

ETQP Power Inductors

Metal Composite Technology for Automotive Applications

METAL COMPOSITE DESIGN

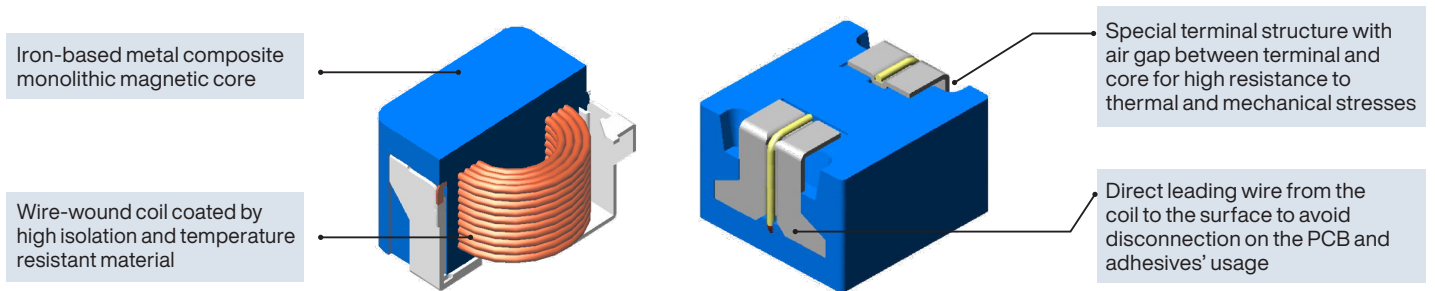
Features and Benefits

Panasonic ETQP series are metal composite power inductors featuring a wire-wound coil surrounded by a high-permeability metal alloy core, delivering excellent EMC performance and efficiency.



High quality design guarantees:

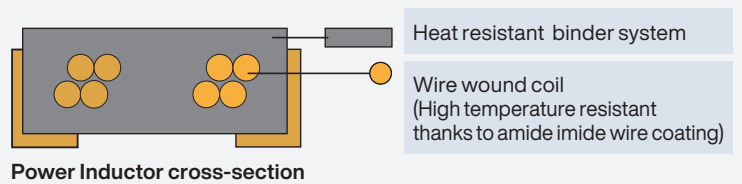
- > High current capability
- > None hard saturation vs bias current
- > No temperature degradation
- > Long lifetime stability
- > Size reduction
- > Reduced power loss inside the core



METAL COMPOSITE CORE TYPE ADVANTAGES:

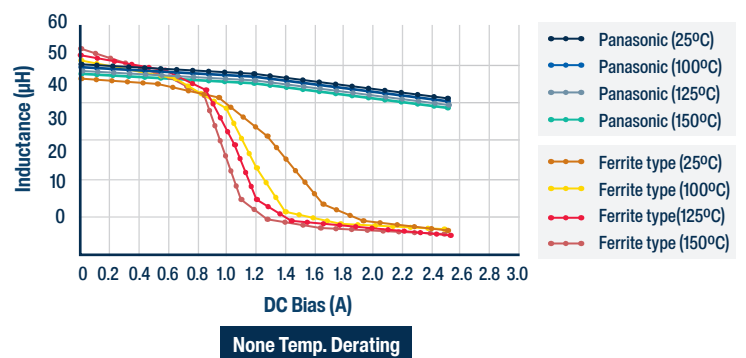
All ETQP series compliant to the AEC-Q200 automotive grade.

- > Fully shielded structure for excellent EMC behaviour
- > Compact size, save up to 50% against ferrite types
- > Variety footprints from 5x5mm to 15x15mm
- > High reliability against heat 2000h @ 170°C
- > High saturation current up to 103A
- > High vibration up to 50G



None-hard saturation characteristics:

The high magnetic permeability metal-alloy core delivers higher saturation current than ferrite types, ensuring stable inductance even at high current and high temperature.



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OVERVIEW MAIN SERIES POWER INDUCTOR

Multi-Source LP

- Pin to Pin compatibility
- Low cost
- L: 0.1 to 100μH

High Performance

- Excellent saturation characteristics
- Isat up to 56.7A
- High reliability
- L: 0.33 to 100μH

High Vibration Resistant

- From 30 to 50G vibration proof
- No adhesives required
- L: 0.68 to 47μH

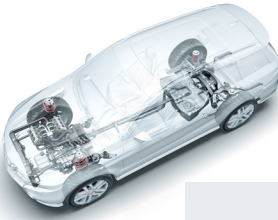
Large Current

- Saturation current up to 100A
- 30G for harsh environments
- L: 0.33 to 4.7μH

AEC-Q200 compliant

Features	Size[LxWxH] (mm)	Inductance (μH)	DCR (mΩ)	Rated current (A)	Operating temp. range(°C)	Vibration resistance (G)	AEC-Q200	Series (last 3-digits)
Low Inductance	5.5x5.0x3.0 to 7.9x7.4x5.0	0.07 to 0.22	0.75 to 2.4	27.1 to 63.7	-40 to +155	Up to 30	Compliant	CVM, KVP, KVN
High Saturation Current	5.5x5.0x3.0 to 10.9x10.0x6.0	0.33 to 100	1.1 to 348	3.0 to 56.7	-55 to +170	Up to 10	Compliant	GAK, KLC, YFC, YFK, YFM, YFN, YFP, YGC, YGK, YGM, YLC
High Vibration	7.5x7.0x5.4 8.5x8.0x5.4 10.9x10.0x5.0	0.68 to 47	1.66 to 129.3	2.5 to 27	-55 to +170	Up to 50	Compliant	YSC, YTC, YSK, TTM
Large Current	12.6x13.2x8.0 15.6x17.2x10.5	0.33 to 4.7	0.42 to 4.9	24.7 to 103	-40 to +160	30	Compliant	JFA, JFW
Low Profile (LP)	5.5x5.0x3.0 to 10.7x10.0x4.0	0.1 to 100	2.6 to 246	1.7 to 19.6	-55 to +170	Up to 30	Compliant	KVN, KVP, KVC, KVK
Low Price (LE)	6.4x6.0x4.8 7.4x7.0x4.8	0.47 to 47	3.3 to 190	3.3 to 29.8	-55 to +170	5	Compliant	KFM, KFN
High frequency, low loss	5.5x5.0x3.0 6.5x6.0x3.0	2.2 to 22	19.5 to 144	5.2 to 2.1	-55 to +170	10	Compliant	HFN, HFP

AUTOMOTIVE APPLICATION - EXAMPLES

Engine ECU	Autonomous Driving	E-Power Steering	Transmission ECU	Battery Management System
E-Compressors	Navigation System		Gateway	Battery ECU
Panel/HUD	On-board Charger			Camera
Radar	ADAS			Lidar
Fan Motor Driver	Domain Controller			Monitor
LED Headlamp	Electrical Pump	48V/EV Inverter	Zone Controller	Door Motor 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
For further information, please contact inductor@eu.panasonic.com

