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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Large-Current Power Inductors MPLCH

Overview

The KEMET MPLCH metal composite inductors are ideal for use in DC to DC switching power supplies. The combination of composite core material and round wire allow these inductors to provide high permeability, low DC resistance and high inductance.

Applications

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

Part Number System

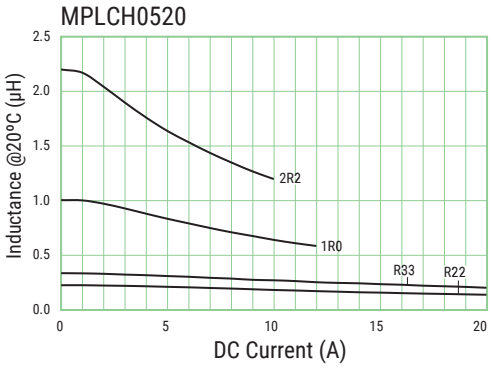
MPLCH	0740	L	1R0
Series	Size Code	Inductor	Inductance Code µH
MPLCH	0520 0618 0740		R = decimal point Example: 1R0 = 1.0 µH

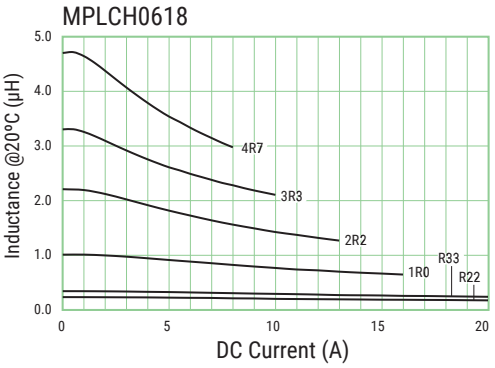
Table 1 – Ratings & Part Number Reference

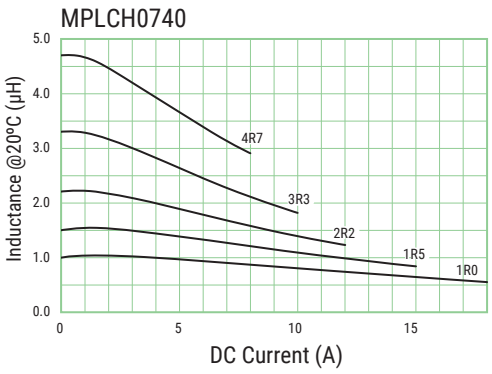
Part Number	Inductance (µH) at 100 kHz	Inductance Tolerance	DC Resistance (mΩ) Maximum	Rated Current (A)	
				Irms[1] (Ref.)	Isat[2] (Ref.)
MPLCH0520LR22	0.22	±20%	5.7	10.1	14.2
MPLCH0520LR33	0.33	±20%	6.5	9.5	14.0
MPLCH0520L1R0	1.0	±20%	23.3	4.9	8.1
MPLCH0520L2R2	2.2	±20%	45.5	3.5	5.9
MPLCH0618LR22	0.22	±20%	3.9	16.1	22.4
MPLCH0618LR33	0.33	±20%	6.0	13.3	18.9
MPLCH0618L1R0	1.0	±20%	17.8	7.5	12.5
MPLCH0618L2R2	2.2	±20%	37.0	5.3	8.2
MPLCH0618L3R3	3.3	±20%	58.0	4.1	7.6
MPLCH0618L4R7	4.7	±20%	78.0	3.6	6.2
MPLCH0740L1R0	1.0	±20%	6.0	13.6	13.4
MPLCH0740L1R5	1.5	±20%	9.0	11.1	10.8
MPLCH0740L2R2	2.2	±20%	13.0	9.3	9.0
MPLCH0740L3R3	3.3	±20%	19.0	7.8	7.0
MPLCH0740L4R7	4.7	±20%	33.0	5.8	6.5

[1] *T = 40 K rise at rated current.*
[2] *Inductance drop 30% at rated current.*

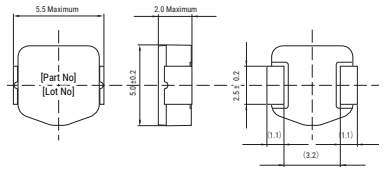
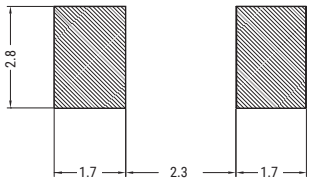
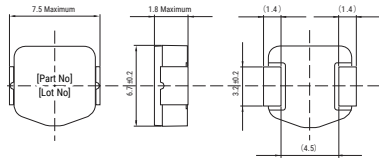
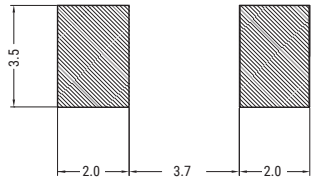
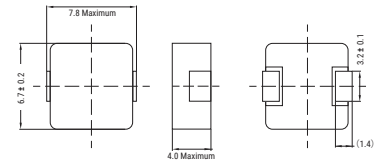
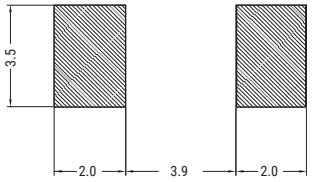
DC-Superposed Characteristics







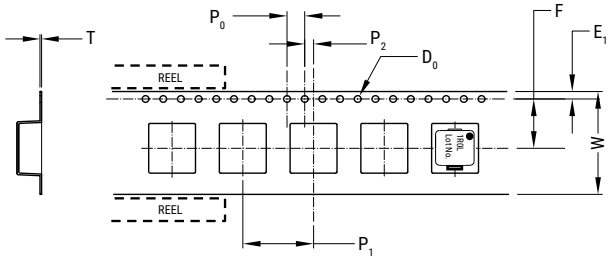
Dimensions

Part Number	Dimensions (mm)	Land Pattern
MPLCH0520		
MPLCH0618		
MPLCH0740		

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

Taping Specification

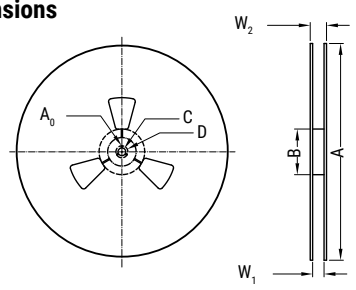
Dimensions of indented square hole plastic tape



Case Size	Reel Quantity		Dimensions (mm)							
			W	F	E_1	P_1	P_2	P_0	øD_0	T
MPLCH0520	5,000	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	12.0	5.5	1.75	8.0	2.0	4.0	1.55	0.4
MPLCH0618	3,500	Tolerance	±0.3	±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
MPLCH0740	1,000	Tolerance	±0.2	±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

Reel Specifications

Reel dimensions



Case Size		Dimensions (mm)							
		A	B	C	D	A_0	r	W_1	W_2
MPLCH0520	Tolerance	±5.0	±10	±1.0	±0.8	±0.5		±1.5	±2.0
	Nominal	ø380	ø95	ø13.5	ø21.0	2.0	R1.0	14.5	18.5
MPLCH0618	Tolerance	±5.0	±10	±1.0	±0.8	±0.5		±1.0	±1.5
	Nominal	ø380	ø95	ø13.5	ø21.0	2.0	R1.0	18.0	21.6
MPLCH0740	Tolerance	±2.0	±5.0	±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

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.

KEMET Electronics Corporation Sales Offices

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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 indicted or that other measures may not be required.