

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 μ H
MPC	0730 0740 0750 1040 1055 1250		R = decimal point Examples: R42C = 0.42 μ H 1R0C = 1.0 μ H

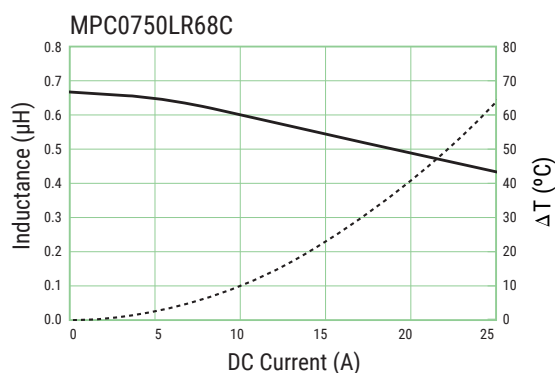
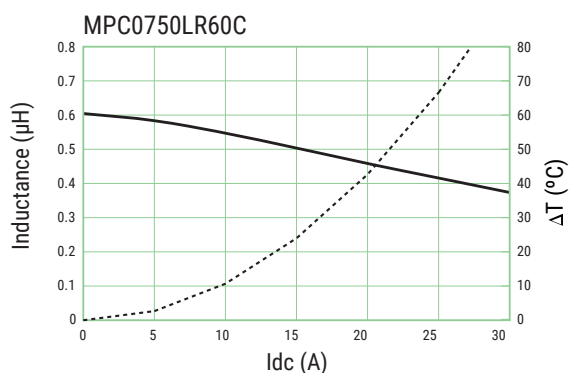
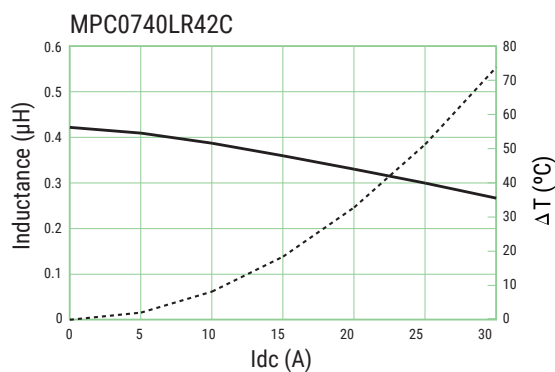
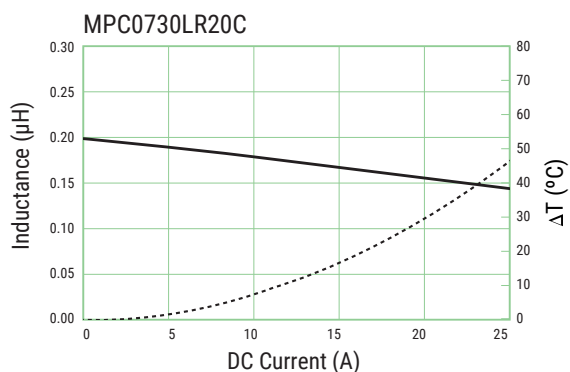
Table 1 – Ratings & Part Number Reference

Part Number	Inductance (μH) at 100 kHz	Inductance Tolerance	DC Resistance (mΩ) ±10%	Rated Current (A)	
				I _{rms} ¹ (Ref.)	I _{sat} 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

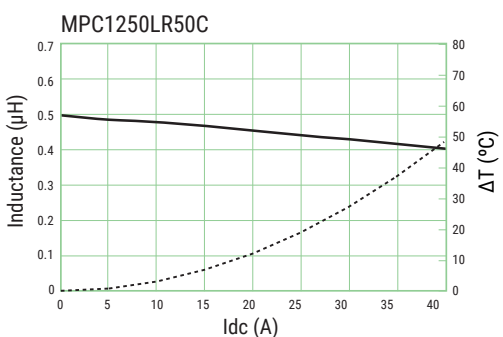
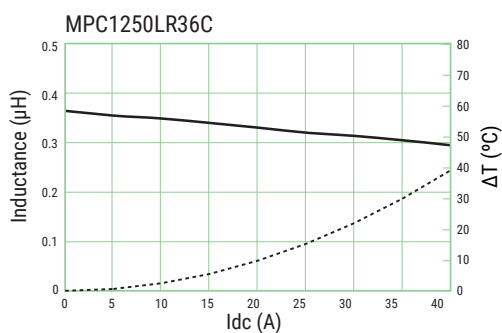
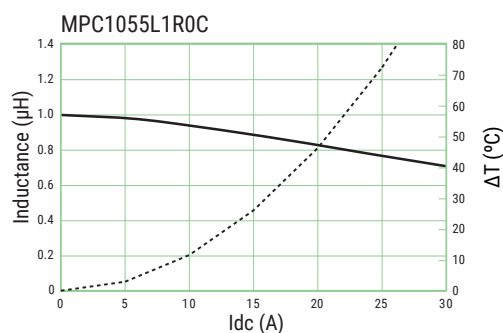
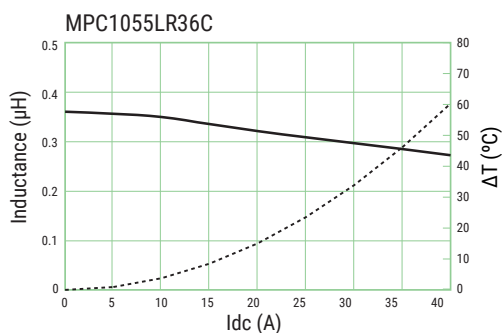
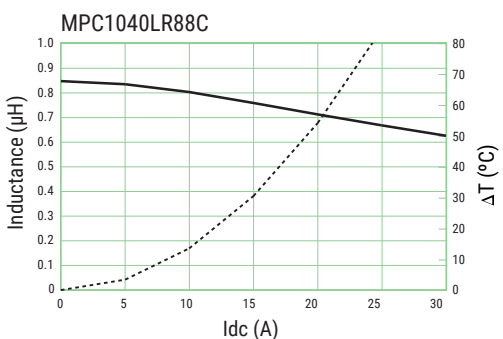
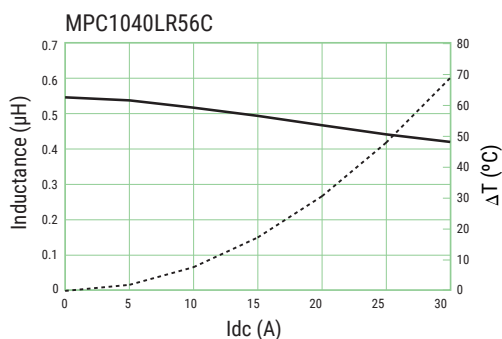
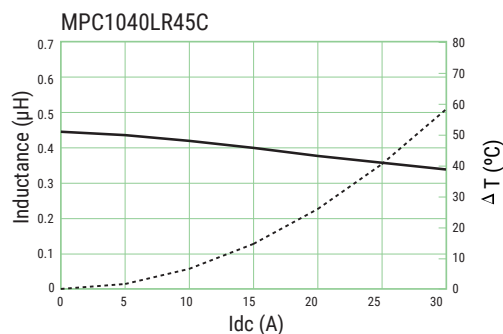
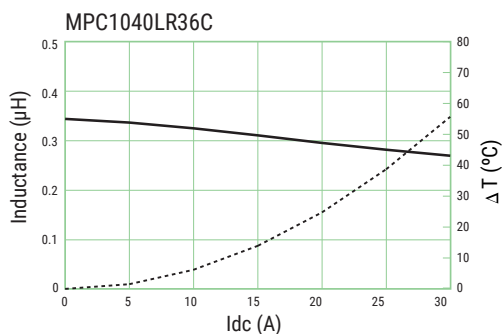
¹ T = 40 K rise at rated current.

² Inductance drop 20% at rated current.

DC-Superposed Characteristics



DC-Superposed Characteristics cont'd



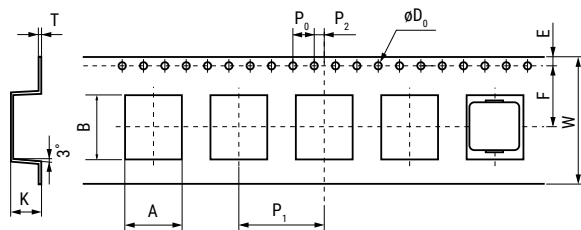
Specifications

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)

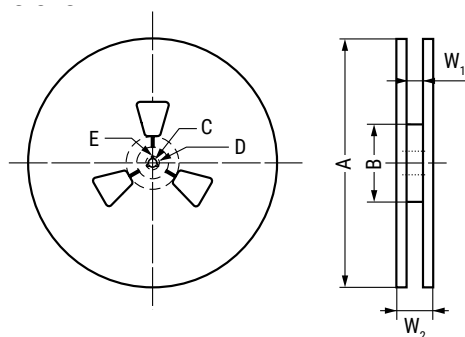
Taping Specification

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

KEMET Electronic Corporation Sales Offices

For a complete list of our global sales offices, please visit www.kemet.com/sales.

Disclaimer

All product specifications, statements, information and data (collectively, the "Information") in this datasheet are subject to change. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed.

All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on KEMET Electronics Corporation's ("KEMET") knowledge of typical operating conditions for such applications, but are not intended to constitute – and KEMET specifically disclaims – any warranty concerning suitability for a specific customer application or use. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by KEMET with reference to the use of KEMET's products is given gratis, and KEMET assumes no obligation or liability for the advice given or results obtained.

Although KEMET designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other measures may not be required.

KEMET is a registered trademark of KEMET Electronics Corporation.