

Amorphous metal and NIPPON CHEMI-CON Amorphous Choke Coil

The amorphous metal has non crystalline structure generated by cooling molten metal rapidly.

Due to the amorphous structure, the amorphous metal has excellent magnetic, mechanical, and chemical features in comparison with conventional metallic substances.

NIPPON CHEMI-CON started developing amorphous components for electronic and electric equipment by making full use of the material and process technologies at its early stages and has continued the synthetic research and development to optimally match the amorphous choke coils with the material features and their applications through a variety of characteristics. NIPPON CHEMI-CON will help the customers design smaller and higher performance products by supplying excellent amorphous choke coils through the sophisticated production technology and manufacturing know-how.

STANDARD SPECIFICATIONS

◆General Specification of Toroidal Coil

Items	Rated values of Amorphous coils and Nanocrystalline coils	Dust coils Rated value
Operating temperature range *1	-40 to 130°C	-40 to 120°C (Coating type) -40 to 130°C (Case type)
Storage temperature range	-40 to 130°C	-40 to 120°C (Coating type) -40 to 130°C (Case type)
Operating humidity range *1	20 to 95%RH	
Storage humidity range	20 to 80%RH	
Operating frequency range *2	20kHz to 500kHz	
Temperature rise *3	40K or less	
Insulation type	Type B (130°C)	Type A(105°C) Coating type Type B(130°C) Case type
Incombustibility	UL 94 V-0	

*1 Temperature on the coil surface including the temperature rise in installation. Never use the coil at a temperature exceeding the rated temperature range.

*2 Recommended range. When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.

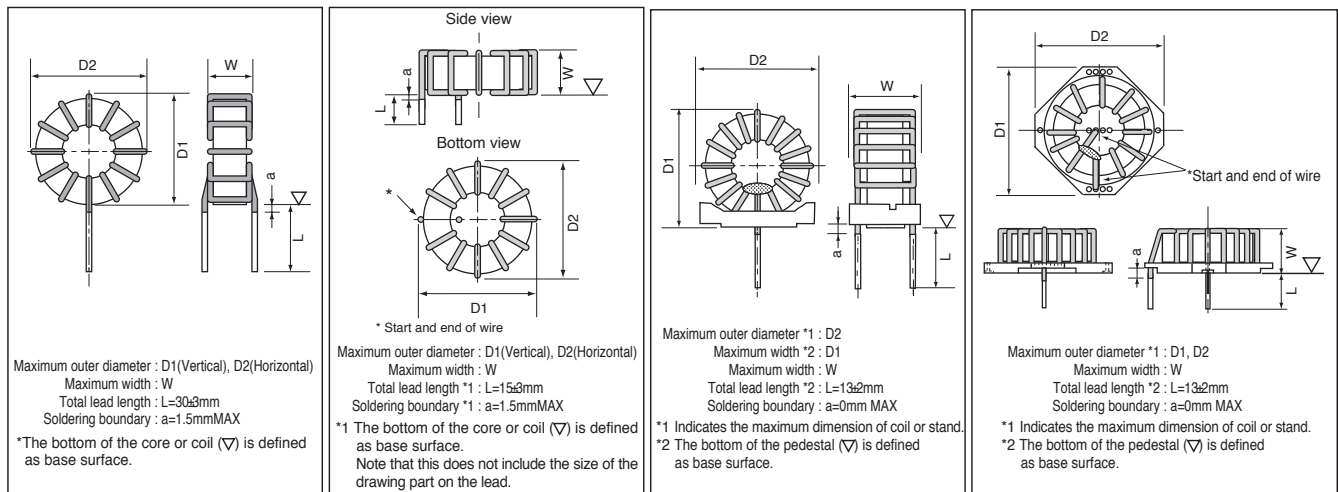
*3 The temperature rise on the coil surface at the rated d.c. current.

● The allowable tolerance of various rated inductance is as follows:

- AMORPHOUS CHOKE COILS : $\pm 25\%$
- DUST CHOKE COILS : $\pm 20\%$

Note carefully that the temperature of the core may exceed the operating temperature range depending on the circumference condition even if the coil is used in the specification ranges described above.

◆DIMENSIONS



Notes on Use

- The indicated heat-resistant temperatures are the guaranteed temperatures including coil self-generated heat.
- In high-temperature,-humidity environment, There is a possibility to occur hydrolyze and insulation deterioration.
- Common mode coils, by the unbalanced current, it may cause a magnetic saturation.
- We do not acquire safety standards with coil only.
- Ensure that you do not repeatedly apply excessive force to the lead wires or repeatedly bend them.
- Do not bang the coil against hard objects. Scratch on the coating, possibly impairing performance.
- Contact NIPPON CHEMI-CON for how to clean the substrate on which the coil is mounted.
- When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.
- The products described in this catalog have been designed and manufactured for general electronic devices, therefore, if you intend to use our products for purposes that may endanger or threaten human lives and cause damage to property if such electronic devices fail or malfunction, or have a significant impact on society, please contact our information counter in advance to consult with us before using our products.
- Response to the Substances of Concern
 - (1) Nippon Chemi-Con aims for developing products that meet laws and regulations concerning substances of concern.
(Some products may contain regulated substances for exempted application.)
Please contact us for more information about law-compliance status.
 - (2) According to the content of REACH handbook (Guidance on requirements for May 2008), our electronic components are "articles without any intended release". Therefore they are not applicable for Registration for EU REACH Regulation Article 7 (1).
Reference: Electrolytic Condenser Investigation Society
Study of REACH Regulation in EU about Electrolytic Capacitor (publicized on 13 March 2008)

Inductor (Coil) AEC-Q200 Compliance

The Automotive Electronics Council (AEC) was originally established by major American automotive related manufactures. Today, it is composed of representatives from the manufacturing companies in automotive electronic devices and components. It standardizes the certification criteria and reliability tests for electronic components.

AEC-Q200 is the reliability test standard for approval of passive components in automotive applications. It specifies the test type, parameters, quantity, etc. for each component. The criteria used in reliability tests for "Inductors(Coils/Cores)" are described in this standard.

Pursuant to the customer's specific testing requirements, Chemi-Con submits the test results according to AEC-Q200 for Inductors(Coils/Cores) used in automotive applications on request.

An electronic component manufacturer cannot simply claim that their product is "AEC-Q200 Qualified". Instead, the manufacturer may claim their components as "Compliant", "Capable", "Available", etc.

Each component must be tested depending on the customer's "Qualification Test Plan" in order to claim AEC-Q200 Qualification.

The standard products listed in the catalog are designed for general electronic equipment. If you are considering using the products for automotive use, it may be necessary to change the specifications. Please contact our sales representative for more information.