

Noise suppression filter

For UHF band noise suppression

MDF series (for automotive)



AEC-Q200

MDF1005 type



FEATURES

- It is a small filter best suited for high frequency isolation.
- DC superposition characteristics of good impedance were realized.
- Contribute to high frequency radiation noise (0.7 to 2.4 GHz).
- With a rated current of 400mA at 125°C, 1000W or more (@1GHz) has been achieved with 1005 shape.

APPLICATION

- ADAS circuit/BUS line
- Telematics unit (C-V2X, e-call etc.)

PART NUMBER CONSTRUCTION

MDF	1005	G	AD	102	A	T	D25
Series name	LxWxT dimensions 1.0x0.5x0.5 mm	Characteristics	Internal code	Impedance (Ω) at 900MHz	Type	Packaging style	Internal code

CHARACTERISTICS SPECIFICATION TABLE

Impedance		DC resistance		Rated current		Part No.
[100MHz] (Ω)Typ.	[900MHz] (Ω)Typ.	(Ω)Typ.	(Ω)max.	85°C (mA) max.	105°C (mA) max.	125°C (mA) max.
190	1000	0.530	0.690	550	480	400

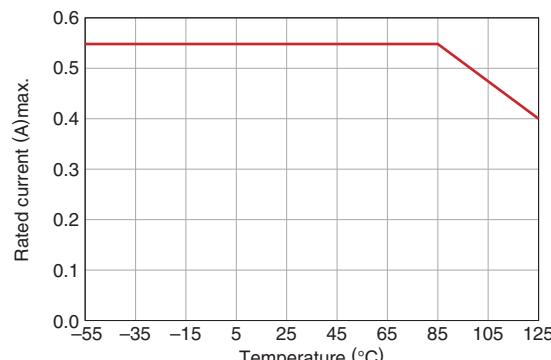
* Please refer to the graph of rated current vs. temperature characteristics (derating) about the rating current at 85°C or more in temperature of the product.

Measurement equipment

Measurement item	Product No.	Manufacturer
Impedance	E4991A+16192A	Keysight Technologies
DC resistance	Type-7556	Yokogawa

* Equivalent measurement equipment may be used.

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.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

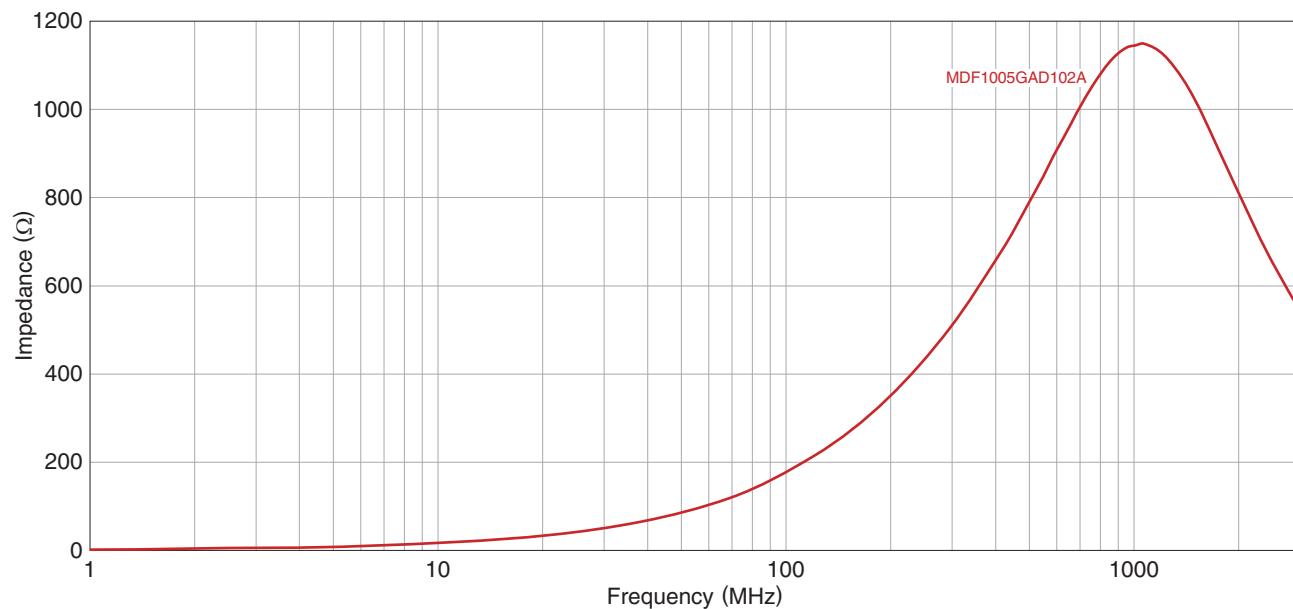
(1/4)

20231106

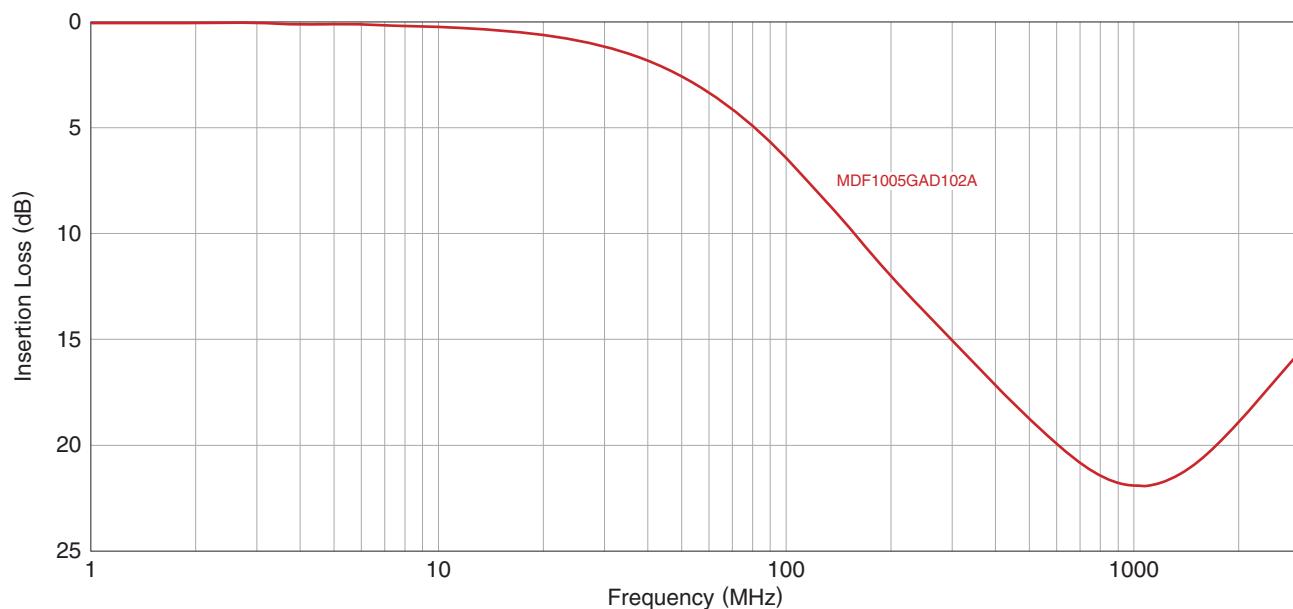
suppression-filter_automotive_mdf1005_en

MDF1005 type

■ Z FREQUENCY CHARACTERISTICS

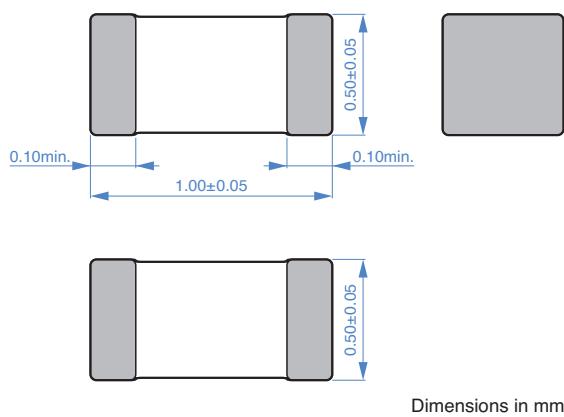


■ INSERTION LOSS VS. FREQUENCY CHARACTERISTICS



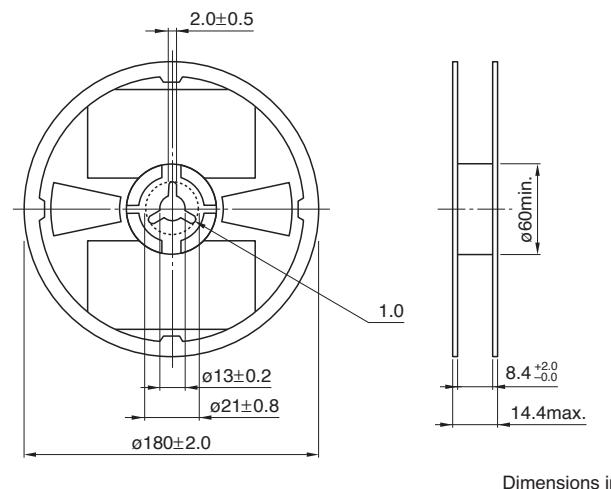
MDF1005 type

■ SHAPE & DIMENSIONS

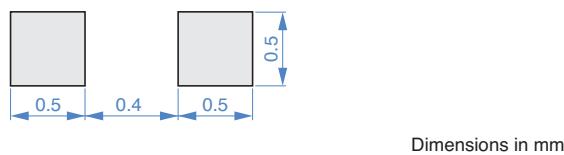


■ PACKAGING STYLE

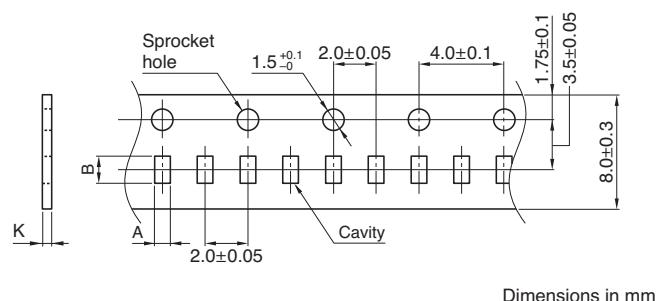
□ REEL DIMENSIONS



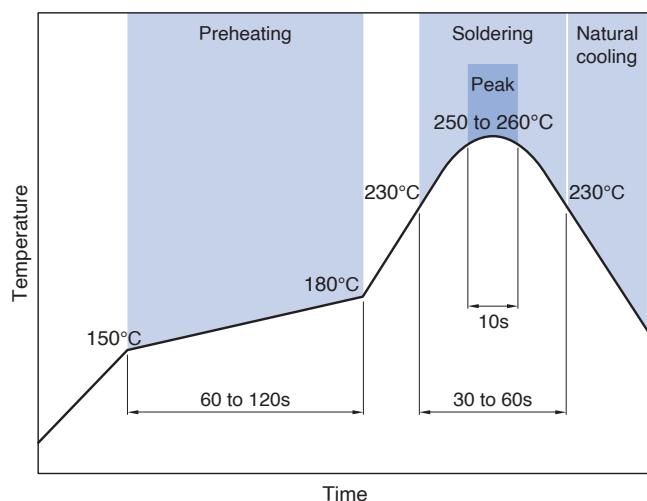
■ RECOMMENDED LAND PATTERN



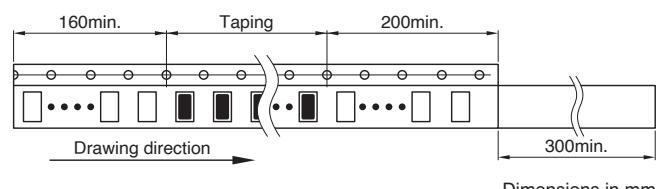
□ TAPE DIMENSIONS



■ RECOMMENDED REFLOW PROFILE



Type	A	B	K
MDF1005	0.65±0.1	1.15±0.1	0.8max.



□ PACKAGE QUANTITY

Package quantity	10,000 pcs/reel
------------------	-----------------

■ TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Operating temperature range	Storage temperature range *	Individual weight
-55 to +125°C	-55 to +125°C	1 mg

* The storage temperature range is for after the assembly.

 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.

(3/4)

20231106

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.).
- 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 described in this catalog are intended to be installed in automobiles or automotive electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) and to be used in automobiles (including the case where the said automotive product is mounted in a vehicle) or standard applications as general electronic equipment in automotive applications or standard applications as general electronic equipment in automotive applications in accordance with the scope and conditions described in this specification, while the said automotive or general electronic equipment including the said product is intended to be used in the usual operation and usage methods, respectively. Other than automotive or automotive 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 | (7) Transportation control equipment |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (8) Public information-processing equipment |
| (3) Medical equipment | (9) Military equipment |
| (4) Power-generation control equipment | (10) Electric heating apparatus, burning equipment |
| (5) Atomic energy-related equipment | (11) Disaster prevention/crime prevention equipment |
| (6) Seabed 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.