

Overview

KEMET's MPCH Series of metal composite inductors is designed for use in power supplies with ripple currents up to 31 A. These inductors offer superior permeability when compared to technologies based on ferrite cores.

The flat wire design allows for high efficiency under high current loads.

Applications

- Switching DC-DC power supplies
- Notebook computers
- Tablets
- Embedded computer systems
- HDTVs
- DVD and BluRay players



Part Number System

MPCH	0730	L	R12
Series	Size Code	Inductor	Inductance Code μH
MPCH	0730 0740 1040 1055 1060 1250		R = decimal point Examples: R12 = 0.12 μH 1R3 = 1.30 μH

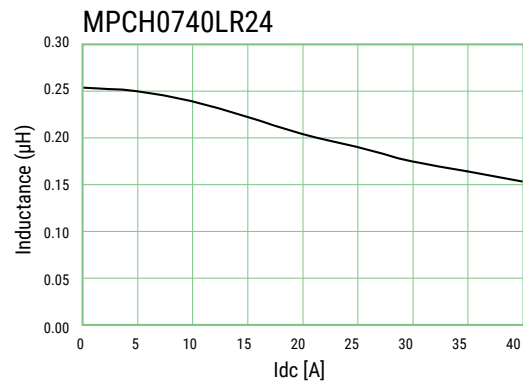
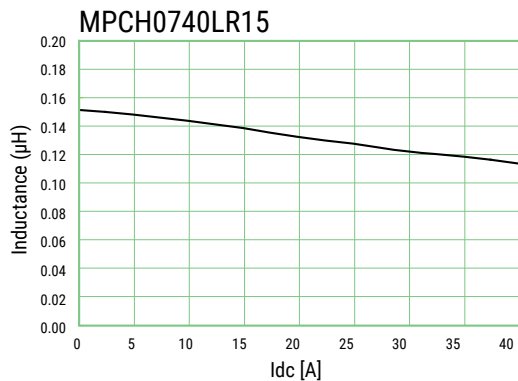
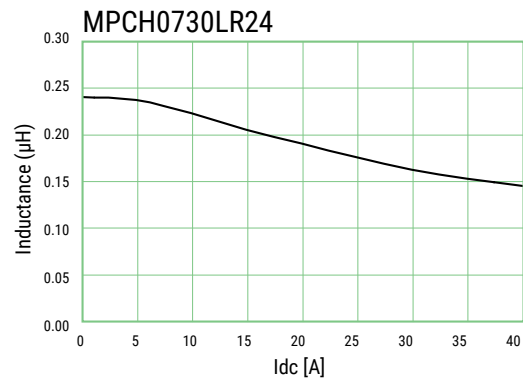
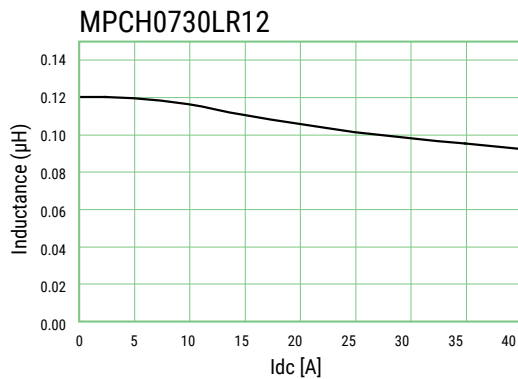
Table 1 – Ratings & Part Number Reference

Part Number	Inductance (μH) at 100 kHz	Inductance Tolerance	DC Resistance ($\text{m}\Omega$) $\pm 10\%$	Rated Current (A)	
				I_{rms}^1 (Ref.)	I_{sat}^2 (Ref.)
MPCH0730LR12	0.12	$\pm 20\%$	0.65	31.0	32.0
MPCH0730LR24	0.24	$\pm 20\%$	1.20	23.0	19.0
MPCH0740LR15	0.15	$\pm 20\%$	0.93	29.0	31.0
MPCH0740LR24	0.24	$\pm 20\%$	1.00	27.0	20.0
MPCH0740LR36E	0.36	$\pm 20\%$	1.42	23.0	22.0
MPCH1040LR36	0.36	$\pm 20\%$	0.88	28.0	24.0
MPCH1040LR0	1.00	$\pm 20\%$	2.30	17.0	17.0
MPCH1055LR3	1.30	$\pm 20\%$	2.30	18.5	17.0
MPCH1060LR45	0.45	$\pm 20\%$	0.76	32.0	32.0
MPCH1250LR5	1.50	$\pm 20\%$	2.20	21.0	21.0

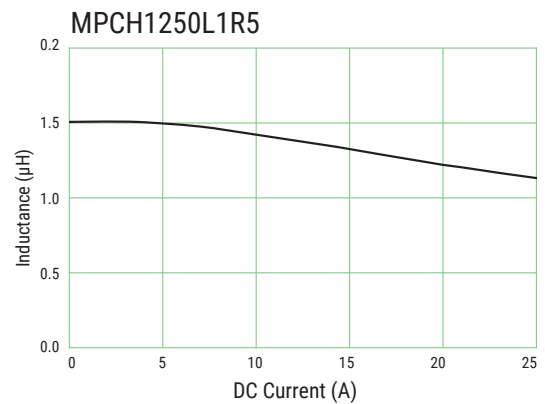
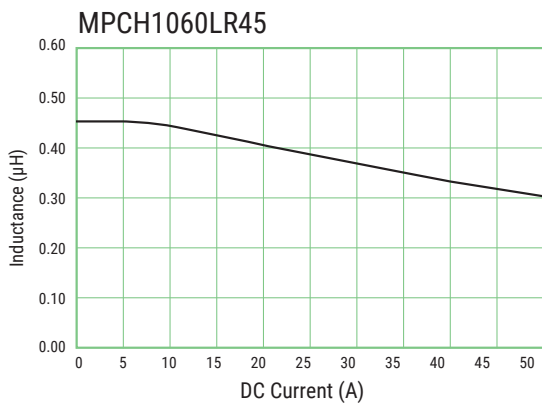
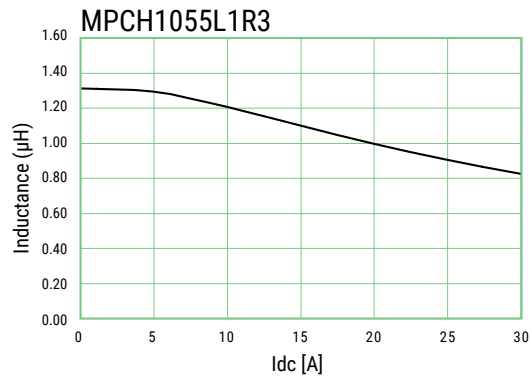
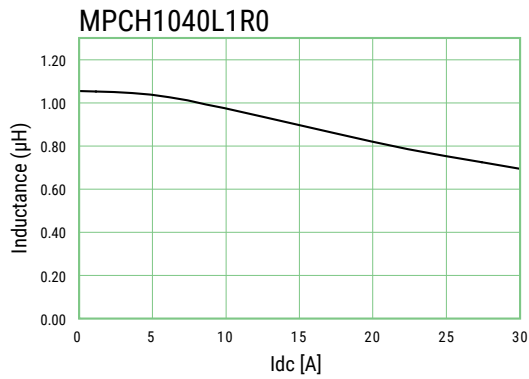
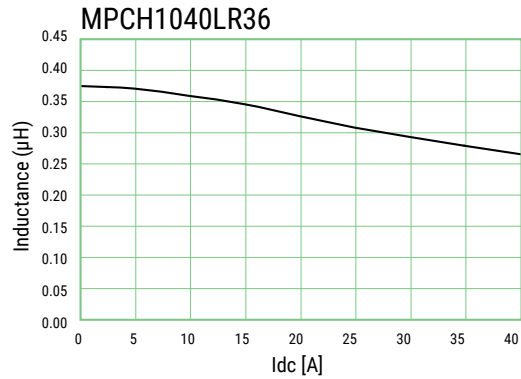
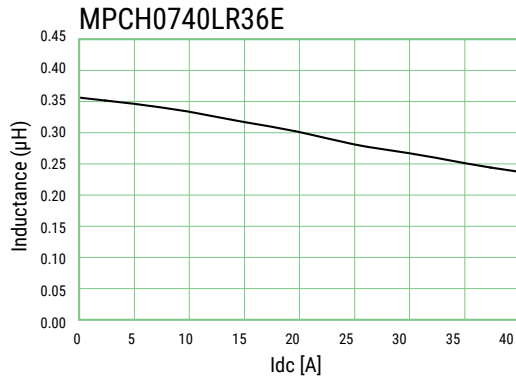
¹ $T = 40\text{ K}$ rise at rated current.

² Inductance drop 20% at rated current.

DC-Superposed Characteristics



DC-Superposed Characteristics cont'd



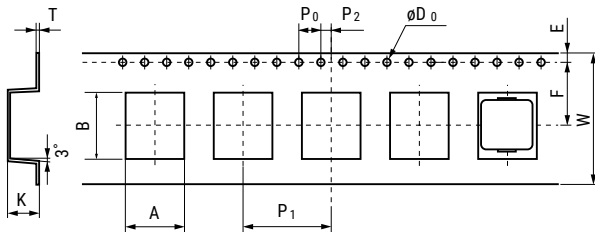
Specifications

Part Number	Dimensions (mm)	Land Pattern
MPCH0730LR12 MPCH0730LR24 MPCH0740LR15 MPCH0740LR24 MPCH0740LR36E		
MPCH1040LR36 MPCH1040LR10		
MPCH1055L1R3		
MPCH1060LR45		
MPCH1250L1R5		

Operating temperature range: -20°C to $+120^{\circ}\text{C}$ (Include self temperature rise)

Taping Specification

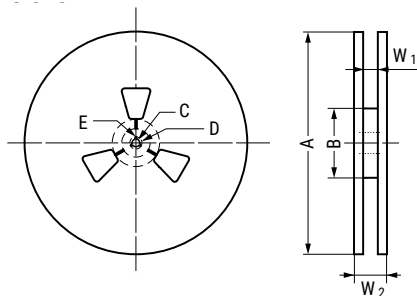
Dimensions of indented square hole plastic tape



Series	Reel Qty		Dimensions (mm)											
			A	B	W	F	E	P ₁	P ₂	P ₀	øD ₀	T	K	
MPCH0730, MPCH0740	1,000	Tolerance	±0.1	±0.1	±0.2	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05	±0.1
		Nominal	7.0	8.0	16.0	7.5	1.75	12.0	2.0	4.0	1.55	0.4	5.3	
MPCH1040*	500*	Tolerance	±0.1	±0.1	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05	±0.1	
		Nominal	10.5	12.1	24.0	11.5	1.75	16.0	2.0	4.0	1.55	0.4	5.2	
MPCH1055	500	Tolerance	±0.1	±0.1	±0.2	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05	±0.1	
		Nominal	10.5	12.1	24.0	11.5	1.75	24.0	2.0	4.0	1.55	0.4	6.0	
MPCH1060	500	Tolerance	±0.1	±0.1	±0.2	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05	±0.1	
		Nominal	10.5	12.1	24.0	11.5	1.75	24.0	2.0	4.0	1.55	0.4	6.5	
MPCH1250	500	Tolerance	±0.1	±0.1	±0.2	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05	±0.1	
		Nominal	13.1	12.1	24.0	11.5	1.75	24.0	2.0	4.0	1.55	0.4	5.4	

* MPCH1040LR36 Reel Qty = 1,000

Reel Specifications



Series		Dimensions (mm)							
		A	B	C	D	E	r	W ₁	W ₂
MPCH0730, MPCH0740	Tolerance	±2.0	±1.0	±0.2	±0.8	±0.5		±1.0	±1.0
	Nominal	ø330	ø80	ø13.0	ø21.0	2.0	R1.0	17.5	21.5
MPCH1040	Tolerance	±5.0	±5.0	±0.5	±1.0	±0.5		±2.0	±3.0
	Nominal	ø330	ø80	ø13.5	ø21.0	2.0	R1.0	24.4	30.4
MPCH1055 MPCH1060 MPCH1250	Tolerance	±2.0	±1.0	±0.5	±0.8	±0.5		±2.0	±3.0
	Nominal	ø380	ø100	ø13.0	ø21.0	2.0	R1.0	24.4	30.4

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