

## Overview

KEMET's MPLCH Series of metal composite inductors is ideal for use in DC to DC switching power supplies. The combination of composite core material and round wire allows 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

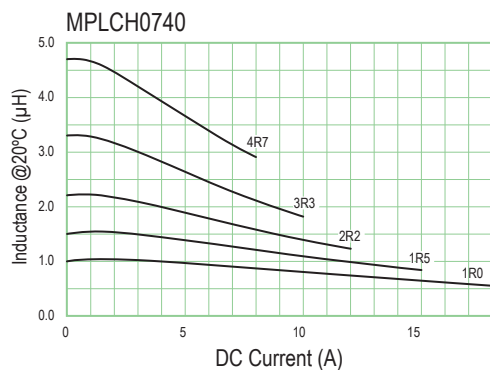
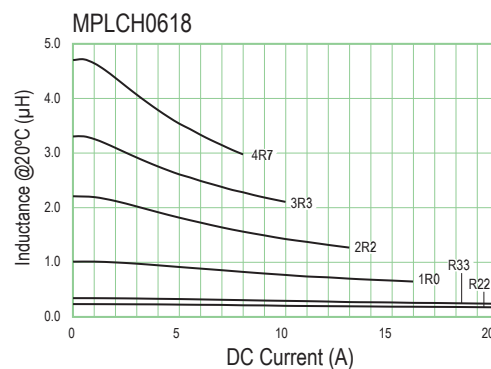
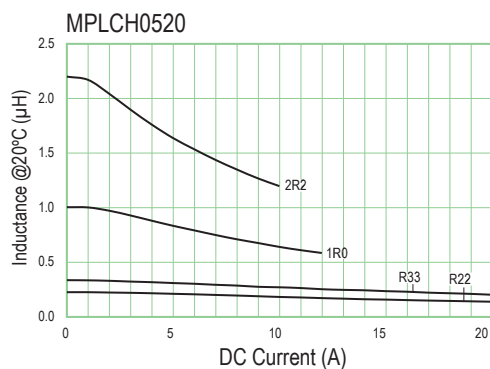


## Part Number System

| MPLCH  | 0740                 | L        | 1R0                                                      |
|--------|----------------------|----------|----------------------------------------------------------|
| Series | Size Code            | Inductor | Inductance Code $\mu\text{H}$                            |
| MPLCH  | 0520<br>0618<br>0740 |          | R = decimal point<br>Example:<br>1R0 = 1.0 $\mu\text{H}$ |

**Table 1 – Ratings & Part Number Reference**

| Part Number   | Inductance (μH)<br>@ 100 kHz | Inductance<br>Tolerance | DC Resistance<br>(mΩ) ±10% | Rated Current (A)                    |                                      |
|---------------|------------------------------|-------------------------|----------------------------|--------------------------------------|--------------------------------------|
|               |                              |                         |                            | I <sub>rms</sub> <sup>1</sup> (Ref.) | I <sub>sat</sub> <sup>2</sup> (Ref.) |
| MPLCH0520LR22 | 0.22                         | ±20%                    | 5.7                        | 10.1                                 | 14.2                                 |
| MPLCH0520LR33 | 0.33                         | ±20%                    | 6.8                        | 9.1                                  | 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                                  |

<sup>1</sup> T = 40 K rise at rated current.<sup>2</sup> Inductance drop 20% at rated current.**DC-Superposed Characteristics**

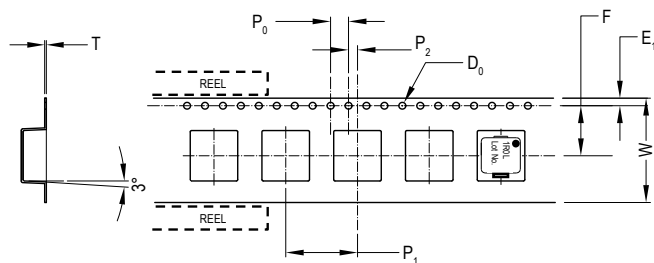
## Specifications

| Part Number | Dimensions (mm) | Land Pattern |
|-------------|-----------------|--------------|
| MPLCH0520   |                 |              |
| MPLCH618    |                 |              |
| MPLCH0740   |                 |              |

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

## Taping Specification

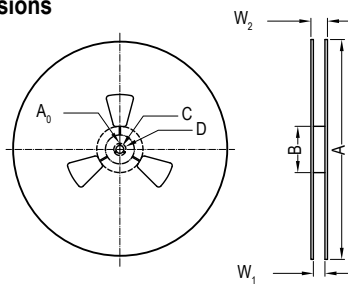
### Dimensions of indented square hole plastic tape



| Series    | Reel Qty |           | Dimensions (mm) |      |                |                |                |                |                 |       |
|-----------|----------|-----------|-----------------|------|----------------|----------------|----------------|----------------|-----------------|-------|
|           |          |           | W               | F    | E <sub>1</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>0</sub> | øD <sub>0</sub> | 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



| Series    |           | Dimensions (mm) |      |       |       |       |      |       |       |
|-----------|-----------|-----------------|------|-------|-------|-------|------|-------|-------|
|           |           | A               | B    | C     | D     | $A_0$ | r    | $W_1$ | $W_2$ |
| MPLCH0520 | Tolerance | ±1.0            | ±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 | ±1.0            | ±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  |

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Components Supply Platform

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