THE DATASHEET OF

MPC1040LR36C

Large-Current Power Inductors MPC Series

Overview

KEMET's MPC Series of metal composite inductors is designed for use in power supplies with high ripple current. These inductors offer superior saturation current when compared to technologies based on ferrite cores. Their low height makes them ideal in applications with thin profile requirements.

The flat wire used in the design of the MPC Series enables high ripple current carrying capabilities.

Applications

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

Part Number System

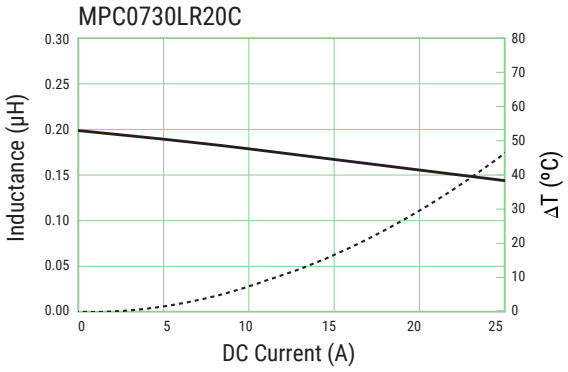
MPC	0740	L	R42C
Series	Size Code	Inductor	Inductance Code µH
MPC	0730 0740 0750 1040 1055 1250		R = decimal point Examples: R42C = 0.42 µH 1R0C = 1.0 µH

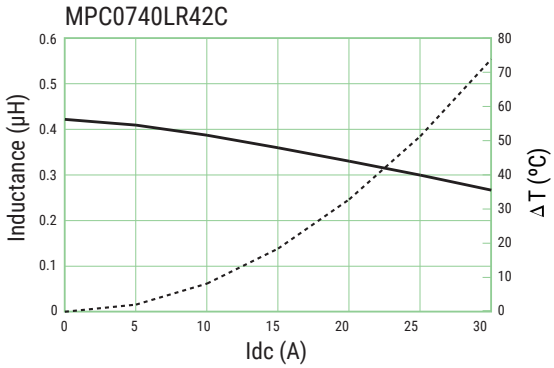
Table 1 – Ratings & Part Number Reference

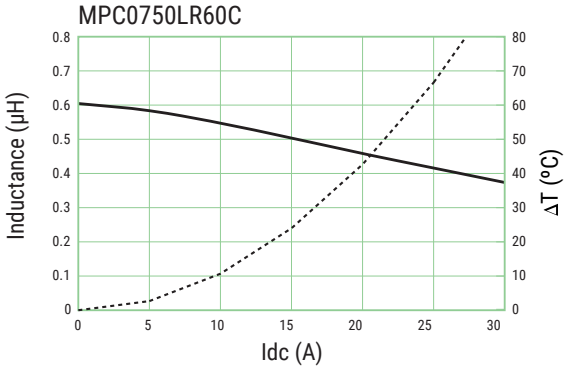
Part Number	Inductance (µH) at 100 kHz	Inductance Tolerance	DC Resistance (mΩ) ±10%	Rated Current (A)	
				Irms[1] (Ref.)	Isat[2] (Ref.)
MPC0730LR20C	0.20	±25%	1.20	23.0	17.5
MPC0740LR42C	0.42	±20%	1.55	22.0	20.0
MPC0750LR60C	0.60	±20%	2.30	17.0	19.0
MPC0750LR68C	0.68	±20%	2.20	18.0	16.0
MPC1040LR36C	0.36	±20%	1.05	25.5	30.0
MPC1040LR45C	0.45	±20%	1.10	25.0	27.0
MPC1040LR56C	0.56	±20%	1.30	23.0	25.0
MPC1040LR88C	0.88	±20%	2.30	17.0	24.0
MPC1055LR36C	0.36	±20%	0.75	32.0	35.0
MPC1055L1R0C	1.00	±20%	2.30	18.5	21.0
MPC1250LR36C	0.36	±20%	0.65	38.0	40.0
MPC1250LR50C	0.50	±20%	0.80	35.0	40.0

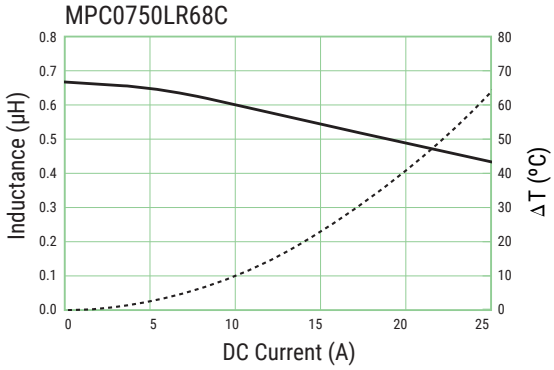
[1] T = 40 K rise at rated current.
[2] Inductance drop 20% at rated current.

DC-Superposed Characteristics



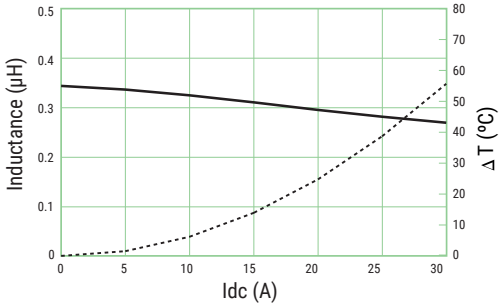






DC-Superposed Characteristics cont'd

MPC1040LR36C



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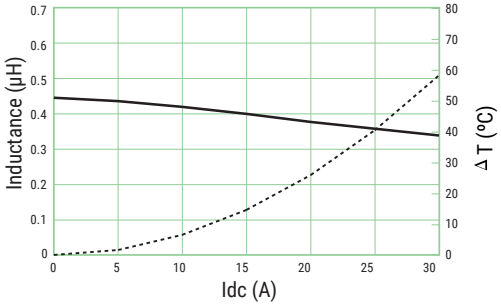

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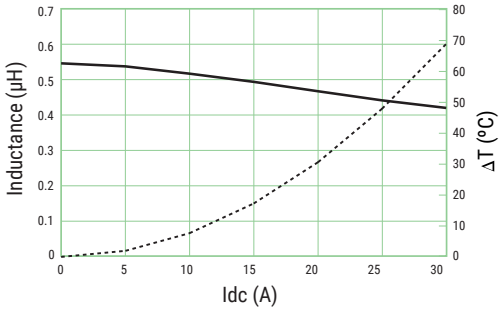

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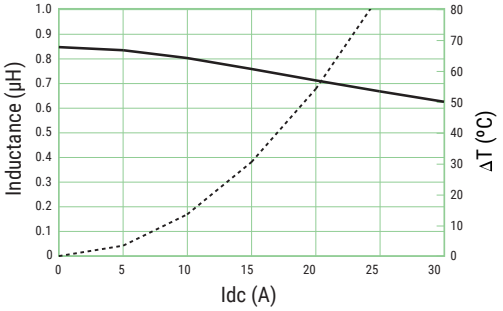

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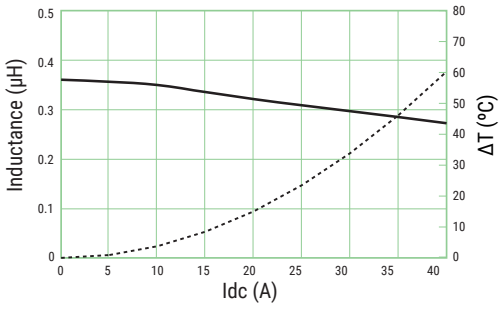

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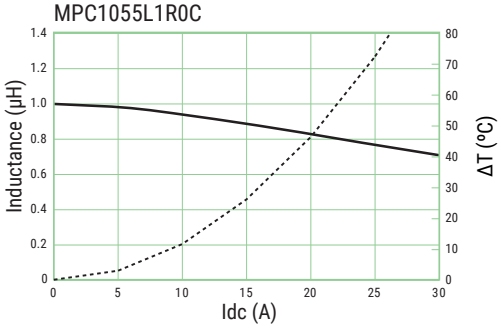

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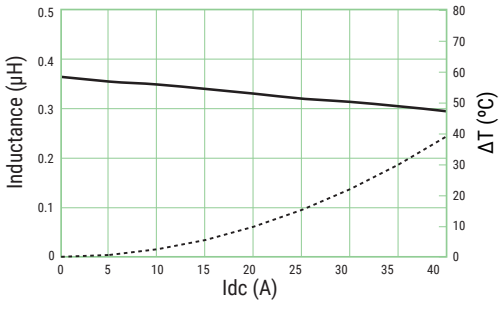

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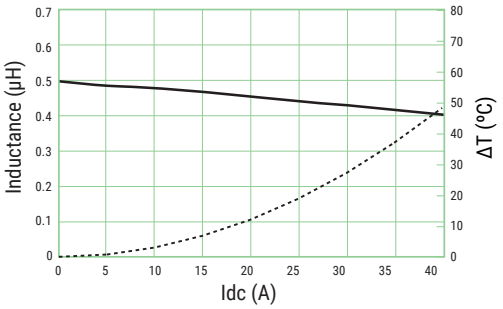
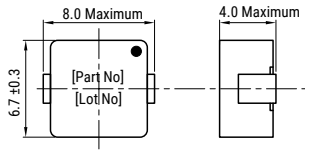
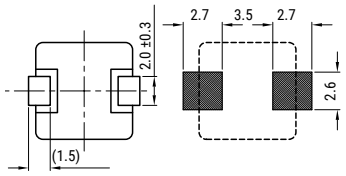
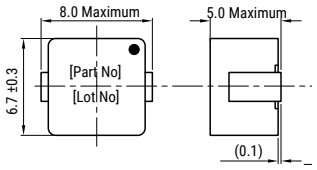
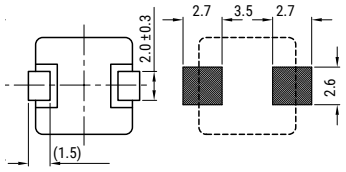
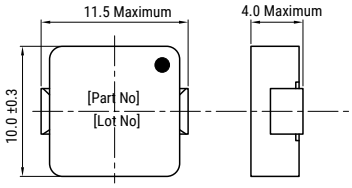
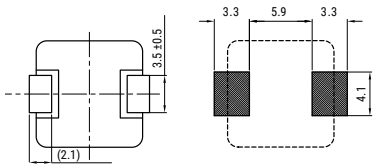
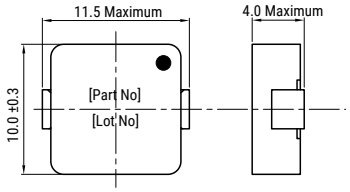
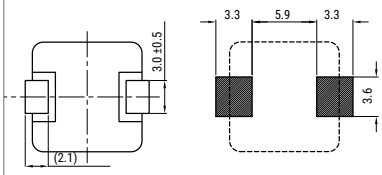
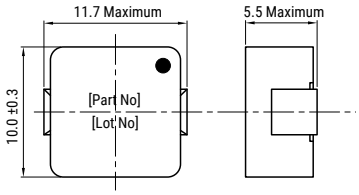
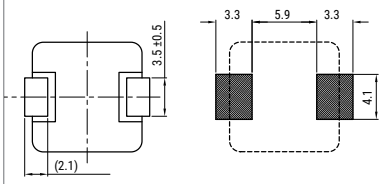
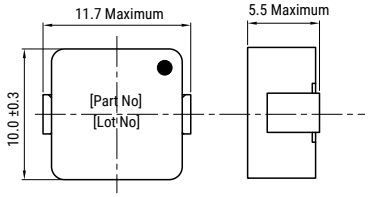
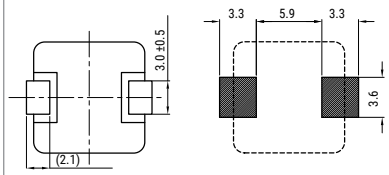
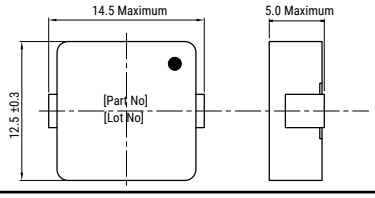
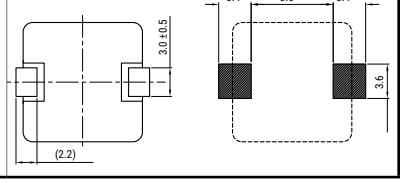


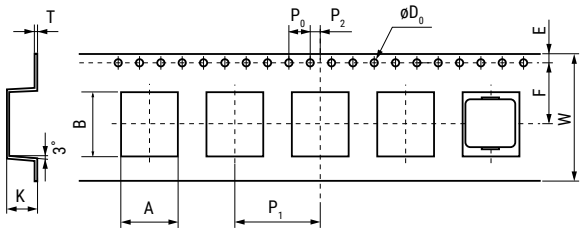
Specifications

Part Number	Dimensions (mm)	Land Pattern
MPC0730LR20C MPC0740LR42C		
MPC0750LR60C MPC0750LR68C		
MPC1040LR36C MPC1040LR45C MPC1040LR56C		
MPC1040LR88C		
MPC1055LR36C		
MPC1055L1R0C		
MPC1250LR36C MPC1250LR50C		

Operating temperature range: -20°C to +120°C (Include self temperature rise)

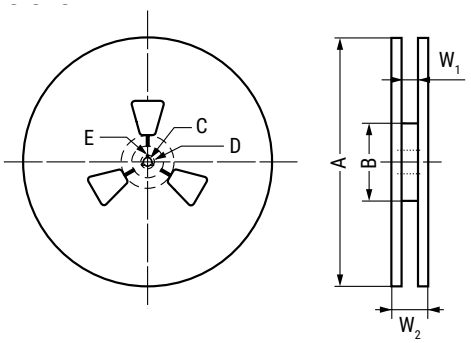
Taping Specification

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
MPC0730 MPC0740 MPC0750	1,000	Tolerance	±0.1	±0.1	±0.2	±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
MPC1040	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
MPC1055	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
MPC1250	500	Tolerance	±0.2	±0.2	±0.4	±0.2	±0.2	±0.2	±0.2	±0.2	±0.02	±0.1	±0.2
		Nominal	13.1	14.6	24.0	11.5	1.75	24.0	2.0	4.0	1.5	0.4	5.3

Reel Specifications



Series		Dimensions (mm)							
		A	B	C	D	E	r	W_1	W_2
MPC0730 MPC0740 MPC0750	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
MPC1040	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
MPC1055	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
MPC1250	Tolerance	±2.0	±5.0	±0.5	±0.8	±0.5		±2.0	±3.0
	Nominal	ø380	ø100	ø13.0	ø21.0	2.0	R1.0	25.5	28.5

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