

The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier.

(Example) 101 = 100pF
 222 = 2,200pF
 105 = 1,000,000pF = 1.0μF

(6) Capacitance tolerance

| Code | Tolerance |
|------|-----------|
| M | ±20% |

(7) Packaging style

| Code | Style |
|------|--------|
| T | Taping |

(8) Internal code

| Code | Description |
|------|-------------------|
| 0Y | TDK internal code |

(9) Reel size (mm)

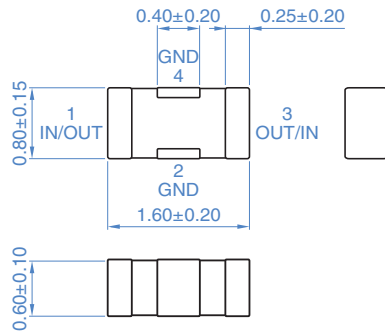
| Code | Size |
|------|------|
| 0 | ø178 |
| 9 | ø330 |

(10) Internal electrode

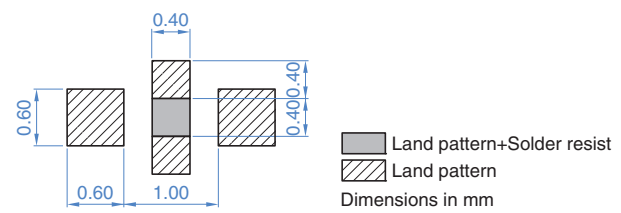
| Code | Description |
|------|-------------|
| E, N | Ni |

YFF-AC series YFF18AC 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 TABLE

| Cutoff frequency (MHz) | Insertion loss 30dB bandwidth (MHz) | Rated voltage Edc (V) | Rated current Idc (A) | Operating temperature range (°C) | Storage temperature range (After mount) (°C) | Part No.* |
|------------------------|-------------------------------------|-----------------------|-----------------------|----------------------------------|--|------------------------------------|
| 0.1 | 0.23 to 3000 | 6.3 | 2 | -55 to +125 | -55 to +125 | YFF18AC0J105MT0Y0E |
| 0.1 | 0.23 to 3000 | 6.3 | 2 | -55 to +125 | -55 to +125 | YFF18AC0J105MT0Y9E |
| 0.1 | 2 to 4000 | 16 | 1 | -55 to +125 | -55 to +125 | YFF18AC1C104MT0Y0N |
| 0.1 | 2 to 4000 | 16 | 1 | -55 to +125 | -55 to +125 | YFF18AC1C104MT0Y9N |
| 0.3 | 10 to 3000 | 25 | 1 | -55 to +125 | -55 to +125 | YFF18AC1E223MT0Y0N |
| 0.3 | 10 to 3000 | 25 | 1 | -55 to +125 | -55 to +125 | YFF18AC1E223MT0Y9N |
| 0.6 | 20 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H103MT0Y0N |
| 0.6 | 20 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H103MT0Y9N |
| 1 | 40 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H472MT0Y0N |
| 1 | 40 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H472MT0Y9N |
| 2 | 90 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H222MT0Y0N |
| 2 | 90 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H222MT0Y9N |
| 6 | 200 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H102MT0Y0N |
| 6 | 200 to 3000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H102MT0Y9N |
| 10 | 400 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H471MT0Y0N |
| 10 | 400 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H471MT0Y9N |
| 20 | 800 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H221MT0Y0N |
| 20 | 800 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H221MT0Y9N |
| 60 | 1500 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H101MT0Y0N |
| 60 | 1500 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H101MT0Y9N |
| 100 | 2000 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H470MT0Y0N |
| 100 | 2000 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H470MT0Y9N |
| 200 | 4000 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H220MT0Y0N |
| 200 | 4000 to 6000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF18AC1H220MT0Y9N |

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

YFF-AC series YFF18AC type (Feed through filter)

■ INSERTION LOSS VS. FREQUENCY CHARACTERISTICS



 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.

YFF-AC series YFF21AC 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

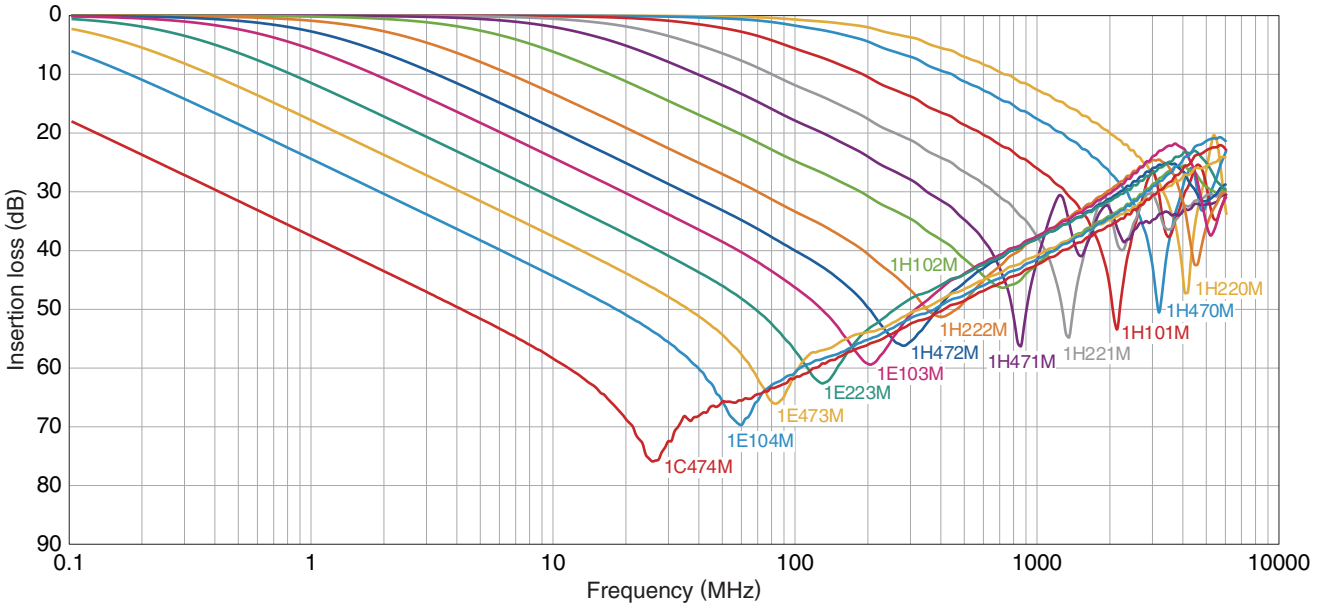
CHARACTERISTICS SPECIFICATION TABLE

| Cutoff frequency (MHz) | Insertion loss 30dB bandwidth (MHz) | Rated voltage Edc (V) | Rated current Idc (A) | Operating temperature range (°C) | Storage temperature range (After mount) (°C) | Part No.* |
|------------------------|-------------------------------------|-----------------------|-----------------------|----------------------------------|--|------------------------------------|
| 0.1 | 0.4 to 3000 | 16 | 1 | -55 to +125 | -55 to +125 | YFF21AC1C474MT0Y0N |
| 0.1 | 0.4 to 3000 | 16 | 1 | -55 to +125 | -55 to +125 | YFF21AC1C474MT0Y9N |
| 0.1 | 2 to 2500 | 25 | 1 | -55 to +125 | -55 to +125 | YFF21AC1E104MT0Y0N |
| 0.1 | 2 to 2500 | 25 | 1 | -55 to +125 | -55 to +125 | YFF21AC1E104MT0Y9N |
| 0.1 | 5 to 2000 | 25 | 1 | -55 to +125 | -55 to +125 | YFF21AC1E473MT0Y0N |
| 0.1 | 5 to 2000 | 25 | 1 | -55 to +125 | -55 to +125 | YFF21AC1E473MT0Y9N |
| 0.2 | 10 to 2000 | 25 | 1 | -55 to +125 | -55 to +125 | YFF21AC1E223MT0Y0N |
| 0.2 | 10 to 2000 | 25 | 1 | -55 to +125 | -55 to +125 | YFF21AC1E223MT0Y9N |
| 0.5 | 20 to 2000 | 25 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1E103MT0Y0N |
| 0.5 | 20 to 2000 | 25 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1E103MT0Y9N |
| 1 | 40 to 2000 | 50 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1H472MT0Y0N |
| 1 | 40 to 2000 | 50 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1H472MT0Y9N |
| 2 | 70 to 2000 | 50 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1H222MT0Y0N |
| 2 | 70 to 2000 | 50 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1H222MT0Y9N |
| 5 | 200 to 2000 | 50 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1H102MT0Y0N |
| 5 | 200 to 2000 | 50 | 0.4 | -55 to +125 | -55 to +125 | YFF21AC1H102MT0Y9N |
| 10 | 400 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H471MT0Y0N |
| 10 | 400 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H471MT0Y9N |
| 20 | 700 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H221MT0Y0N |
| 20 | 700 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H221MT0Y9N |
| 50 | 1000 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H101MT0Y0N |
| 50 | 1000 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H101MT0Y9N |
| 100 | 2000 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H470MT0Y0N |
| 100 | 2000 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H470MT0Y9N |
| 200 | 3000 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H220MT0Y0N |
| 200 | 3000 to 5000 | 50 | 1 | -55 to +125 | -55 to +125 | YFF21AC1H220MT0Y9N |

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

YFF-AC series YFF21AC type (Feed through filter)

■ INSERTION LOSS VS. FREQUENCY CHARACTERISTICS



 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.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.