

Power Choke Coil for Automotive application

Series: **PCC-M0530M-H(MC)**
PCC-M0630M-H(MC)



High heat resistance and high reliability
 Using metal composite core (MC)

Features

- Reduce core loss in high frequency band (More than 2 MHz)
- High heat resistance : Operation up to 150 °C including self-heating
- Low profile : 3 mm max. height
- SMD type
- High-reliability : High vibration resistance as result of newly developed integral construction; under severe reliability conditions of automotive and other strenuous applications
- High bias current : Excellent inductance stability using ferrous alloy magnetic material
- Temp. stability : Excellent inductance stability over broad temp. range
- Low audible (buzz) noise : New metal composite core technology
- High efficiency : Low R_{dc} of winding and low eddy-current loss of the core
- Shielded construction
- AEC-Q200 Automotive qualified
- RoHS compliant

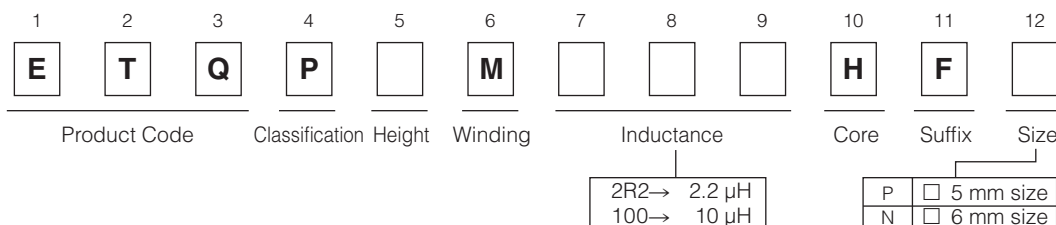
Recommended Applications

- Noise filter for various drive circuitry requiring high temp. operation and peak current handling capability
- Boost-Converter, Buck-Converter DC/DC

Standard Packing Quantity (Minimum Quantity/Packing Unit)

- 2,000 pcs./box (2 reel)

Explanation of Part Numbers



Temperature rating

Operating temperature range		T_c : -40 °C to +150 °C (Including self-temperature rise)
Storage condition	After PWB mounting	T_a : -5 °C to +35 °C 85%RH max.
	Before PWB mounting	

Standard Parts

Series	Part No.	Inductance *1		DCR (at 20 °C) (mΩ)		Rated Current (Typ. : A)		
		L0 (μH)	Tolerance (%)	Typ. (max.)	Tolerance (%)	ΔT=40K		ΔL=-30%
						(*2)	(*3)	(*4)
PCC-M0530M-H [5.5×5.0×3.0(mm)]	ETQP3M2R2HFP	2.2	±20	19.5 (21.45)	±20	5.2	6.3	9.0
PCC-M0630M-H [6.5×6.0×3.0(mm)]	ETQP3M100HFN	10.0		68.0 (74.8)		3.0	3.7	5.5

(*1) Measured at 100k Hz.

(*2) DC current which causes temperature rise of 40K. Parts are soldered by reflow on four-layer PWB (1.6 mm FR4) and measured at room temperature. See also (*5)

(*3) DC current which causes temperature rise of 40K. Parts are soldered by reflow on multilayer PWB with high heat dissipation performance. Note: Heat radiation constant are approx. 20 K/W measured. See also (*5)

(*4) Saturation rated current : DC current which causes L(0) drop -30 %.

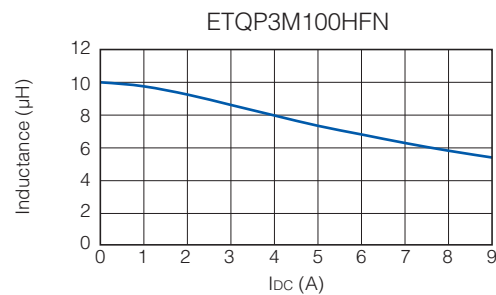
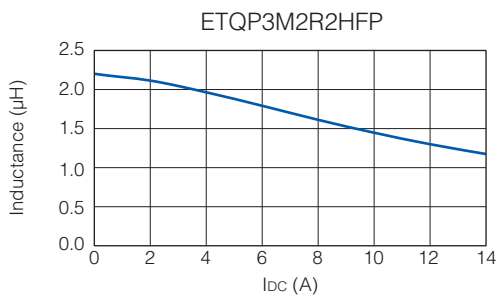
(*5) Within a suitable application, the part's temperature depends on circuit design and certain heat dissipation conditions. This should be double checked in a worst case operation mode.

In normal case, the max.standard operating temperature of +150 °C should not be exceeded.

For higher operating temperature conditions, please contact Panasonic representative in your area.

Performance Characteristics (Reference)

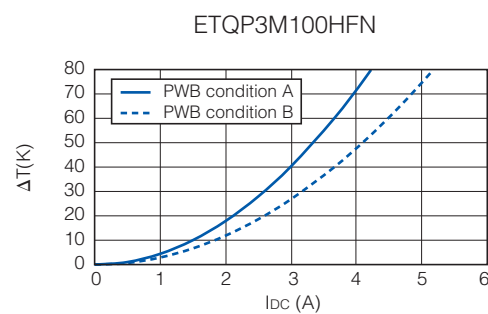
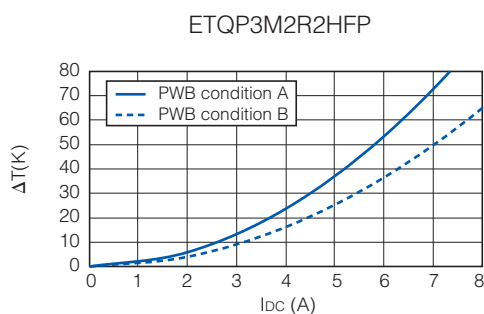
● Inductance vs DC Current



● Case Temperature vs DC Current

PWB condition A : Four-layer PWB (1.6 mm FR4), See also (*2)

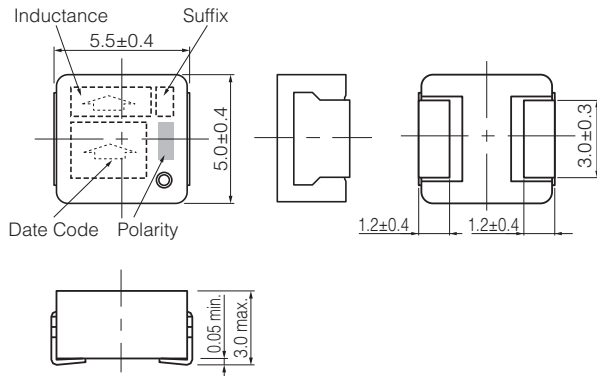
PWB condition B : Multilayer PWB with high heat dissipation performance. See also (*3)



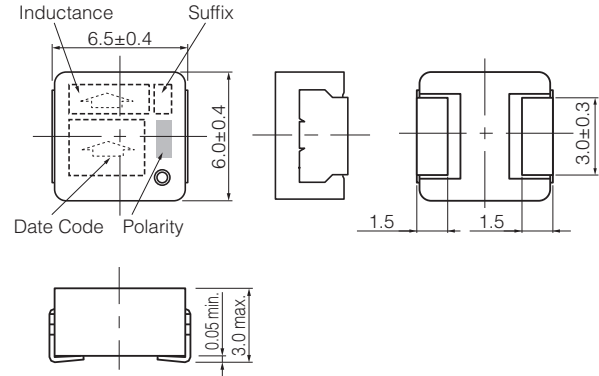
Dimensions in mm (not to scale)

Dimensional tolerance unless noted : ± 0.5

Series PCC-M0530M-H
(ETQP3M□□□HFP)



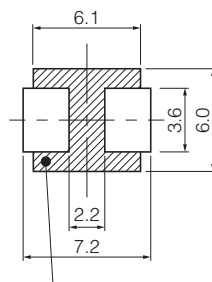
Series PCC-M0630M-H
(ETQP3M□□□HFN)



Recommended Land Pattern in mm (not to scale)

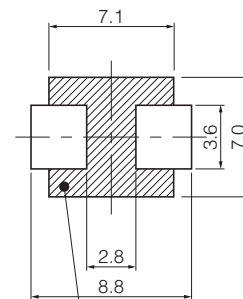
Dimensional tolerance unless noted : ± 0.5

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(ETQP3M□□□HFP)



Don't wire on the pattern on shaded portion the PWB.

Series PCC-M0630M-H
(ETQP3M□□□HFN)



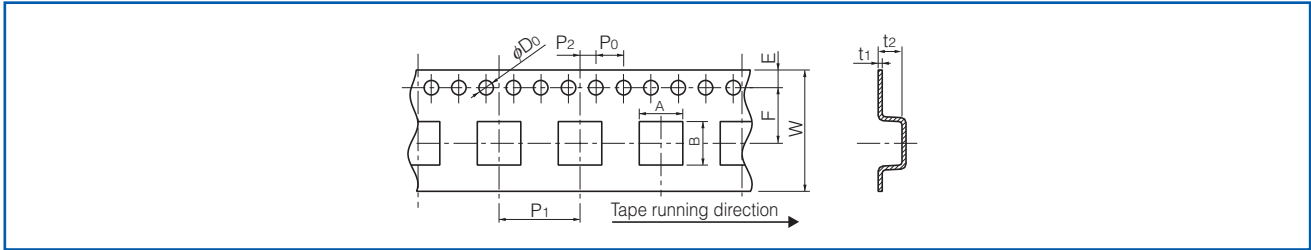
The same as the left.

■ As for Soldering Conditions and Safety Precautions (Power Choke Coils for Automotive application),

Please see Data Files

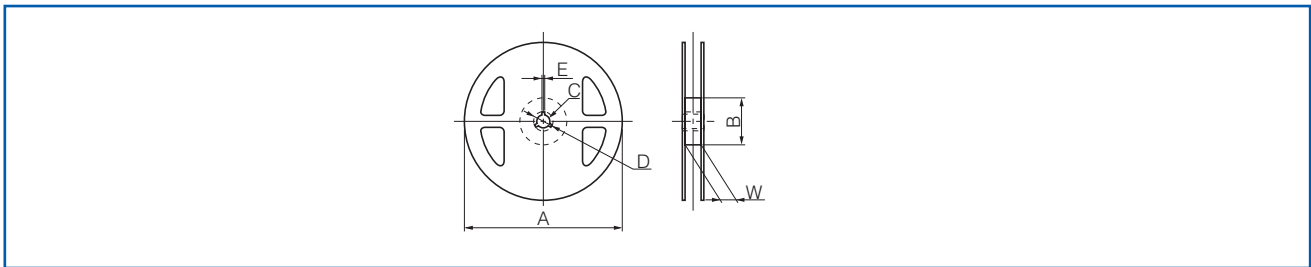
Packaging Methods (Taping)

- Embossed Carrier Tape Dimensions in mm (not to scale)



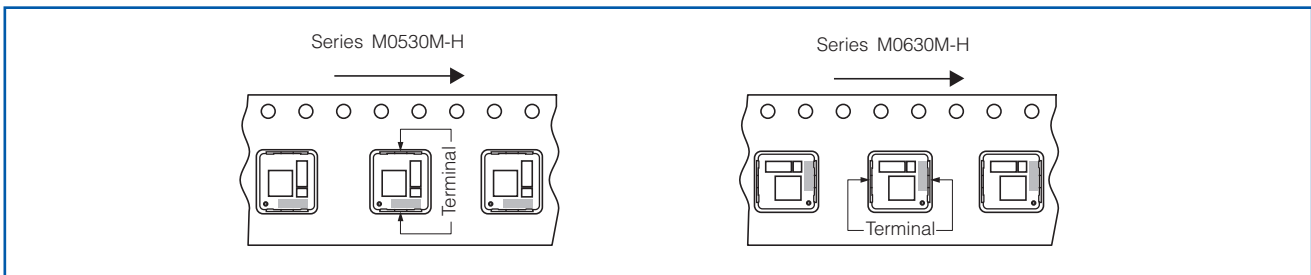
Series	A	B	W	E	F	P ₁	P ₂	P ₀	φD ₀	t ₁	t ₂
PCC-M0530M-H	5.6	6.1	16	1.75	7.5	12	2	4	1.5	0.4	3.3
PCC-M0630M-H	7.1	6.6	16	1.75	7.5	12	2	4	1.5	0.4	3.3

- Taping Reel Dimensions in mm (not to scale)



Series	A	B	C	D	E	W
PCC-M0530M-H PCC-M0630M-H	330	(100)	13	21	2	17.5

Component Placement (Taping)



Standard Packing Quantity/Reel

Series	Part No.	Minimum Quantity / Packing Unit	Quantity per reel
PCC-M0530M-H	ETQP3M□□□HFP	2,000 pcs. / box (2 reel)	1,000 pcs.
PCC-M0630M-H	ETQP3M□□□HFN	2,000 pcs. / box (2 reel)	1,000 pcs.