

Noise suppression filter

For audio lines (For Bluetooth Band, WiFi Band)

MAF series



MAF0603FA type



FEATURES

- A compact noise suppression component for audio lines that accommodates high currents.
- Small reductions in volume due to its low resistance, and optimal for devices that require high sound quality as the generating of sound distortions is controlled.
- It is highly effective in suppressing harmonic noise (Bluetooth, WiFi, cellular band) by a Class-D amplifier.
- Operating temperature range: -55 to +125°C

APPLICATION

- Sound lines for devices such as TWS(True Wireless Stereo), Bluetooth headset, hearing aids, headset, smartphones, tablets and wearable equipments (earphones, microphones, and speakers).
- Sound lines for portable game machines.

PART NUMBER CONSTRUCTION

MAF	0603	F	AL	470	B	T	000
Series name	LxWxT dimensions 0.6x0.3x0.3 mm	Characteristics	Internal code	Impedance (Ω) at 100MHz	Type	Packaging style	Internal code

CHARACTERISTICS SPECIFICATION TABLE

Impedance [100MHz]		DC resistance	Rated current	Part No.
(Ω)	Tolerance	(Ω)max.	(mA)max.	
33	±25%	0.70	200	MAF0603FAL330BT000
47	±25%	0.70	200	MAF0603FAL470BT000

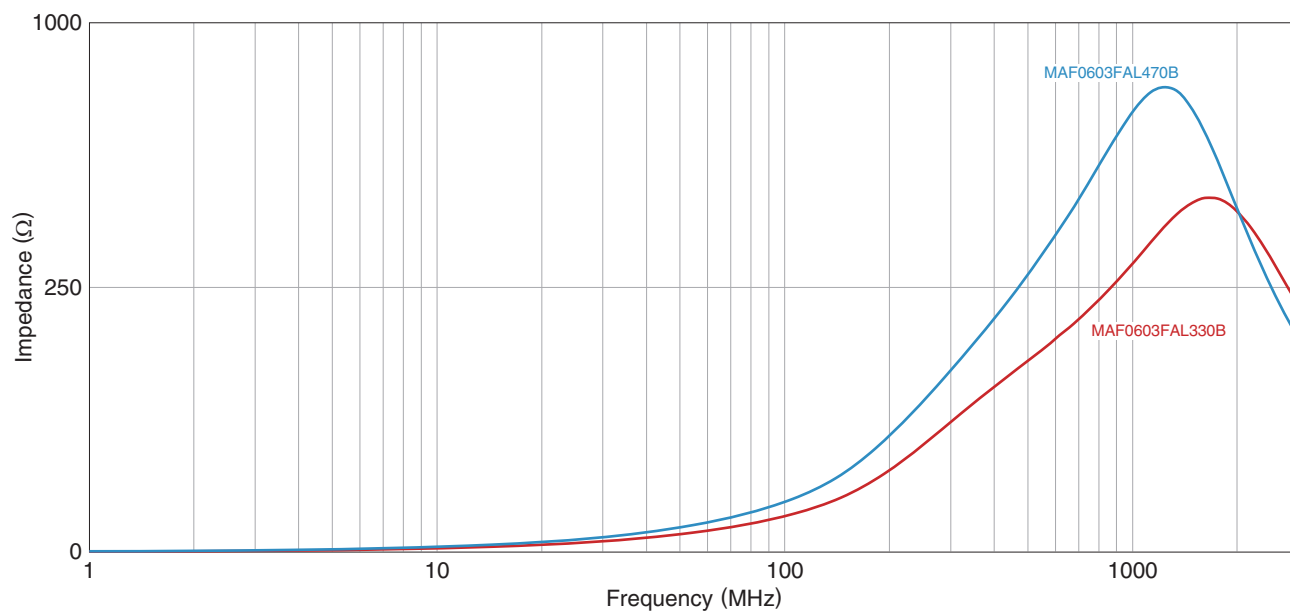
Measurement equipment

Measurement item	Product No.	Manufacturer
Impedance	E4991A+16197	Keysight Technologies
DC resistance	Type-7556	Yokogawa

* Equivalent measurement equipment may be used.

MAF0603FA type

Z FREQUENCY CHARACTERISTICS

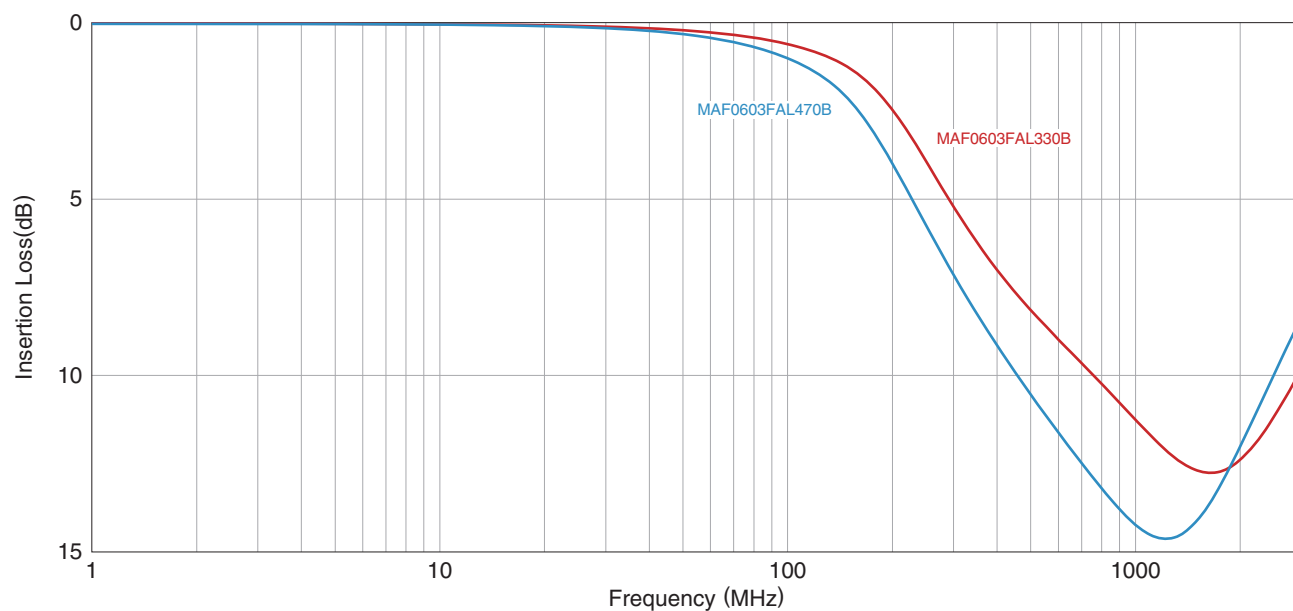


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INSERTION LOSS VS. FREQUENCY CHARACTERISTICS



■ SHAPE & DIMENSIONS



Dimensions in mm

The graph illustrates the temperature profile over time for a heat treatment process. The y-axis represents Temperature and the x-axis represents Time. The process is divided into four distinct stages:

- Preheating:** The temperature rises from 150°C to 180°C. This stage is shaded light blue and has a duration of 60 to 120 seconds.
- Soldering:** The temperature continues to rise from 180°C to 230°C. This stage is also shaded light blue and has a duration of 30 to 60 seconds.
- Peak:** The temperature reaches its maximum, ranging from 250°C to 260°C. This stage is shaded a darker blue and has a duration of 10 seconds.
- Natural cooling:** The temperature decreases from 230°C and above. This stage is not shaded.

Key temperature points and durations are marked on the graph:

- 150°C: Start of the preheating stage.
- 180°C: End of the preheating stage and start of the soldering stage.
- 230°C: End of the soldering stage and start of the peak stage.
- 250 to 260°C: Temperature range during the peak stage.
- 10s: Duration of the peak stage.
- 60 to 120s: Duration of the preheating stage.
- 30 to 60s: Duration of the soldering stage.

□ REEL DIMENSIONS



Dimensions in mm

Dimensions in mm

* The storage temperature range is for after the assembly.

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

- The storage period is within 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 (cars, 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.