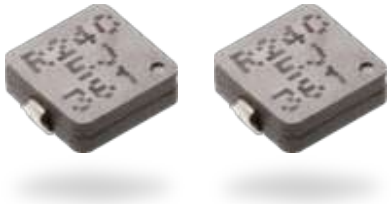
Panasonic INDUSTRY

⚠ This series is not a recommended product.
Not recommended for new design.



Power Inductors

Power Choke Coil

PCC-M0730L (MC) series

Small mounting size for multi-phase DC/DC converter circuits

Industrial property : Patents 18 (Registered 15 / Pending 3)

Features

- Small type (8.7×7.0×H3.0 mm)
- High power (22 A)
- Low loss (DCR : 1.12 mΩ)
- Tighter DCR tolerance (±7 %)
- Suitable for high frequency circuit (up to 1 MHz)
- Low buzz noise due to its gap-less structure
- Shielded construction
- RoHS compliant

Recommended applications

- Notebook and Desktop PC power supply modules
- Servers, Routers, DC/DC converters for driving CPUs

Standard packing quantity (Minimum quantity/Packing unit)

- 3,000 pcs/box（2 reel）

Explanation of part numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	T	Q	P	3	L						
Product code			Classification	Size	Winding	Inductance			Core	Packaging	Suffix

Standard parts

Part No.	Inductance (at 20℃)*1			Rated current (A)*2	Rated current (reference) (A)*3	DC resistance (at 20℃) (mΩ) max.
	L0 at 0A	L1*4				
	(μH)	(μH)	Measurement current (A)			
ETQP3LR15CFM	0.15±20 %	(0.12)	29	29	43	0.66±7 %
ETQP3LR24CFM	0.24±20 %	(0.19)	22	22	35	1.12±7 %

*1: Inductance is measured at 1.0 MHz.

*2: Rated current defines actual value of DC current, when temperature rise of coil becomes 40 K. (Method A)

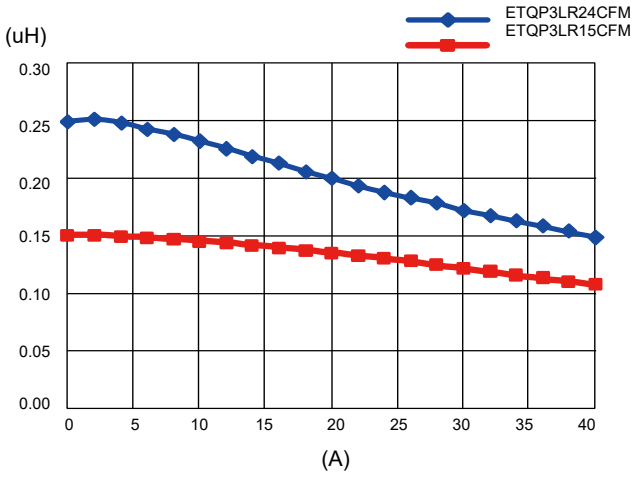
*3: Rated current (reference) defines actual value of DC current, when temperature rise of coil becomes 40 K. (Method B)

*4: Reference only

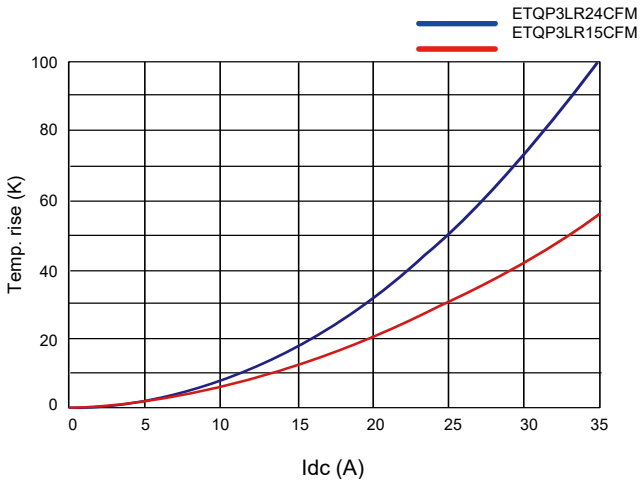
◆ Method A (PANASONIC's standard measurement conditions), Method B (high heat dissipation measurement) is different from Method A by the measurement methods. In normal application condition, the part's temperature depends on circuit design and heat dissipation condition. This condition shall be verified by the worst operational condition.

Performance characteristics (Reference)

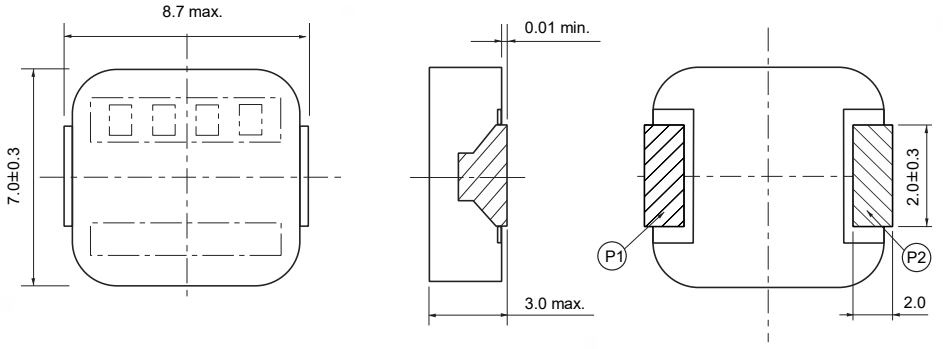
Inductance vs DC Current



Case Temperature vs DC Current（Method A）

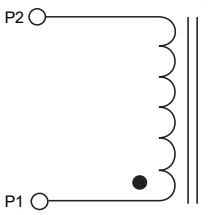


Dimensions in mm (not to scale)

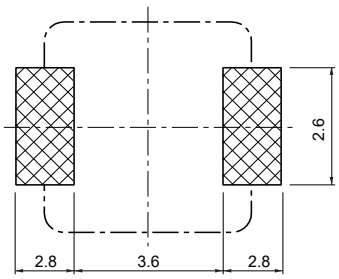


Unit : mm

Connection



Recommended land patterns in mm (not to scale)



Unit : mm

■ **As for soldering conditions and safety precautions (Power choke coils for consumer use), please see data files.**

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.
Should a safety concern arise regarding this product, please be sure to contact us immediately.

Safety and Legal Matters to Be Observed

Product specifications and applications

■ Please be advised that this product and product specifications are subject to change without notice for improvement purposes. Therefore, please request and confirm the latest delivery specifications that explain the specifications in detail before the final design, or purchase or use of the product, regardless of the application. In addition, do not use this product in any way that deviates from the contents of the company's delivery specifications.

■ Unless otherwise specified in this catalog or the product specifications, this product is intended for use in general electronic equipment (AV products, home appliances, commercial equipment, office equipment, information and communication equipment, etc.).
When this product is used for the following special cases, the specification document suited to each application shall be signed/sealed (with Panasonic Industry and the user) in advance..These include applications requiring special quality and reliability, wherein their failures or malfunctions may directly threaten human life or cause harm to the human body (e.g.: space/aircraft equipment, transportation/traffic equipment, combustion equipment, medical equipment, disaster prevention/crime prevention equipment, safety equipment, etc.).

Safety design and product evaluation

■ Please ensure safety through protection circuits, redundant circuits, etc., in the customer's system design so that a defect in our company's product will not endanger human life or cause other serious damage.

■ This catalog shows the quality and performance of individual parts. The durability of parts varies depending on the usage environment and conditions. Therefore, please ensure to evaluate and confirm the state of each part after it has been mounted in your product in the actual operating environment before use.
If you have any doubts about the safety of this product, then please notify us immediately, and be sure to conduct a technical review including the above protection circuits and redundant circuits at your company.

Laws / Regulations / Intellectual property

■ The transportation of dangerous goods as designated by UN numbers, UN classifications, etc., does not apply to this product. In addition, when exporting products, product specifications, and technical information described in this catalog, please comply with the laws and regulations of the countries to which the products are exported, especially those concerning security export control.

■ Each model of this product complies with the RoHS Directive (Restriction of the use of hazardous substances in electrical and electronic equipment) (2011/65/EU and (EU) 2015/863). The date of compliance with the RoHS Directive and REACH Regulation varies depending on the product model.
Further, if you are using product models in stock and are not sure whether or not they comply with the RoHS Directive or REACH Regulation, please contact us by selecting "Sales Inquiry" from the inquiry form.

■ During the manufacturing process of this product and any of its components and materials to be used, Panasonic Industry does not intentionally use ozone-depleting substances stipulated in the Montreal Protocol and specific bromine-based flame retardants such as PBBs (Poly-Brominated Biphenyls) / PBDEs (Poly-Brominated Diphenyl Ethers). In addition, the materials used in this product are all listed as existing chemical substances based on the Act on the Regulation of Manufacture and Evaluation of Chemical Substances.

■ With regard to the disposal of this product, please confirm the disposal method in each country and region where it is incorporated into your company's product and used.

■ The technical information contained in this catalog is intended to show only typical operation and application circuit examples of this product. This catalog does not guarantee that such information does not infringe upon the intellectual property rights of Panasonic Industry or any third party, nor imply that the license of such rights has been granted.

■ Design, materials, or process related to technical owned by Panasonic Industry are subject to change without notice.

Panasonic Industry will assume no liability whatsoever if the use of our company's products deviates from the contents of this catalog or does not comply with the precautions. Please be advised of these restrictions.

Matters to Be Observed When Using This Product
(Power inductor for consumer use)

Use environments and cleaning conditions

■ This product (inductor) is intended for standard general-purpose use in electronic equipment, and is not designed for use in the specific environments described below. Using the product in such specific environments or service conditions, therefore, may affect the performance of the product.
Please check with us about the performance and reliability of the product first before using the product.

(1) A product splashed with water, coffee, etc., is in a wet state.
(2) Used in a place where the product is heavily exposed to sea breeze or a corrosive gas, such as Cl_2, H_2S, NH_3, SO_2, or NO_X.
(3) Used in an outdoor environment where the product is exposed to direct sunlight, ozone, radiation, UV-rays, etc., or in a dusty place.

■ Sealing the product with a resin may damage the copper wire insulation cover of the product. In such a case, consult us first.

■ Immersing the product in a solvent, cleaning agent, or coating agent containing toluene or xylene for a long period may result in a significant drop in the performance of the product. In such a case, consult us first.

Response to anomalies and handling conditions

■ The inductor, as a single component, does not have a protective function against a problem such as overloading, short circuit, or open failure. Make sure to provide a circuit set with a protection device or circuit that protects the inductor, and confirm that smoke generation/ignition, weakened dielectric strength, lower insulation resistance, etc., do not occur.

■ The temperature rise rate of the inductor changes depending on the state in which the inductor is incorporated in the circuit set. Make sure to confirm that the temperature of the inductor is equal to or lower than the temperature corresponding to the specified insulation class (heat-resistant class) when the inductor is incorporated in the circuit set.

■ Applying voltage higher than the specified withstand voltage to the inductor at a dielectric strength test leads to the deterioration of the insulation performance of the inductor. Be careful to avoid this.

■ Handle the inductor while protecting it from static electricity with proper electrostatic control measures.
(Process/equipment) Applying voltage equal to or higher than 200 V to the inductor may change its characteristics.
Keep voltage applied to the inductor lower than 200 V.

■ The inductor having received mechanical stress as a result of dropping on the floor, etc., may have formed a crack on its bobbin, etc., and therefore the performance of the inductor may have dropped significantly. Avoid using such an inductor.

■ When severe mechanical stress is applied to an inductor, its core may chip or crack.
There are also some cases where the core already has a chipped or cracked part. However, this chip or crack is negligible and has no effect on the quality of the inductor.

■ The storage temperature of an inductor ranges from -5 °C to 35 °C, and the working temperature (ambient temperature) of an inductor ranges from -40 °C to 130 °C (which includes the temperature increase).
* The highest working temperature of PCC-F126(N6) series is 100 °C.

Circuit design and circuit board design

■ When the inductor is used in a different product set among a series of similar product sets, there are times when the inductor will fail to achieve 100% of its capability because of the difference in service conditions, etc. In such a case, consult us first.

■ When there is a possibility that electrostatic noise is applied to circuit components, place an ESD preventing component, such as a capacitor resistant to static electricity, in a preceding stage to the inductor. In such a case, consult us first.

Reference information

Labeling on package

On the inductor package, a product number, the number of components, and the place of origin are indicated. Usually, the place of origin is written in English.