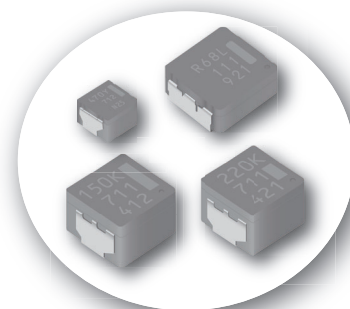


High-Reliability Power Inductors

High reliability, small size, and low loss contribute to thermal design and space saving of power supply circuits



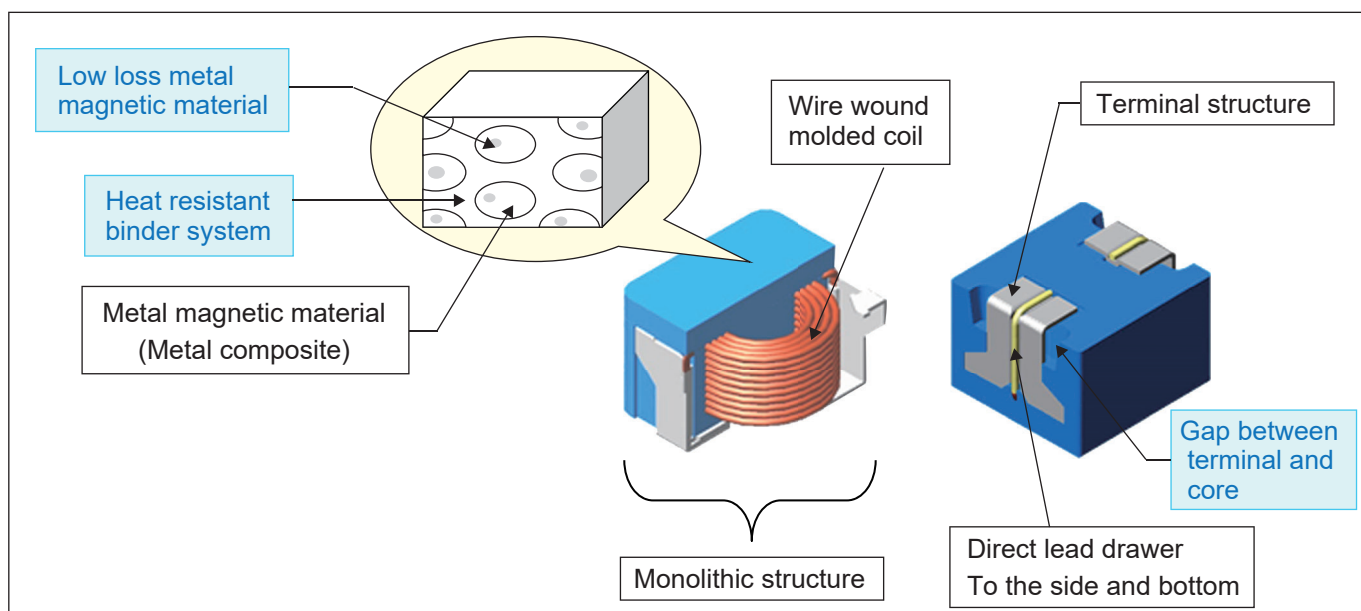
Product summary

- Metal composite monolithic structure realizes high reliability.
- ECU design which is applied under severe environmental condition.








Features

- Heat resistance : 150 °C / 155 °C Heat resistance
- Vibration resistance : 5 Hz to 2 kHz / 30 G (Height 3 mm)
5 Hz to 2 kHz / 10 G (Other than 3mm height products)
* It depends on the product, so please contact us.
- Low audible (buzz) noise : Gapless integrated structure with metal magnetic composite core
- High efficiency : Low DCR resistance of winding and low eddy-current loss of the core
- Shielded construction
- AEC-Q200 compliant
- RoHS compliant

Structure







Electrical characteristics

Series	PCC-M0530M/M0540M	PCC-M0630M/M0645M	PCC-M0754M	PCC-M0854M	PCC-M1054M	PCC-M1050ML/M1060ML	PCC-M1280MF								
Size LxW (mm)	5□  5.0 x 5.5 (1.0 to 3.3 μH) H=3.0 (4.7 to 22 μH) H=4.0	6□  6.0 x 6.5 (0.68 to 1.5 μH) H=3.0 (2.2 to 47 μH) H=4.5	7□  7.0 x 7.5 (2.2 to 68 μH) H=5.4 (95 μH) H=5.0	8□  8.0 x 8.5 (2.2 to 68 μH) H=5.4 (100 μH) H=5.0	10□  10.0 x 10.7 (1.5 to 68 μH) H=5.4 (97 μH) H=5.0	10□ Low DCR  10.0 x 10.9 (0.33 to 1.0 μH, 2.0 μH) H=5.0 (1.5 to 4.7 μH) H=6.0	12□ Vibration resistance 30G ⁺²  12.6 x 13.1 (0.33 to 4.7 μH) H=8.0								
Product number form	ETQP3M***YFP (H=3.0) ETQP4M***YFP (H=4.0)	ETQP3M***YFN (H=3.0) ETQP4M***YFN (H=4.5)	ETQP5M***YFM (H=5.4) ETQP5M***YGM (H=5.0)	ETQP5M***YFK (H=5.4) ETQP5M***YKG (H=5.0)	ETQP5M***YFC (H=5.4) ETQP5M***YGC (H=5.0)	ETQP5M***YLC (H=5.0) ETQP6M***YLC (H=6.0)	ETQP8M***JFA (H=8.0)								
Inductance (μH)	Rated current (A) / DCR (mΩ)														
	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR
100				1.4	3.5	348	1.7	3.0	302	2.2	3.0	208			
68				1.9	3.9	251	2.4	4.5	192	3.0	5.2	136			
47			1.8	3.8	210	2.3	4.1	156	2.9	5.4	125	3.5	6.8	99.0	
33			2.0	4.1	172	2.6	4.8	120	3.3	5.9	100	4.2	7.6	68.5	
22	1.9	3.1	163	2.3	6.0	126	3.0	5.8	92.0	4.1	6.9	63.0	5.2	9.2	45.0
15	2.1	3.2	127	2.5	6.2	105	3.2	8.5	78.0	4.7	7.7	48.2	5.8	11.2	35.6
10	2.5	6.2	90.0	3.5	8.3	54.2	4.7	10.6	37.6	5.7	11.3	33.4	7.1	12.0	23.8
6.8	3.1	7.9	58.0	4.1	10.0	39.3	5.5	12.0	26.7	6.8	13.7	23.5	7.9	14.4	19.2
4.7	4.0	7.7	36.0	5.5	11.7	22.0	6.3	13.1	20.4	8.0	15.1	16.8	10.9	20.0	10.2
3.3	4.0	8.6	31.3	6.4	13.1	16.1	8.3	14.4	11.9	10.7	17.9	9.5	13.1	22.7	7.1
2.5										11.9	20.1	7.6	15.1	27.2	5.3
2.2	4.8	10.8	22.6	8.0	14.4	10.4	9.4	17.2	9.2						
2.0															
1.5	5.6	10.9	16.7										17.9	35.1	3.8
1.0	6.6	14.4	12.0	8.8	20.0	7.9							19.5	32.0	3.2
0.68				9.8	24.0	6.3							23.0	37.8	2.3
0.33													26.3	40.0	1.75
Operating temperature range	-40°C to +150°C														



+150 °Cmax. is the total of ambient temperature + self-heating.
Depending on the actual environmental temperature, it is possible to have a current that exceeds the rated current.
It can be used up to a coil top surface temperature of +150 °C or less under the operating environment.

Sample available **
In MP
SOP 2020-2021 **

LP type

Series	M0530M-LP	M0630M-LP	M0840M-LP	M1040M-LP								
Size LxWxH (mm)	5□  5.0 x 5.5 x 3.0 Vibration resistance 30G ⁺³	6□  6.0 x 6.4 x 3.0 Vibration resistance 30G ⁺³	8□  8.0 x 8.5 x 4.0	10□  10.0 x 10.7 x 4.0								
Product number form	ETQP3M__KVP	ETQP3M__KVN	ETQP4M__KVK	ETQP4M__KVC								
Inductance (μH)	Rated current (A) / DCR (mΩ)											
	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR
47.0										2.8	4.7	132.0
33.0				1.7	3.0	206.0	2.6	4.7	118.0	3.4	5.6	84.6
22.0	1.8	2.8	165.0	2.2	4.3	128.0	3.2	6.7	78.4	4.1	7.4	60.0
15.0				2.5	5.1	99.2	3.8	7.7	55.0	5.2	9.2	37.0
10.0	2.4	4.2	96.0	2.9	5.8	71.0	4.4	9.1	41.6	6.3	10.8	25.4
6.8	2.9	6.1	65.7	3.6	8.1	45.6	5.9	11.0	23.5	7.4	12.1	18.5
4.7	3.4	6.7	45.6	4.6	9.8	29.0	7.1	15.1	16.1	9.2	13.9	12.3
3.3	4.4	8.0	27.3	5.0	11.5	24.1	7.6	17.4	14.1	10.3	17.1	9.4
2.2	5.2	10.1	20.0	6.5	12.8	14.5	9.8	20.4	8.5	12.1	21.0	6.8
1.5	6.7	12.0	12.0	7.4	14.2	11.0	12.8	22.5	4.9	14.3	25.0	4.9
1.0	7.5	14.1	9.6	9.9	16.0	6.2	14.8	24.4	3.7	19.6	34.6	2.6
0.68	8.4	15.9	7.6	10.8	20.2	5.2	16.6	29.0	2.92			
0.47	9.6	17.9	5.8									
0.33	10.6	21.8	4.85									

LE type

Series	M0648M-LE	M0748M-LE				
Size LxWxH (mm)	6□  6.0 x 6.5 x 4.8	7□  7.0 x 7.5 x 4.8				
Product number form	ETQP4M__KFN	ETQP4M__KFM				
Inductance (μH)	Rated current (A) / DCR (mΩ)					
	ΔT=40°C	ΔL=-30%	DCR	ΔT=40°C	ΔL=-30%	DCR
47.0				2.2	3.7	148.6
33.0				2.5	4.2	115.0
22.0	2.4	4.1	113.0	2.9	5.2	84.1
15.0	3.3	6.9	63.8	3.4	7.2	60.7
10.0	4.1	9.1	40.4	4.5	9.5	36.0
6.8	4.6	9.9	32.1			
4.7	5.7	10.2	20.7	6.5	10.6	16.8
3.3	7.2	12.2	13.1			

*1: The timing and characteristics of mass production of developed products are subject to change.

*2: Vibration resistance conditions :
[Amplitude: 5 mm or less, sweep speed: 1 oct / min, frequency 5-2000 Hz, 3 directions/2 hours each, total 6 hours]

*3: Vibration resistance conditions :
[Amplitude: 5 mm or less, sweep speed: 1 oct / min, frequency 5-2000 Hz, 3 directions / 4 hours each, total 12 hours]

◆ The rated current is the current value at which the temperature rise is 40 °C. Please use within Tc 155 °C (LE / LP type) including self-temperature rise.

◆ A current value at which the temperature rise is 40 °C when mounted on a multilayer board with high heat dissipation.