EMC Components

Noise suppression filter For audio lines (Cellular band suppression) MAF series



MAF1608G type



FEATURES

- O A compact noise suppression component for audio lines that accommodates high currents.
- O Distortions are greatly reduced during insertion with the adoption of newly-developed low distortion ferrite materials.
- 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.
- Shows excellent effects in measures against the deterioration of the receiving sensitivity of wireless devices due to high attenuation characteristics in the cellular band.
- O High efficacy is put for high frequency noise suppression of class-D amplifier harmonics.
- Operating temperature range: -55 to +125°C

APPLICATION

O Sound lines for devices such as smartphones and tablets (earphones, microphones, and speakers).

○ Sound lines for portable game machines.

PART NUMBER CONSTRUCTION

| MAF | | 1608 | G | AD | 471 | С | Т | 000 |
|-------|--------|------------------------------------------------------|-----------------|------------------|----------------------------|------------------|--------------------|---------------|
| Serie | s name | L×W×T dimensions 1.6×0.8x0.6 mm 1.6×0.8x0.8 mm | Characteristics | Internal code | Impedance (Ω) at 900MHz | Internal code | Packaging style | Internal code |

CHARACTERISTICS SPECIFICATION TABLE

| Impedance | | | | ince | Rated current* | Thickness | Part No. |
|-------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [900MHz] | | [1.7GHz] | | | | | |
| (Ω)Τyp. | (Ω)min. | (Ω)Τyp. | (Ω)Τyp. | (Ω)max. | (A)max. | (mm)max. | |
| 120 | 72 | 90 | 0.021 | 0.027 | 3.2 | 0.75 | MAF1608GAD121LTAH0 |
| 200 | 120 | 160 | 0.045 | 0.059 | 2.3 | 0.75 | MAF1608GAD201LTAH0 |
| 470 | 290 | 350 | 0.060 | 0.075 | 1.6 | 0.75 | MAF1608GAD471LTAH0 |
| 470 | 290 | 270 | 0.060 | 0.075 | 1.6 | 0.95 | MAF1608GAD471CT000 |
| 600 | 400 | 270 | 0.110 | 0.150 | 1.0 | 0.95 | MAF1608GAD601CT000 |
| | [900MHz] (Ω)Typ. 120 200 470 470 | [900MHz] (Ω)min. 120 72 200 120 470 290 470 290 | [900MHz] [1.7GHz] (Ω)Typ. (Ω)min. (Ω)Typ. 120 72 90 200 120 160 470 290 350 470 290 270 | [900MHz] [1.7GHz] (Ω)Typ. (Ω)min. (Ω)Typ. (Ω)Typ. 120 72 90 0.021 200 120 160 0.045 470 290 350 0.060 470 290 270 0.060 | [900MHz] [1.7GHz] (Ω)Typ. (Ω)min. (Ω)Typ. (Ω)Typ. (Ω)max. 120 72 90 0.021 0.027 200 120 160 0.045 0.059 470 290 350 0.060 0.075 470 290 270 0.060 0.075 | [900MHz] [1.7GHz] (Ω)Typ. (Ω)min. (Ω)Typ. (Ω)Typ. (Ω)max. (A)max. 120 72 90 0.021 0.027 3.2 200 120 160 0.045 0.059 2.3 470 290 350 0.060 0.075 1.6 | [900MHz] [1.7GHz] (Ω)Typ. (Ω)Typ. (Ω)min. (Ω)Typ. (Ω)Typ. (Ω)max. (A)max. (mm)max. 120 72 90 0.021 0.027 3.2 0.75 200 120 160 0.045 0.059 2.3 0.75 470 290 350 0.060 0.075 1.6 0.95 |

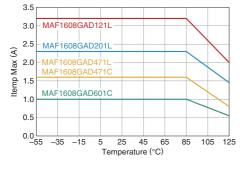
*Please refer to the graph of rated current vs. temperature characteristics (derating) about the rating current at 85°C or more in temperature of the product.

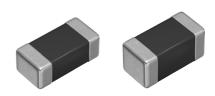
Measurement equipment

| Measurement item | Product No. | Manufacturer | | |
|------------------------------------------------|---------------|-----------------------|--|--|
| Impedance | E4991A+16192A | Keysight Technologies | | |
| DC resistance | Type-7556 | Yokogawa | | |
| * Equivalent measurement equipment may be used | | | | |

* Equivalent measurement equipment may be used.

Rated current vs. temperature characteristics (derating)



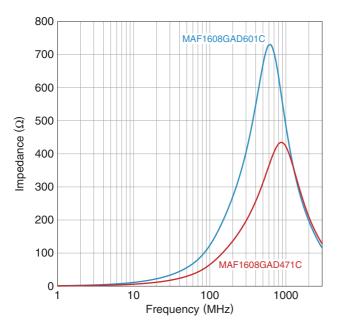


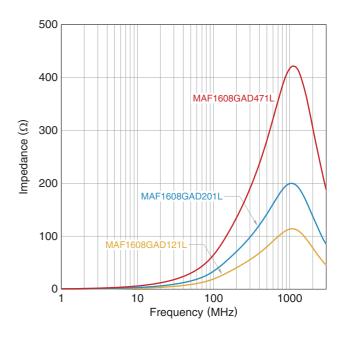
Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. (1/4) Please note that the contents may change without any prior notice due to reasons such as upgrading.

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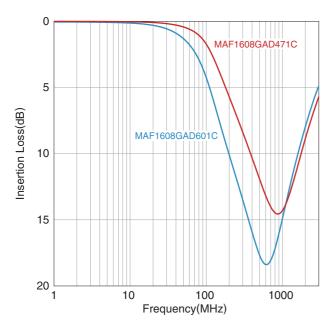
MAF1608G type

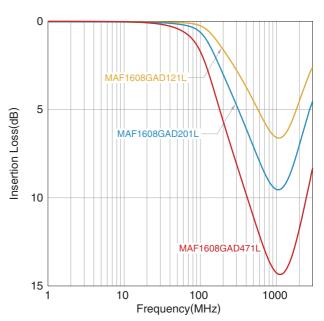
Z VS. FREQUENCY CHARACTERISTICS





■INSERTION LOSS VS. FREQUENCY CHARACTERISTICS





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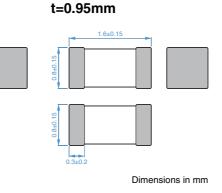
MAF1608G type

SHAPE & DIMENSIONS

1.6±0.15

t=0.75mm

1 0 05



Soldering

Peak 250 to 260°C

10s

30 to 60s

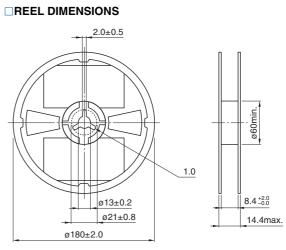
230°C

180°C

Natural cooling

230°C

PACKAGING STYLE



Dimensions in mm

RECOMMENDED LAND PATTERN

RECOMMENDED REFLOW PROFILE

Preheating

60 to 120s

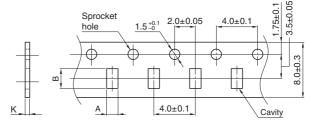


Temperature

150°C

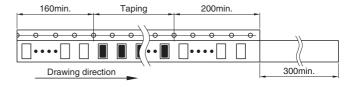
Dimensions in mm





Dimensions in mm

| Туре | А | В | К |
|----------|---------|---------|---------|
| MAF1608G | 1.1±0.2 | 1.9±0.2 | 1.1max. |



Dimensions in mm

PACKAGE QUANTITY

Package quantity 4,000 pcs/reel

TEMPERATURE RANGE, INDIVIDUAL WEIGHT

| Туре | Operating temperature range | Storage temperature range* | Individual weight |
|----------|-----------------------------|-------------------------------|----------------------|
| t=0.75mm | –55 to +125 °C | –55 to +125 °C | 3 mg |
| t=0.95mm | –55 to +125 °C | –55 to +125 °C | 4 mg |
| | | | |

* The storage temperature range is for after the assembly.

A Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. (3/4) Please note that the contents may change without any prior notice due to reasons such as upgrading.

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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 products.

| 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 does not exceed 150°C. | e difference between the solder temperature and chip temperature | | | | | |
| 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 tur design. | rned ON, so the tolerance should be sufficient for the set thermal | | | | | |
| Carefully lay out the coil for the circuit board design of the non-mag A malfunction may occur due to magnetic interference. | netic shield type. | | | | | |
| \bigcirc Use a wrist band to discharge static electricity in your body through | the grounding wire. | | | | | |
| \bigcirc Do not expose the products to magnets or magnetic fields. | | | | | | |
| \bigcirc Do not use for a purpose outside of the contents regulated in the definition of the contents regulated in the definition of the content | elivery specifications. | | | | | |
| ment, industrial robots) under a normal operation and use condition The products are not designed or warranted to meet the requirement ity require a more stringent level of safety or reliability, or whose fail person or property. | nent, personal equipment, office equipment, measurement equip- | | | | | |
| (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 When designing your equipment even for general-purpose application tection circuit/device or providing backup circuits in your 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 | | | | | |

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