

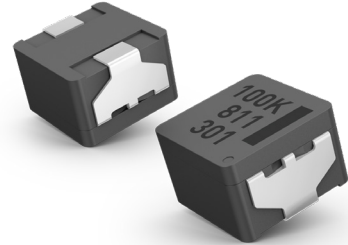
# ETQP Power Inductors

## Metal Composite Technology for Automotive Applications

### METAL COMPOSITE DESIGN

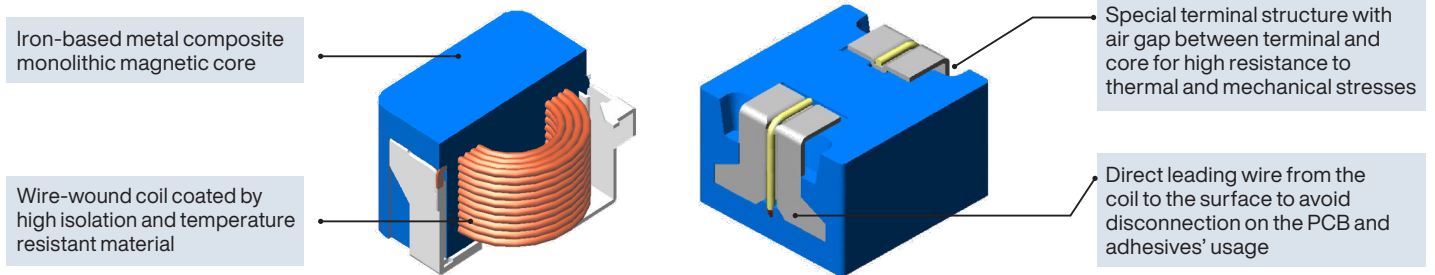
#### Features and Benefits

Panasonic ETQP series are metal composite power inductors made up of a coil of wire surrounded by a magnetic core made of a metal alloy with high magnetic permeability.



#### High quality design guarantees:

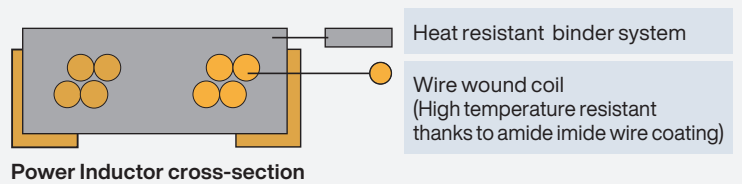
- > High current capability
- > None hard saturation vs bias current
- > No temperature degradation
- > Long lifetime stability
- > Size reduction
- > Reduced power loss inside the core



### METAL COMPOSITE CORE TYPE ADVANTAGES:

#### All ETQP series available up to +180°C in short time

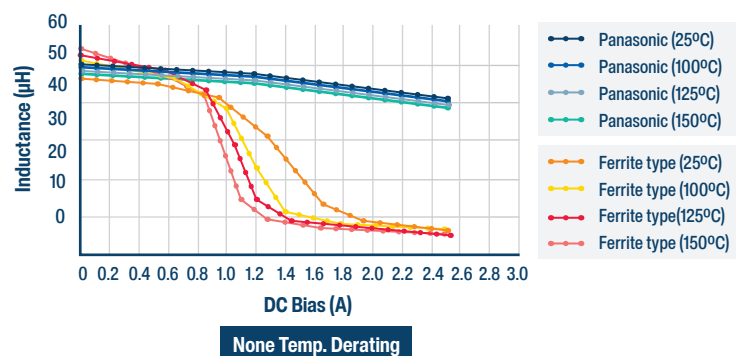
- > AEC-Q200 compliant
- > Up to 180°C and 30G vibration resistance
- > Fully magnetic shielded structure for excellent EMC behaviour
- > High currents up to 103A
- > Variety of core sizes from 5x5mm to 15x15mm
- > Oppm from the market thanks to a well monitored manufacturing process



#### None-hard saturation characteristics:

Stable inductance value over lifetime even at high current and high temperature. Metal composite core inductors have a higher saturation current capability compared to ferrite core inductors.

This is due to the core made of a metal alloy with high magnetic permeability.



# ETQP Power Inductors

## Metal Composite Technology for Automotive Applications

### OVERVIEW SERIES POWER INDUCTOR

**Multi-Source LP**

- High reliability
- Low cost
- L: 0.33 to 100 $\mu$ H

**High Performance**

- Excellent saturation characteristics
- Isat up to 56.7A, vibration proof up to 30G
- L: 0.33 to 100 $\mu$ H

**High Vibration Resistant**

- From 30 to 50G vibration proof
- No adhesives required
- L: 0.68 to 2.45 $\mu$ H

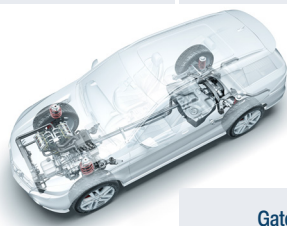
**Large Current**

- Saturation current up to 100A
- 30G for harsh environments
- L: 0.33 to 4.7 $\mu$ H

**AEC-Q200 compliant**

Case Size (mm)	ETQP Series	Part Number	Height (mm)	Inductance Range ( $\mu$ H)	Vibration Resistance (G)	Temperature Range ( $^{\circ}$ C)	Sat Rated Current (A)
5x5	LP	ETQP3M***KVP	3	0.33 to 10	10	-55 to +155	4.2 to 21.8
	High Performance	ETQP3M***YFP	3	2.2 to 3.3		-40 to +150	8.6 to 10.9
		ETQP4M***YFP	4	4.6 to 22		-40 to +150	3.1 to 7.7
6x6	LP	ETQP3M***KVN	3	0.68 to 33	10	-55 to +155	3 to 20.2
	High Performance	ETQP3M***YFN	3	0.68 to 1.5		-40 to +150	16 to 24
		ETQP4M***YFN	4.5	2.2 to 47		-40 to +150	3.8 to 14.4
7.5x7	High Performance	ETQP5M***YFM	5.4	3.3 to 68	10	-40 to +150	3.9 to 14.4
		ETQP5M101YGM	5	95			3.1
8.5x8	LP	ETQP4M***KVK	4	0.68 to 33	10	-55 to +155	4.7 to 29
	High Performance	ETQP5M***YFK	5.4	2.5 to 10		-40 to +150	5.4 to 20.1
		ETQP5M101YGK	5	100		-40 to +150	3
10.7x10	High Performance	ETQP5M2R5YSK	5.4	2 to 45	50	-40 to +150	21.7
		ETQP4M***KVC	4	1 to 100			3.5 to 34.6
		ETQP5M***YFC	5.4	1.5 to 66			4.9 to 35.1
10.9x10	High Performance	ETQP5M***YGC	5	3.3 to 97	10	-40 to +150	3 to 23.4
		ETQP5M***YLC	5	0.33 to 2			31.3 to 56.7
	High Vibration	ETQP6M***YLC	6	1.5 to 14			11.2 to 32
		ETQP5M***YSC	5	0.68 to 1.90			29.8 to 40
12.6 x 13.2 15.6 x 17.2	Large Current	ETQP6M2R5YSC	6	2.5	50	-40 to +150	23.7
		ETQP8M***JFA	8	0.68 to 4.7	30	-40 to +160	24.7 to 56.9
ETQPAM***JFW	10.5	0.33 to 0.68	71 to 103				

### AUTOMOTIVE APPLICATION - EXAMPLES

Engine ECU	Autonomous Driving	E-Power Steering	Transmission ECU	Battery Management System
E-Compressors	Navigation System			Battery ECU
Panel/HUD	On-board Charger			Camera
Radar	ADAS			Lidar
Fan Motor Driver	Domain Controller			Monitor
LED Headlamp	Electrical Pump	48V/EV Inverter	Gateway	Door Motor Controller
			Zone Controller	

#### Power Inductors for Automotive Application

Panasonic provides design support, including a LC Filter Simulation and Power Loss Tool at the Panasonic Website:

[www.industry.panasonic.eu/products/components/inductors-coils](http://www.industry.panasonic.eu/products/components/inductors-coils)  
For further information, please contact [Inductor@eu.panasonic.com](mailto:Inductor@eu.panasonic.com)

