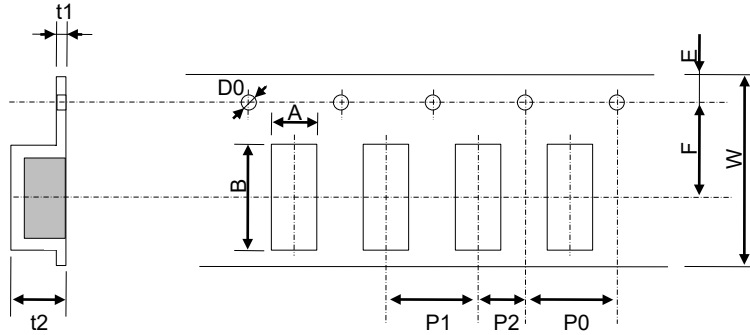


Package Form Details

■ Taping Dimensions



Unit: mm

Size	A	B	W	F	E	P1	P2	P0	D0	t1	t2
10	1.0 ± 0.2	1.9 ± 0.2	8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.1	4.0 ± 0.1	$1.5 + 0.1 / - 0$	1.1max.	1.4max.
20(T=0.8)	1.6 ± 0.3	2.3 ± 0.2								0.6max.	2.0max.
20(T=1.0)	1.6 ± 0.3	2.3 ± 0.2								1.1max.	1.4max.
31	1.7 ± 0.2	3.5 ± 0.2								0.6max.	2.5max.
30	2.0 ± 0.2	3.6 ± 0.2	12 ± 0.2	5.5 ± 0.1						1.1max.	1.4max.
32	2.9 ± 0.2									0.6max.	2.5max.
40											
41	1.8 ± 0.2	4.7 ± 0.2									

■ Package Quantity

Type	Taping Qty	Bulk Qty	Carrier Tape
CNF10,CNH10,CNR10	4,000pcs/reel	1,000pcs/bag	Paper
CNF20,CNH20 (T=0.8)	4,000pcs/reel	1,000pcs/bag	Paper
CNH20 (T=1.0)	2,000pcs/reel	1,000pcs/bag	Plastic
CNF31,CNH31	4,000pcs/reel	1,000pcs/bag	Paper
CNH30(T=0.7)	4,000pcs/reel	1,000pcs/bag	Paper
CNH30(T=1.3)	2,000pcs/reel	1,000pcs/bag	Paper
CNA30	4,000pcs/reel	1,000pcs/bag	Paper
CNH32	2,000pcs/reel	1,000pcs/bag	Plastic
CNS40	2,000pcs/reel	500pcs/bag	Plastic
CNF41,CNH41	2,000pcs/reel	1,000pcs/bag	Plastic
CNG41	2,000pcs/reel	1,000pcs/bag	Plastic

Handling Precautions

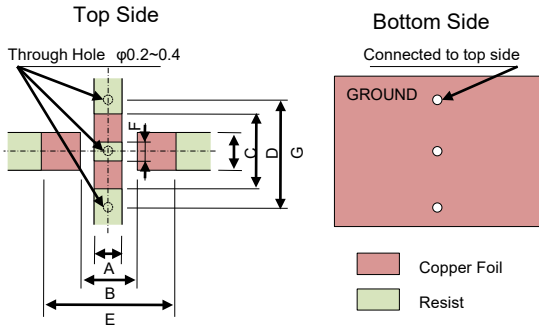
■ Soldering

1. Basic Design

Recommended board pattern

● CNF·CNH Series

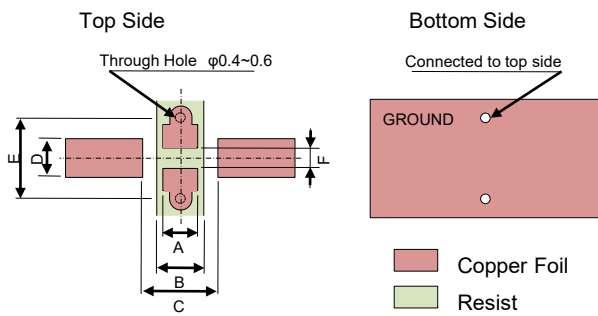
Reflow Soldering



Unit: mm

Type	CNF10 CNH10	CNF20 CNH20	CNF31 CNH31	CNH30	CNS40	CNH32	CNF41 CNH41
Style	1.6 × 0.8	2.0 × 1.25	3.2 × 1.25	3.2 × 1.6	3.2 × 2.5	3.2 × 2.5	4.5 × 1.6
A	0.5	0.6	1.3	1.3	1.5	1.3	2.0
B	1.2	1.5	2.3	2.3	2.4	2.3	3.5
C	0.8	1.0	1.2	1.3	2.5	2.1	1.3
D	1.5	1.9	2.0	2.5	3.4	3.4	2.5
E	2.4	2.8	4.0	4.0	4.0	4.0	5.5
F	0.4	0.6	0.6	0.8	1.7	1.7	0.8
G	1.8	2.5	2.6	3.1	4.0	4.0	3.3

Flow Soldering



Unit: mm

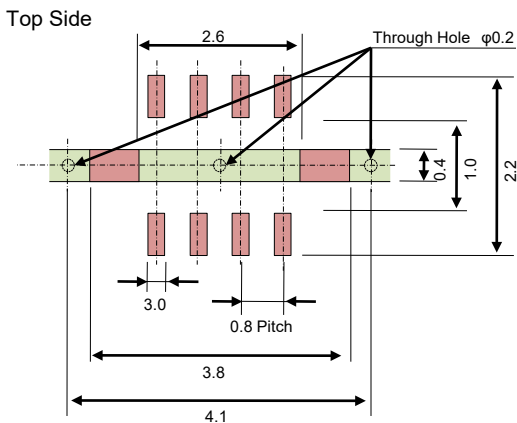
Type	CNF31 CNH31	CNH30	CNF41 CNH41
Style	3.2 × 1.25	3.2 × 1.6	4.5 × 1.6
A	1.3	1.3	1.5
B	1.5	1.5	2.0
C	2.3	2.3	3.5
D	1.2	1.3	1.3
E	3.0	3.0	3.0
F	0.6	0.6	0.6

* Depends on the products, there are only suitable for reflow soldering type. Please contact us in the case you are going to mount with flow soldering.

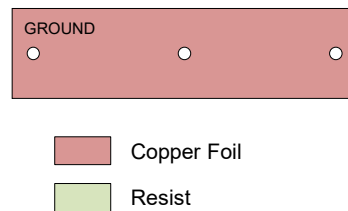
● CNA30 Series

Reflow Soldering

* CNA30 Series is used exclusively for reflow soldering.



Bottom Side

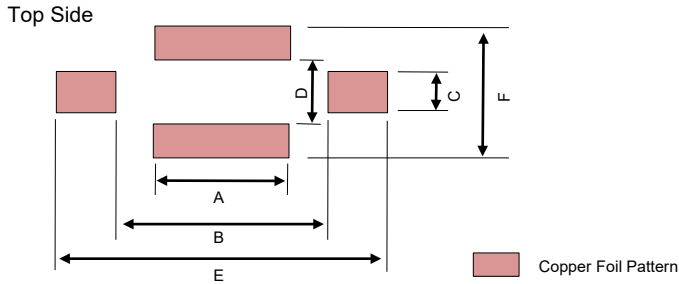


Handling Precautions

● CNG Series

Reflow Soldering

* CNG Series is used exclusively for reflow soldering.

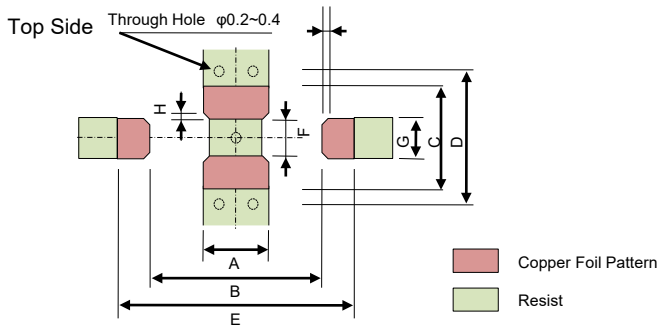


Unit: mm

Type	CNG41
Style	4.5 × 1.6
A	2.7
B	4.1
C	1.3
D	1.2
E	6.1
F	3.2

● CNR10 Series

Reflow Soldering



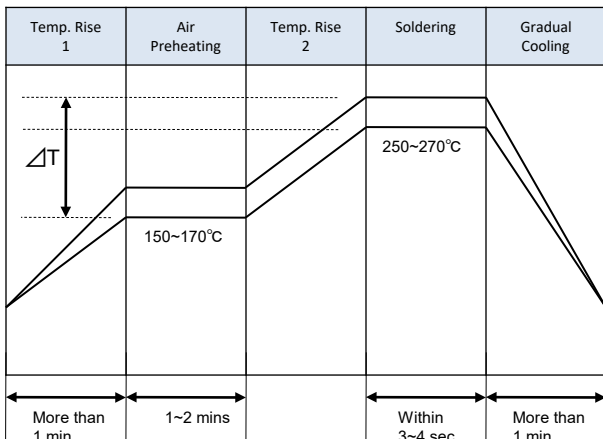
Unit: mm

Type	CNR10
Style	1.6 × 0.8
A	0.8
B	1.2
C	1.2
D	1.5
E	2.0
F	0.4
G	0.4
H	0.1
I	0.05

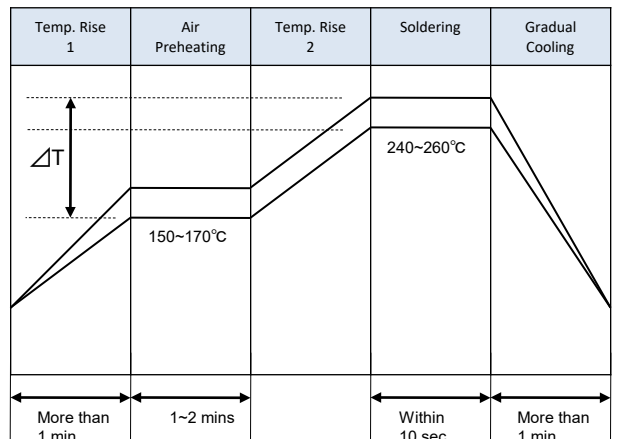
2. General cautions for soldering

- (1) For soldering, please refer to the soldering curves below.
- (2) High soldering temperature and long soldering time can cause leaching of the termination, decrease in adhesion strength, or a drop in capacitance value, etc.
- (3) As for modification by iron, touch the tip of iron and wire solder on the surface of chip outside electrode almost at the same time. Please be careful that the tip of the iron will not touch the chip directly.

① Flow Soldering Recommended Conditions (Pb-free Solder)



② Reflow Soldering Recommended Conditions (Pb-free Solder)



*Some types are available only for reflow mounting. Please contact us for flow mounting.

- (4) Please use a mild flux (containing less than 0.2wt% Cl). Also, if the flux is water soluble, be sure to wash thoroughly to remove any residue from the underside of components that could affect resistance. Otherwise, the insulation may be lost.

Handling Precautions

3. Cleaning

During the ultrasonic cleaning, the board may resonate if the output power is too high. Because this vibration can cause cracking or decrease in the adherence of the termination, we recommend the conditions below.

Frequency : 28kHz
 Output power : 20W/liter
 Cleaning time : 5 minutes max.

■ Storage / keeping

(1) Deterioration of solderability can be caused by oxidization/ sulfurization due to the high temperature, high humidity or chlorine/sulfur gas. Parts should be used within 6 months if possible and stored below 40° C and below 70% RH in an atmosphere

free of sulfur, chlorine or toxic gasses.

(2) These EMI filters are made of ceramics. Please avoid dropping or other mechanical shock that could damage the parts.

(3) The products kept in your storage for over 6 months should be used only after checking solderability.

■ Precautions for the safety use

1.The products are designed and manufactured for the use in ordinary electronic products. There is a possibility to cause performance

deterioration or failure depends on the way of using. In case of the product breaking down in short mode, capacitor itself generate

heat due to excessive current, and the circuit board may be damaged by a fire. Therefore, please talk to us in the case of these products are used in the applications/products which require high quality and reliability, where product defects or its misconduct might may directly or indirectly threaten human life or hurt human body, may damage properties etc., or may cause a social problem, please consult sales offices well in advance.

- ①aerospace equipments
- ②submarine equipments (submarine repeater, work equipments which used in the sea etc.)
- ③atomic power control system
- ④vehicle instrument including its accessories
- ⑤fuel control equipment
- ⑥other transportation equipments (vehicles, airplanes, trains, vessels and traffic rights etc.)
- ⑦safety equipment
- ⑧medical equipment (life-support equipment etc.)
- ⑨power generation control equipment
- ⑩disaster prevention and security equipment
- ⑪for military and the Defense Agency applications
- ⑫information processing equipment(communications infrastructure etc.)
- ⑬other equipments required the same quality and reliability as above equipments

2.In case of circuit design using these products, the safety for end users should be confirmed if the products have any problem.

And safety of products must be kept and the sufficient fail safe design (secure the protection circuit) must be taken consideration very well in order not to be unsafe as a system when the products are in defects by single trouble.

■ Others

■ Others

1. The names of products and their specifications listed in this catalog may be changed for improvement or the production of some products may be discontinued without any advance notice. Before using the products, please ask for specification sheet and confirm its contents.
2. The specific characteristic and quality of product are guaranteed as a single item in this catalog. When using the products, please make sure that you check and evaluate them as they are mounted on a package.
3. Our warranty does not apply to troubles that may arise as a result of using products ignoring their characteristics, ratings and the application scope described in this catalog.
4. Although we have taken all possible measures to ensure the quality and reliability of our products, there is a possibility that accidents causing injury or death, fire or social damage may occur if products are not used as instructed. If you have any questions regarding how to use the products, please consult with our customer service personnel.
5. If problem arises regarding a third party's industrial proprietary rights as a result of using this products, we will have no liability for the problem except for those related to our products' structure and production method.