

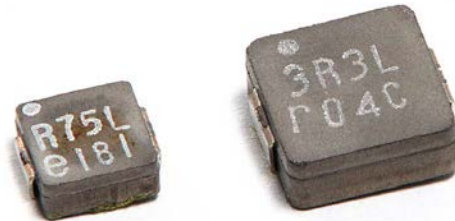
Large-Current Power Inductors MPLC

Overview

The KEMET MPLC metal composite inductors offer large inductance values for use in DC to DC switching power supplies. These inductors offer superior permeability when compared to technologies based on ferrite cores. The round wire design allows for higher inductance compared to other wire designs.

Applications

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



Part Number System

MPLC	0730	L	1R0
Series	Size Code	Inductor	Inductance Code μ H
MPLC	0730 1040		R = decimal point Example: 1R0 = 1.0 μ H

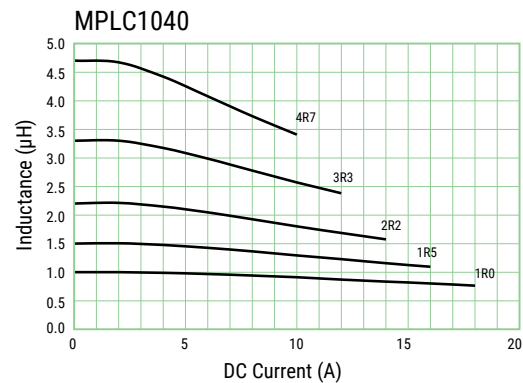
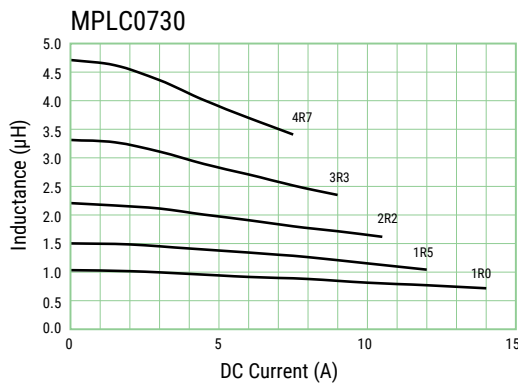
Table 1 – Ratings & Part Number Reference

Part Number	Inductance (μH) at 100 kHz	Inductance Tolerance	DC Resistance (mΩ) Maximum	Rated Current (A)	
				I _{rms} ¹ (Ref.)	I _{sat} ² (Ref.)
MPLC0730L1R0	1.0	±20%	9.0	10.6	11.0
MPLC0730L1R5	1.5	±20%	15.0	8.6	8.8
MPLC0730L2R2	2.2	±20%	19.0	7.3	8.2
MPLC0730L3R3	3.3	±20%	30.0	5.7	6.5
MPLC0730L4R7	4.7	±20%	41.0	5.0	5.6
MPLC1040L1R0	1.0	±20%	5.5	14.3	16.2
MPLC1040L1R5	1.5	±20%	7.0	12.4	12.7
MPLC1040L2R2	2.2	±20%	10.0	10.5	11.0
MPLC1040L3R3	3.3	±20%	14.0	8.8	9.3
MPLC1040L4R7	4.7	±20%	19.0	8.0	8.0

¹ T = 40 K rise at rated current.

² Inductance drop 20% at rated current.

DC-Superposed Characteristics



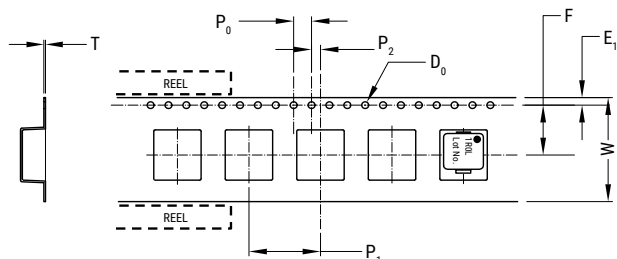
Dimensions

Part Number	Dimensions (mm)	Land Pattern
MPLC0730		
MPLC1040		

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

Taping Specification

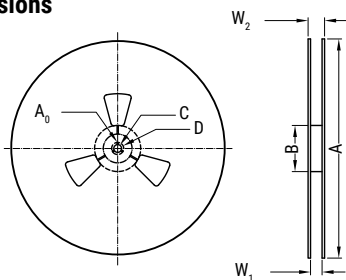
Dimensions of indented square hole plastic tape



Case Size	Reel Quantity		Dimensions (mm)								
			W	F	E ₁	P ₁	P ₂	P ₀	∅D ₀	T	
MPLC0730	1,000	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	16.0	7.5	1.75	12.0	2.0	4.0	1.55	0.4	
MPLC1040	500	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	24.0	11.5	1.75	16.0	2.0	4.0	1.55	0.4	

Reel Specifications

Reel dimensions



Case Size		Dimensions (mm)							
		A	B	C	D	A ₀	r	W ₁	W ₂
MPLC0730	Tolerance	±5.0	±5.0	±0.5	±0.8	±0.5		±1.0	±1.0
	Nominal	∅330	∅80	∅13.0	∅21.0	2.0	R1.0	17.5	21.5
MPLC1040	Tolerance	±2.0	±1.0	±0.5	±0.8	±0.5		±2.0	±3.0
	Nominal	∅330	∅80	∅13.5	∅21.0	2.0	R1.0	24.4	30.4

Handling Precautions

Inductors should be stored in normal working environments. While the inductors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage.

KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine and sulfur bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts. For optimized solderability, inductors' stock should be used promptly, preferably within six months of receipt.

Export Control

For customers in Japan

For products which are controlled items subject to the "Foreign Exchange and Foreign Trade Law" of Japan, the export license specified by the law is required for export.

For customers outside Japan

Inductors should not be used or sold for use in the development, production, stockpiling or utilization of any conventional weapons or mass-destruction weapons (nuclear, chemical, biological weapons or missiles), or any other weapons.

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