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SMD Inductors

Metal Composite Power Inductors MPX

Electronic Components

KEMET CHARGED.

METCOM KEMET POWER INDUCTORS

Overview

The KEMET MPX metal composite inductors are ideal for use in DC to DC switching power supplies, as power inductors as well as EMI filter inductors. The metal composite core has high saturation capabilities maintaining functionality with high current transients and is characterized by temperature stable inductance.

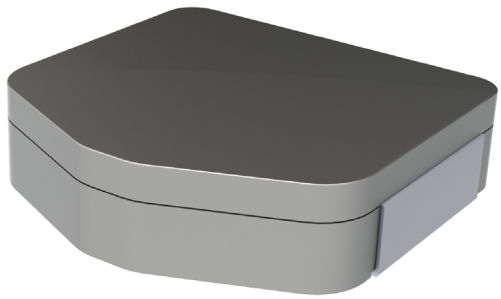
Applications

Consumer and commercial power applications such as:

- High frequency DC-DC converters, including WBG GaN applications
- PCs and servers
- Points of loads (POL)
- Field-programmable gate arrays (FPGA)
- Battery powered regulators

Benefits

- Metal composite powder
- Shielded construction, SMD configuration
- Inductance range from 0.10 to 100.00 µH
- Operating temperature up to +155°C
- Low acoustic noise
- Low magnetic flux leakage



Part Number System

MPX	1	D0520		L	1R5
Series	Version	Size Code		Inductor	Inductance Code µH
MPX	1	D0520 = 5x5x2.0 mm D0530 = 5x5x3.0 mm D0618 = 6x6x1.8 mm D0624 = 6x6x2.4 mm D0630 = 6x6x3.0 mm D0650 = 6x6x5.0 mm D0830 = 8x8x3.0 mm D0840 = 8x8x4.0 mm	D1040 = 10x10x4.0 mm D1235 = 12x12x3.5 mm D1250 = 12x12x5.0 mm D1264 = 12x12x6.4 mm D1740 = 17x17x4.0 mm D1770 = 17x17x7.0 mm D2213 = 22x22x13.0 mm		The first two digits represent the inductance value. The third digit indicates the number of zeros to be added. R = decimal point Examples: 100 = 10.00 µH R68 = 0.68 µH 1R5 = 1.50 µH 101 = 100.00 µH

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Performance Characteristics

Item	Performance Characteristics
Operating Temperature	−55°C to +155°C (including self-temperature rise)
Rated Inductance Range	0.10 – 100.00 µH at 100 kHz, 1 mA
Inductance Tolerance	±20%
Rated DC Resistance Range	0.48 – 341.2 mΩ maximum
Rated Current Range	2 – 90 A

Table 1 – Ratings & Part Number Reference

Part Number	Inductance (µH) at 100 kHz, 1 mA	Inductance Tolerance	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Maximum	Rated Current (A)			Self-Resonance Frequency (MHz)
					Irms[1] (Reference)	Isat[2] (Reference)	Isat[3] (Reference)	
MPX1D0520LR15	0.15	±20%	3.40	3.90	16.9	15.5	22.0	190.0
MPX1D0520LR22	0.22	±20%	4.30	5.00	15.0	14.5	19.0	150.0
MPX1D0520LR33	0.33	±20%	5.30	6.20	13.4	11.0	16.0	110.0
MPX1D0520LR47	0.47	±20%	6.70	7.80	12.0	9.0	14.0	87.0
MPX1D0520LR68	0.68	±20%	10.60	12.20	9.5	7.5	11.0	74.0
MPX1D0520L1R0	1.00	±20%	16.40	18.90	7.6	7.0	9.0	62.0
MPX1D0520L1R5	1.50	±20%	30.90	35.60	5.6	4.5	7.0	44.0
MPX1D0520L2R2	2.20	±20%	35.10	40.40	5.2	4.5	6.5	39.0
MPX1D0520L3R3	3.30	±20%	55.80	64.20	4.1	3.5	5.5	34.0
MPX1D0520L4R7	4.70	±20%	84.00	96.60	3.4	3.5	4.5	26.0
MPX1D0520L6R8	6.80	±20%	113.40	130.50	2.9	2.5	4.0	22.0
MPX1D0520L100	10.00	±20%	193.70	222.80	2.2	2.5	3.5	20.0
MPX1D0530LR15	0.15	±20%	2.40	2.80	22.0	15.0	21.0	180.0
MPX1D0530LR22	0.22	±20%	3.40	3.90	18.4	11.0	16.0	140.0
MPX1D0530LR33	0.33	±20%	4.50	5.20	16.0	10.5	15.0	110.0
MPX1D0530LR47	0.47	±20%	6.00	6.90	13.8	9.0	13.0	91.0
MPX1D0530LR68	0.68	±20%	7.10	8.20	12.6	8.0	12.0	70.0
MPX1D0530L1R0	1.00	±20%	10.00	11.50	10.7	7.5	10.5	52.0
MPX1D0530L1R5	1.50	±20%	15.30	17.70	8.6	5.5	8.0	45.0
MPX1D0530L2R2	2.20	±20%	21.40	24.60	7.3	4.5	6.5	35.0
MPX1D0530L3R3	3.30	±20%	37.20	42.80	5.5	4.0	5.5	29.0
MPX1D0530L4R7	4.70	±20%	54.10	62.20	4.6	3.0	4.5	26.0
MPX1D0530L6R8	6.80	±20%	93.70	107.80	3.5	2.5	4.0	23.0
MPX1D0530L100	10.00	±20%	121.80	140.10	3.1	2.5	3.5	18.0
MPX1D0530L150	15.00	±20%	186.50	214.60	2.5	2.0	3.0	15.0
MPX1D0530L220	22.00	±20%	296.60	341.20	2.0	1.8	2.5	12.0
MPX1D0618LR10	0.10	±20%	2.40	2.80	18.9	22.5	40.0	230.0
MPX1D0618LR15	0.15	±20%	3.20	3.80	16.2	20.0	30.0	170.0
MPX1D0618LR22	0.22	±20%	4.60	5.30	13.7	16.0	26.0	140.0
Part Number	**Inductance (µH) at 100 kHz, 1 mA**	**Inductance Tolerance**	**DC Resistance (mΩ) Typical**	**DC Resistance (mΩ) Maximum**	**Irms[1]**	**Isat[2]**	**Isat[3]**	
					Rated Current (A)			

[1] *T = 40 K rise at rated current*
[2] *Inductance drop 20% at rated current*
[3] *Inductance drop 30% at rated current*

All electrical characteristics data is referenced to 25°C.

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Table 1 – Ratings & Part Number Reference cont.

Part Number	Inductance (µH) at 100 kHz, 1 mA	Inductance Tolerance	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Maximum	Rated Current (A)			Self-Resonance Frequency (MHz)
					Irms[1] (Reference)	Isat[2] (Reference)	Isat[3] (Reference)	
MPX1D0618LR33	0.33	±20%	5.30	6.10	12.7	15.0	20.0	96.0
MPX1D0618LR47	0.47	±20%	7.40	8.50	10.7	11.0	17.0	95.0
MPX1D0618LR68	0.68	±20%	11.00	12.70	8.8	9.0	13.0	95.0
MPX1D0618L1R0	1.00	±20%	16.70	19.30	7.1	8.0	11.0	55.0
MPX1D0618L1R5	1.50	±20%	22.40	25.80	6.2	6.5	10.5	40.0
MPX1D0618L2R2	2.20	±20%	29.40	33.80	5.4	6.0	9.0	39.0
MPX1D0618L3R3	3.30	±20%	53.40	61.50	4.0	4.5	6.5	30.0
MPX1D0618L4R7	4.70	±20%	72.50	83.40	3.4	4.0	6.0	26.0
MPX1D0624LR10	0.10	±20%	1.50	1.80	26.6	25.0	42.0	210.0
MPX1D0624LR15	0.15	±20%	2.00	2.30	23.2	20.5	37.0	130.0
MPX1D0624LR22	0.22	±20%	2.80	3.30	19.4	19.5	29.0	120.0
MPX1D0624LR33	0.33	±20%	3.60	4.20	17.2	17.5	22.5	91.0
MPX1D0624LR47	0.47	±20%	4.50	5.20	15.4	14.5	20.0	71.0
MPX1D0624LR68	0.68	±20%	6.70	7.80	12.6	11.5	16.0	57.0
MPX1D0624L1R0	1.00	±20%	9.10	10.50	10.8	9.0	13.0	46.0
MPX1D0624L1R5	1.50	±20%	16.10	18.50	8.1	7.0	10.0	43.0
MPX1D0624L2R2	2.20	±20%	26.60	30.70	6.3	6.0	9.0	34.0
MPX1D0624L3R3	3.30	±20%	29.40	33.80	6.0	5.0	8.0	27.0
MPX1D0624L4R7	4.70	±20%	44.00	50.60	4.9	5.5	6.5	22.0
MPX1D0624L6R8	6.80	±20%	58.60	67.40	4.3	4.5	5.5	18.0
MPX1D0624L100	10.00	±20%	98.40	113.20	3.3	3.5	4.5	16.0
MPX1D0630LR10	0.10	±20%	1.30	1.50	31.1	35.0	50.0	200.0
MPX1D0630LR15	0.15	±20%	1.60	1.90	27.6	24.0	40.0	130.0
MPX1D0630LR22	0.22	±20%	2.20	2.60	23.3	22.0	33.0	110.0
MPX1D0630LR33	0.33	±20%	2.70	3.20	21.1	17.0	25.0	84.0
MPX1D0630LR47	0.47	±20%	3.50	4.00	18.7	15.0	21.0	70.0
MPX1D0630LR68	0.68	±20%	5.30	6.20	15.1	11.5	17.0	55.0
MPX1D0630L1R0	1.00	±20%	7.10	8.20	13.1	9.0	13.0	43.0
MPX1D0630L1R5	1.50	±20%	11.00	12.70	10.5	7.0	11.0	38.0
MPX1D0630L2R2	2.20	±20%	15.90	18.30	8.7	6.5	9.0	30.0
MPX1D0630L3R3	3.30	±20%	26.30	30.30	6.8	5.0	7.0	26.0
MPX1D0630L4R7	4.70	±20%	31.80	36.70	6.2	4.5	6.5	21.0
MPX1D0630L6R8	6.80	±20%	44.20	50.90	5.2	4.0	5.5	16.0
MPX1D0630L100	10.00	±20%	67.80	78.00	4.2	3.5	4.5	15.0
MPX1D0630L150	15.00	±20%	113.20	130.20	3.3	3.0	4.0	13.0
MPX1D0630L220	22.00	±20%	162.00	186.30	2.7	2.5	3.5	9.6
Part Number	Inductance (µH) at 100 kHz, 1 mA	Inductance Tolerance	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Maximum	Irms[1]	Isat[2]	Isat[3]	
					Rated Current (A)			

[1] *T = 40 K rise at rated current*
[2] *Inductance drop 20% at rated current*
[3] *Inductance drop 30% at rated current*

All electrical characteristics data is referenced to 25°C.

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Table 1 – Ratings & Part Number Reference cont.

Part Number	Inductance (µH) at 100 kHz, 1 mA	Inductance Tolerance	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Maximum	Rated Current (A)			Self-Resonance Frequency (MHz)
					Irms[1] (Reference)	Isat[2] (Reference)	Isat[3] (Reference)	
MPX1D0650LR68	0.68	±20%	3.60	4.10	18.8	12.0	17.0	54.0
MPX1D0650L1R0	1.00	±20%	5.10	6.00	15.6	9.0	13.0	42.0
MPX1D0650L1R5	1.50	±20%	7.20	8.30	13.2	7.5	12.0	35.0
MPX1D0650L2R2	2.20	±20%	10.00	11.60	11.2	7.0	10.0	30.0
MPX1D0650L3R3	3.30	±20%	16.40	18.90	8.7	5.0	8.0	26.0
MPX1D0650L4R7	4.70	±20%	27.80	32.00	6.7	4.5	6.5	19.0
MPX1D0650L6R8	6.80	±20%	38.40	44.20	5.7	4.0	5.5	17.0
MPX1D0650L100	10.00	±20%	53.40	61.40	4.8	3.5	4.5	13.0
MPX1D0830LR22	0.22	±20%	1.60	1.90	30.7	27.0	43.0	140.0
MPX1D0830LR33	0.33	±20%	2.30	2.70	25.8	22.5	35.0	83.0
MPX1D0830LR47	0.47	±20%	2.70	3.10	24.0	20.5	30.0	80.0
MPX1D0830LR68	0.68	±20%	3.80	4.40	20.1	20.0	28.0	55.0
MPX1D0830L1R0	1.00	±20%	5.00	5.70	17.6	16.0	23.0	46.0
MPX1D0830L1R5	1.50	±20%	7.90	9.10	14.0	13.0	18.0	37.0
MPX1D0830L2R2	2.20	±20%	11.80	13.60	11.4	11.0	14.0	30.0
MPX1D0830L3R3	3.30	±20%	19.40	22.30	8.9	9.0	12.5	24.0
MPX1D0830L4R7	4.70	±20%	25.80	29.70	7.7	7.5	10.5	18.0
MPX1D0830L6R8	6.80	±20%	32.90	37.90	6.8	7.5	10.0	16.0
MPX1D0830L100	10.00	±20%	53.60	61.70	5.4	5.5	8.0	12.0
MPX1D0830L150	15.00	±20%	82.30	94.60	4.3	4.5	6.5	11.0
MPX1D0830L220	22.00	±20%	116.90	134.50	3.6	3.5	5.0	8.1
MPX1D0830L330	33.00	±20%	199.60	229.50	2.8	3.0	4.0	6.9
MPX1D0840LR22	0.22	±20%	1.20	1.50	35.4	35.0	53.0	100.0
MPX1D0840LR33	0.33	±20%	2.00	2.40	27.7	30.0	45.0	77.0
MPX1D0840LR47	0.47	±20%	2.30	2.70	25.8	26.0	38.0	59.0
MPX1D0840LR68	0.68	±20%	3.10	3.60	22.4	20.5	30.0	46.0
MPX1D0840L1R0	1.00	±20%	3.60	4.20	20.8	19.5	28.0	40.0
MPX1D0840L1R5	1.50	±20%	5.80	6.80	16.2	14.0	19.0	29.0
MPX1D0840L2R2	2.20	±20%	7.50	8.70	14.3	13.0	17.0	27.0
MPX1D0840L3R3	3.30	±20%	12.10	14.00	11.3	11.0	15.0	22.0
MPX1D0840L4R7	4.70	±20%	20.40	23.50	8.7	7.5	11.0	17.0
MPX1D0840L6R8	6.80	±20%	29.00	33.40	7.3	6.5	9.0	13.0
MPX1D0840L100	10.00	±20%	43.10	49.60	6.0	5.5	7.5	12.0
MPX1D0840L150	15.00	±20%	56.50	65.00	5.2	4.5	6.5	9.0
MPX1D0840L220	22.00	±20%	85.40	98.30	4.2	4.0	5.5	7.7
MPX1D0840L330	33.00	±20%	134.10	154.20	3.4	3.5	4.5	6.2
Part Number	**Inductance (µH) at 100 kHz, 1 mA**	**Inductance Tolerance**	**DC Resistance (mΩ) Typical**	**DC Resistance (mΩ) Maximum**	**Irms[1]**	**Isat[2]**	**Isat[3]**	
					Rated Current (A)			

[1] *T = 40 K rise at rated current*
[2] *Inductance drop 20% at rated current*
[3] *Inductance drop 30% at rated current*

All electrical characteristics data is referenced to 25°C.

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Table 1 – Ratings & Part Number Reference cont.

Part Number	Inductance (µH) at 100 kHz, 1 mA	Inductance Tolerance	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Maximum	Rated Current (A)			Self-Resonance Frequency (MHz)
					Irms[1] (Reference)	Isat[2] (Reference)	Isat[3] (Reference)	
MPX1D0840L470	47.00	±20%	197.10	226.70	2.8	2.5	3.5	5.7
MPX1D1040LR22	0.22	±20%	1.40	1.60	32.7	40.0	60.0	108.0
MPX1D1040LR33	0.33	±20%	1.60	1.90	29.7	31.0	47.0	75.0
MPX1D1040LR47	0.47	±20%	2.10	2.40	26.4	29.0	42.0	65.0
MPX1D1040LR68	0.68	±20%	2.70	3.20	23.1	23.0	34.5	47.0
MPX1D1040L1R0	1.00	±20%	3.30	3.80	21.1	19.5	29.0	35.0
MPX1D1040L1R5	1.50	±20%	4.60	5.40	17.7	18.0	26.0	30.0
MPX1D1040L2R2	2.20	±20%	6.80	7.90	14.6	13.0	18.5	23.0
MPX1D1040L3R3	3.30	±20%	11.10	12.80	11.4	11.0	15.0	18.0
MPX1D1040L4R7	4.70	±20%	13.80	15.90	10.3	10.0	14.0	17.0
MPX1D1040L6R8	6.80	±20%	20.90	24.10	8.3	8.0	11.5	14.0
MPX1D1040L100	10.00	±20%	29.60	34.10	7.0	7.5	10.5	11.0
MPX1D1040L150	15.00	±20%	44.50	51.20	5.7	5.5	8.5	8.0
MPX1D1040L220	22.00	±20%	66.20	76.10	4.7	5.0	7.0	7.0
MPX1D1040L330	33.00	±20%	104.10	119.70	3.7	3.5	5.0	5.0
MPX1D1040L470	47.00	±20%	158.80	182.60	3.0	3.0	4.0	4.5
MPX1D1235LR15	0.15	±20%	1.10	1.30	39.9	54.0	85.0	128.0
MPX1D1235LR22	0.22	±20%	1.30	1.60	35.2	50.0	75.0	100.0
MPX1D1235LR33	0.33	±20%	1.50	1.80	33.4	40.0	55.0	63.0
MPX1D1235LR47	0.47	±20%	2.00	2.30	28.9	31.0	45.0	58.0
MPX1D1235LR68	0.68	±20%	2.50	2.90	25.9	28.0	40.0	46.0
MPX1D1235L1R0	1.00	±20%	3.60	4.20	21.5	22.0	32.5	33.0
MPX1D1235L1R5	1.50	±20%	5.20	6.00	17.9	19.0	28.0	29.0
MPX1D1235L2R2	2.20	±20%	7.30	8.40	15.2	15.5	23.0	21.0
MPX1D1235L3R3	3.30	±20%	10.60	12.20	12.5	12.0	18.0	18.0
MPX1D1235L4R7	4.70	±20%	14.20	16.40	10.9	11.5	17.5	14.0
MPX1D1235L6R8	6.80	±20%	18.80	21.70	9.4	9.5	14.0	12.0
MPX1D1235L100	10.00	±20%	30.40	35.00	7.4	8.5	12.0	9.5
MPX1D1250LR22	0.22	±20%	1.00	1.20	42.7	55.0	85.0	95.0
MPX1D1250LR33	0.33	±20%	1.10	1.30	41.6	45.0	65.0	68.0
MPX1D1250LR47	0.47	±20%	1.50	1.80	34.8	37.0	55.0	54.0
MPX1D1250LR68	0.68	±20%	1.70	2.00	32.7	30.0	45.0	45.0
MPX1D1250L1R0	1.00	±20%	2.20	2.60	28.8	30.5	43.0	34.0
MPX1D1250L1R5	1.50	±20%	3.10	3.60	24.2	22.0	32.0	25.0
MPX1D1250L2R2	2.20	±20%	4.10	4.80	21.0	20.0	28.5	21.0
MPX1D1250L3R3	3.30	±20%	6.40	7.40	16.8	15.0	22.0	17.0
Part Number	**Inductance (µH) at 100 kHz, 1 mA**	**Inductance Tolerance**	**DC Resistance (mΩ) Typical**	**DC Resistance (mΩ) Maximum**	**Irms[1]**	**Isat[2]**	**Isat[3]**	
					Rated Current (A)			

[1] *T = 40 K rise at rated current*
[2] *Inductance drop 20% at rated current*
[3] *Inductance drop 30% at rated current*

All electrical characteristics data is referenced to 25°C.

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Table 1 – Ratings & Part Number Reference cont.

Part Number	Inductance (µH) at 100 kHz, 1 mA	Inductance Tolerance	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Maximum	Rated Current (A)			Self-Resonance Frequency (MHz)
					Irms[1] (Reference)	Isat[2] (Reference)	Isat[3] (Reference)	
MPX1D1250L4R7	4.70	±20%	8.80	10.10	14.4	12.0	17.5	13.0
MPX1D1250L6R8	6.80	±20%	13.40	15.50	11.6	10.0	14.0	10.0
MPX1D1250L100	10.00	±20%	17.90	20.60	10.1	9.0	13.5	8.5
MPX1D1250L150	15.00	±20%	26.80	30.80	8.2	7.5	11.0	7.0
MPX1D1250L220	22.00	±20%	40.10	46.20	6.7	6.5	9.0	6.5
MPX1D1250L330	33.00	±20%	62.60	72.00	5.4	5.0	7.5	5.0
MPX1D1250L470	47.00	±20%	91.60	105.40	4.5	4.0	5.5	4.0
MPX1D1250L680	68.00	±20%	141.70	163.00	3.6	3.0	4.5	3.0
MPX1D1264LR22	0.22	±20%	0.90	1.10	53.0	68.0	100.0	90.0
MPX1D1264LR33	0.33	±20%	1.00	1.20	45.6	48.0	70.0	61.0
MPX1D1264LR47	0.47	±20%	1.40	1.70	38.2	40.0	58.0	53.0
MPX1D1264LR68	0.68	±20%	1.70	1.90	35.4	34.0	50.0	45.0
MPX1D1264L1R0	1.00	±20%	2.00	2.30	32.2	30.0	45.0	30.0
MPX1D1264L1R5	1.50	±20%	2.50	2.90	28.8	25.0	35.5	24.0
MPX1D1264L2R2	2.20	±20%	3.20	3.70	25.4	23.0	32.0	20.0
MPX1D1264L3R3	3.30	±20%	5.30	6.20	19.7	16.5	22.5	16.0
MPX1D1264L4R7	4.70	±20%	7.10	8.20	17.1	14.0	19.5	13.0
MPX1D1264L6R8	6.80	±20%	10.60	12.30	14.0	11.5	16.0	10.0
MPX1D1264L100	10.00	±20%	14.00	16.10	12.2	10.0	14.0	8.5
MPX1D1264L150	15.00	±20%	21.60	24.90	9.8	8.0	11.5	6.5
MPX1D1264L220	22.00	±20%	30.50	35.10	8.2	7.0	9.5	5.5
MPX1D1740LR47	0.47	±20%	1.50	1.80	34.0	52.0	75.0	46.0
MPX1D1740LR68	0.68	±20%	1.70	2.00	32.0	37.0	55.0	38.0
MPX1D1740L1R0	1.00	±20%	2.00	2.30	30.0	28.0	43.0	30.0
MPX1D1740L1R5	1.50	±20%	3.30	3.80	23.5	19.5	28.0	24.0
MPX1D1740L2R2	2.20	±20%	4.30	5.00	20.5	19.5	28.0	17.0
MPX1D1740L3R3	3.30	±20%	7.00	8.10	16.5	18.0	27.5	14.0
MPX1D1740L4R7	4.70	±20%	9.00	10.40	14.5	13.0	18.5	12.0
MPX1D1740L6R8	6.80	±20%	13.80	15.90	11.5	12.0	17.0	9.0
MPX1D1740L100	10.00	±20%	18.80	21.70	9.5	10.0	14.5	6.8
MPX1D1740L150	15.00	±20%	30.60	35.20	7.5	9.0	13.0	6.0
MPX1D1740L220	22.00	±20%	40.30	46.40	6.5	7.0	10.0	5.0
MPX1D1740L330	33.00	±20%	71.50	82.30	5.0	5.5	8.0	4.0
MPX1D1740L470	47.00	±20%	109.30	125.70	4.0	4.4	6.5	2.5
MPX1D1770LR47	0.47	±20%	0.87	1.00	52.5	72.0	108.0	45.0
MPX1D1770LR68	0.68	±20%	0.91	1.05	50.0	46.0	68.0	37.0
Part Number	**Inductance (µH) at 100 kHz, 1 mA**	**Inductance Tolerance**	**DC Resistance (mΩ) Typical**	**DC Resistance (mΩ) Maximum**	**Irms[1]**	**Isat[2]**	**Isat[3]**	
					Rated Current (A)			

[1] *T = 40 K rise at rated current*
[2] *Inductance drop 20% at rated current*
[3] *Inductance drop 30% at rated current*

All electrical characteristics data is referenced to 25°C.

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Table 1 – Ratings & Part Number Reference cont.

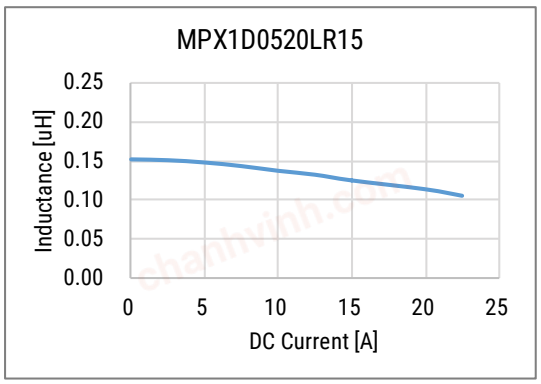
Part Number	Inductance (µH) at 100 kHz, 1 mA	Inductance Tolerance	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Maximum	Rated Current (A)			Self-Resonance Frequency (MHz)
					Irms[1] (Reference)	Isat[2] (Reference)	Isat[3] (Reference)	
MPX1D1770L1R0	1.00	±20%	1.50	1.80	38.0	42.0	62.0	27.0
MPX1D1770L1R5	1.50	±20%	1.50	1.80	38.0	31.0	45.0	18.0
MPX1D1770L2R2	2.20	±20%	2.20	2.60	31.0	25.0	34.0	15.0
MPX1D1770L3R3	3.30	±20%	2.90	3.40	28.0	24.0	30.5	13.0
MPX1D1770L4R7	4.70	±20%	4.10	4.80	23.5	24.0	33.5	10.0
MPX1D1770L6R8	6.80	±20%	5.90	6.80	19.5	18.0	26.0	8.0
MPX1D1770L100	10.00	±20%	10.60	12.20	14.5	11.5	16.5	7.0
MPX1D1770L150	15.00	±20%	15.40	17.80	12.0	10.5	14.0	5.5
MPX1D1770L220	22.00	±20%	19.90	22.90	10.5	8.5	12.0	4.5
MPX1D1770L330	33.00	±20%	41.10	47.30	7.5	8.5	12.0	3.5
MPX1D1770L470	47.00	±20%	54.60	62.80	6.5	7.5	10.5	2.8
MPX1D1770L680	68.00	±20%	69.10	79.50	5.5	6.0	8.5	2.3
MPX1D1770L101	100.00	±20%	95.90	110.30	4.5	5.6	7.5	1.8
MPX1D2213LR47	0.47	±20%	0.42	0.48	90.0	96.0	140.0	45.0
MPX1D2213LR68	0.68	±20%	0.72	0.83	78.0	80.0	115.0	34.0
MPX1D2213L1R0	1.00	±20%	0.80	1.00	74.0	58.0	84.0	22.0
MPX1D2213L1R5	1.50	±20%	0.96	1.20	68.0	42.0	60.0	17.0
MPX1D2213L2R2	2.20	±20%	1.20	1.40	59.0	38.0	56.0	14.0
MPX1D2213L3R3	3.30	±20%	1.50	1.80	54.0	34.0	48.0	11.0
MPX1D2213L4R7	4.70	±20%	1.90	2.20	48.0	28.0	40.0	9.0
MPX1D2213L6R8	6.80	±20%	2.80	3.30	39.0	30.0	42.0	6.5
MPX1D2213L100	10.00	±20%	3.80	4.40	34.0	26.0	36.0	5.2
MPX1D2213L150	15.00	±20%	5.90	6.80	27.5	22.0	30.0	4.0
MPX1D2213L220	22.00	±20%	11.40	13.20	19.5	15.0	20.5	3.7
MPX1D2213L330	33.00	±20%	13.90	16.00	17.5	15.0	20.5	2.9
MPX1D2213L470	47.00	±20%	17.80	20.50	15.5	13.5	19.0	2.5
MPX1D2213L680	68.00	±20%	26.70	30.80	12.5	10.0	14.0	2.1
MPX1D2213L101	100.00	±20%	41.20	47.40	10.0	8.0	10.5	1.6
Part Number	**Inductance (µH) at 100 kHz, 1 mA**	**Inductance Tolerance**	**DC Resistance (mΩ) Typical**	**DC Resistance (mΩ) Maximum**	**Irms[1]**	**Isat[2]**	**Isat[3]**	
					Rated Current (A)			

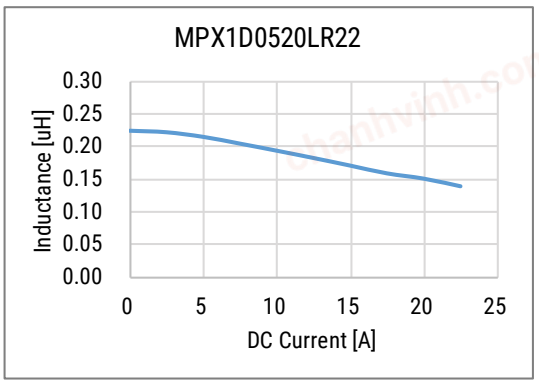
[1] *T = 40 K rise at rated current*
[2] *Inductance drop 20% at rated current*
[3] *Inductance drop 30% at rated current*

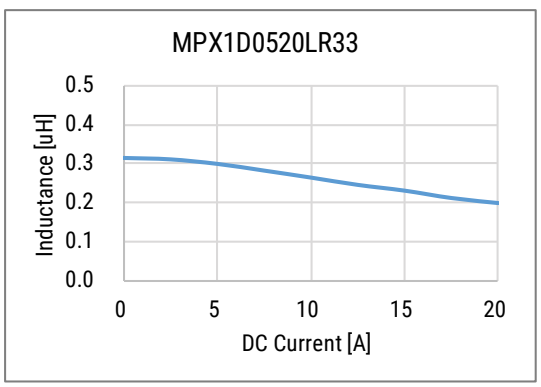
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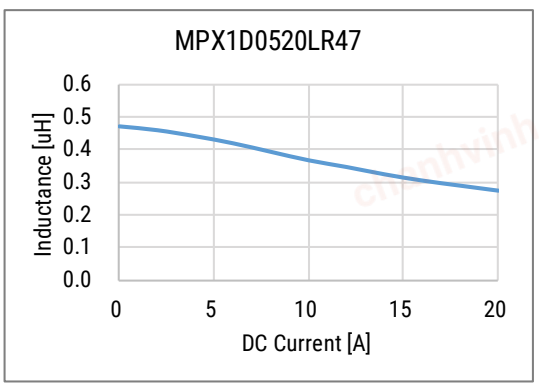
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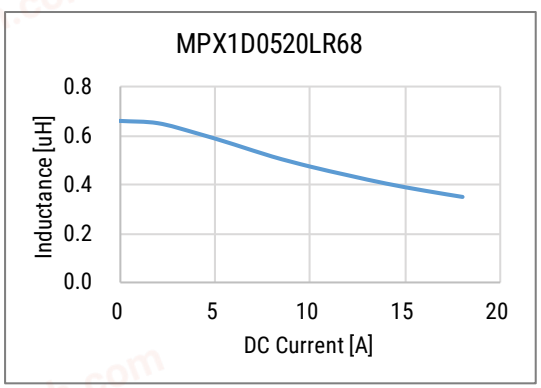
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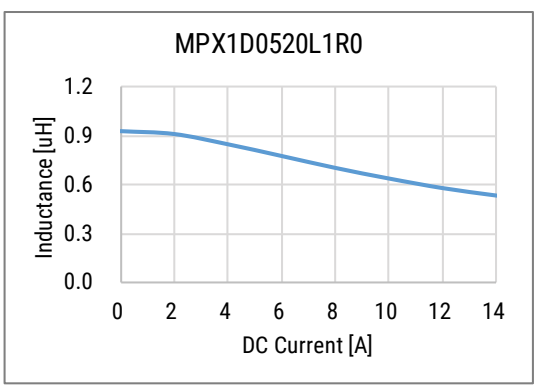


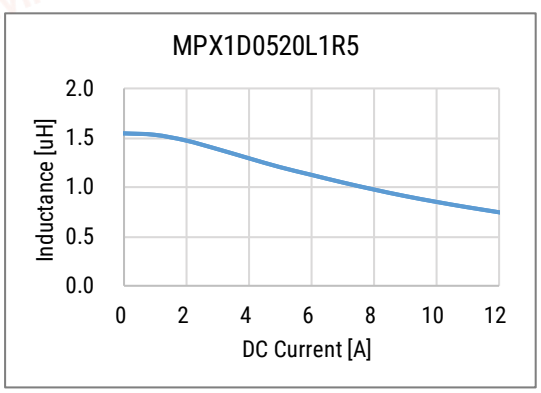


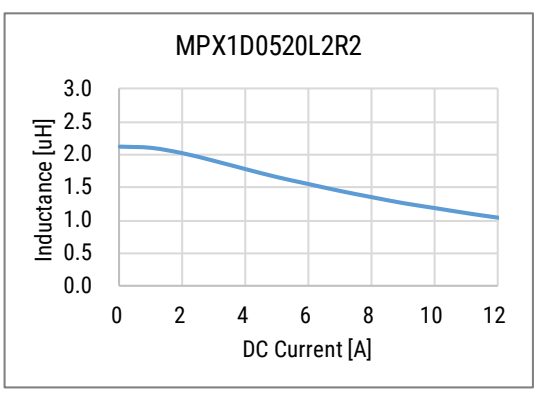








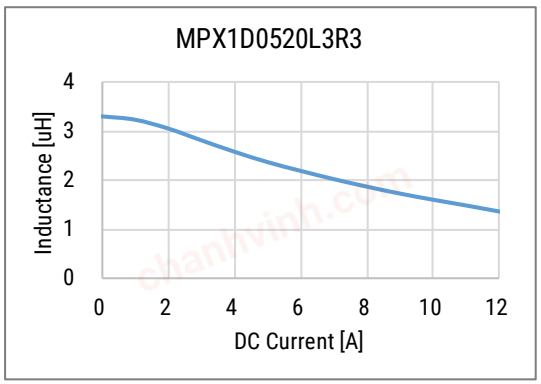


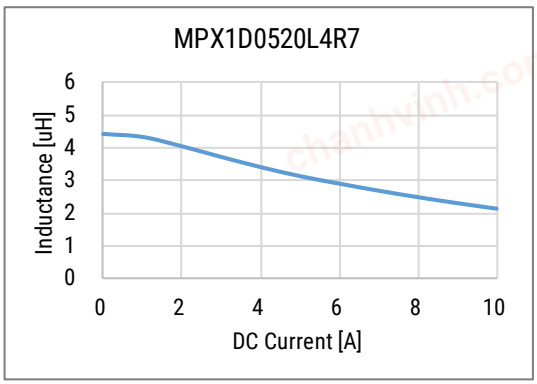


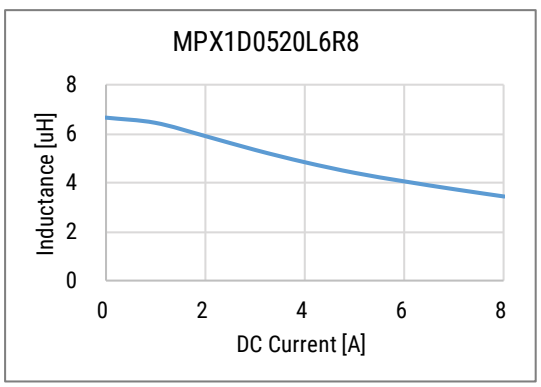
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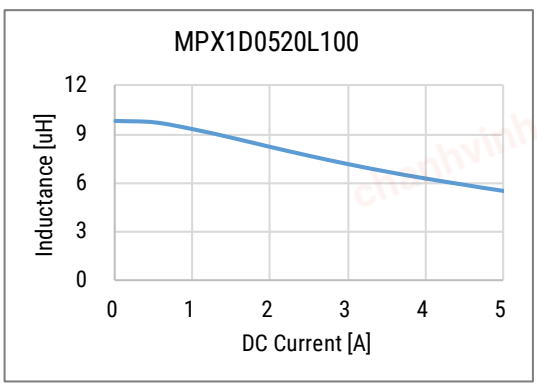
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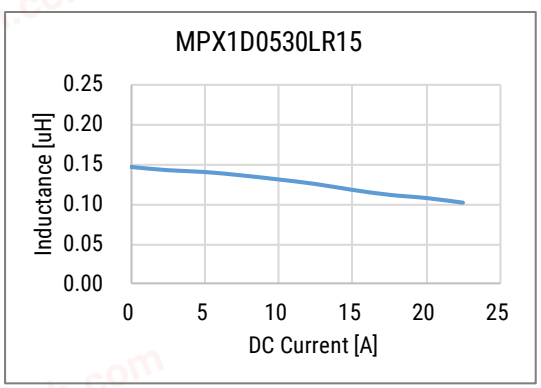
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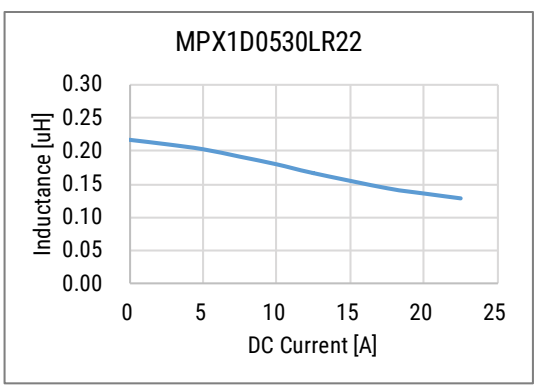


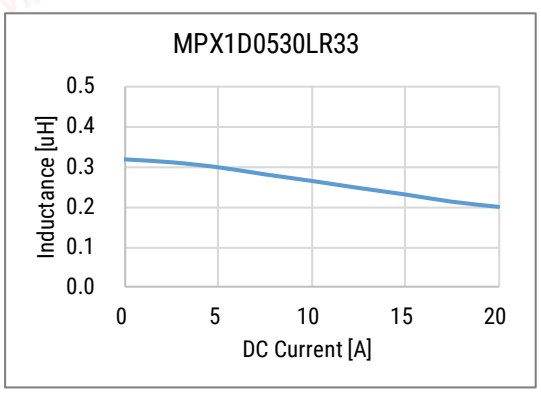


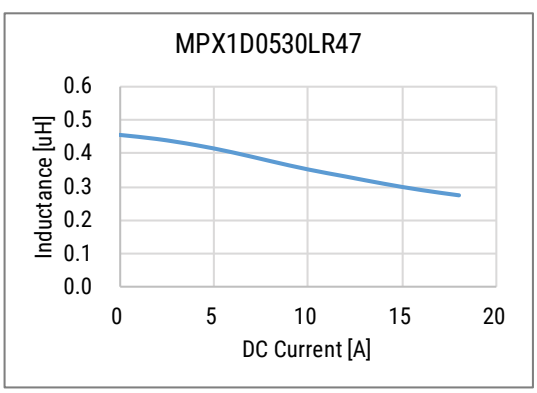








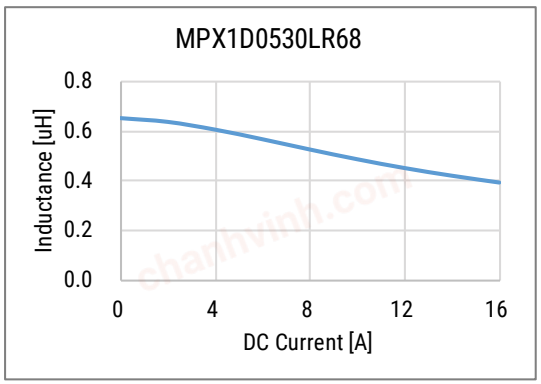


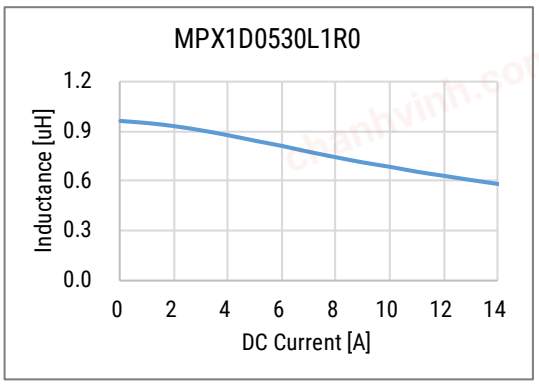


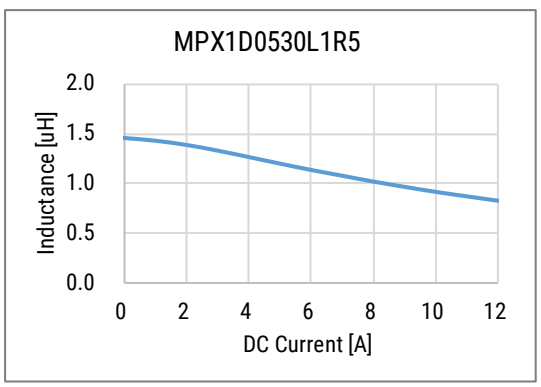
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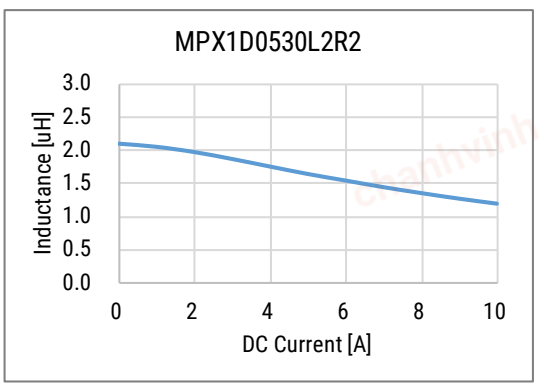
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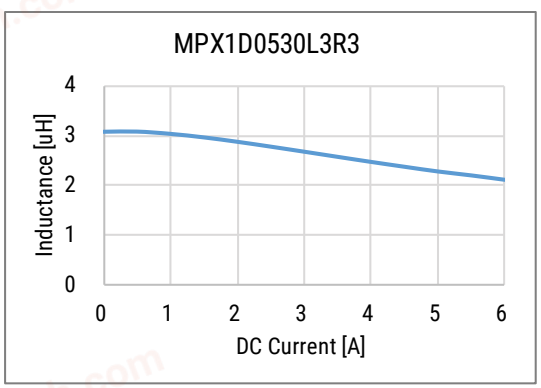
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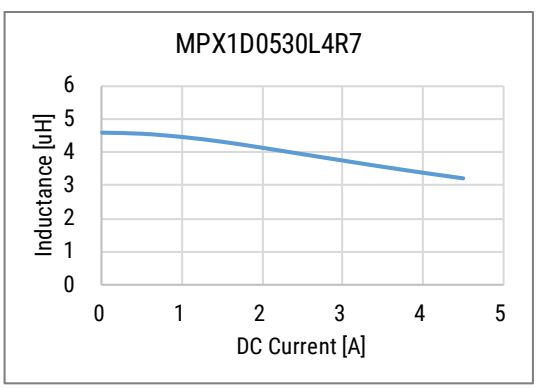


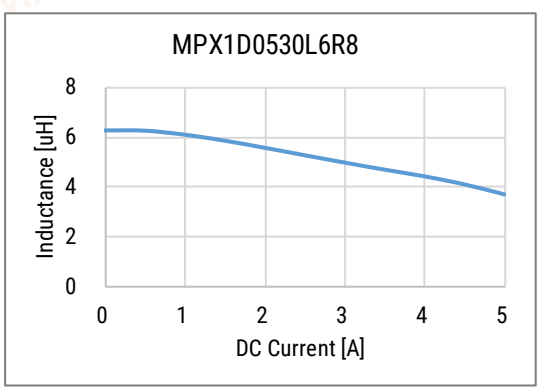


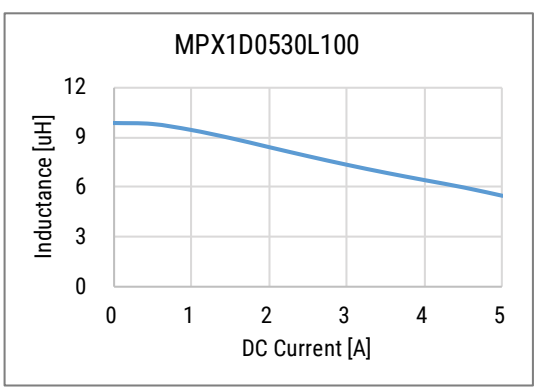






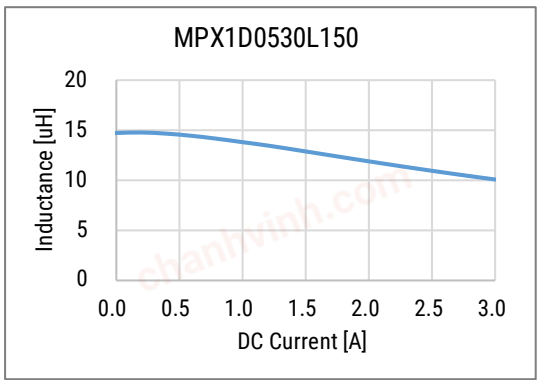


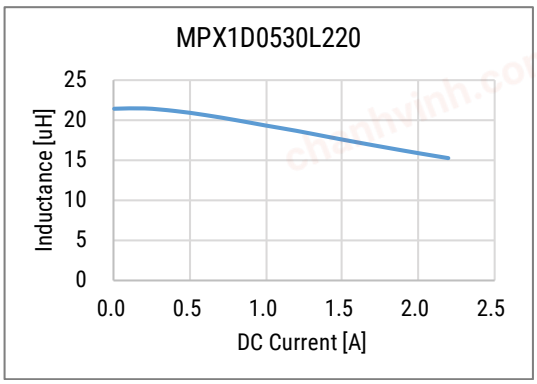


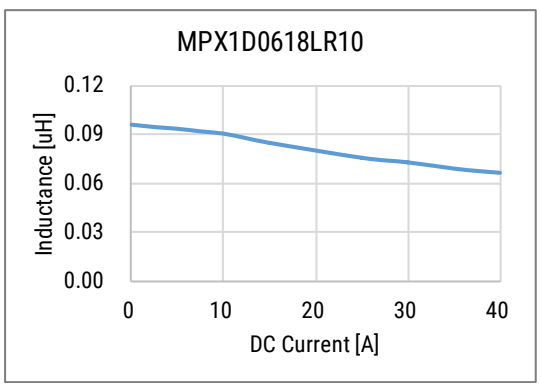


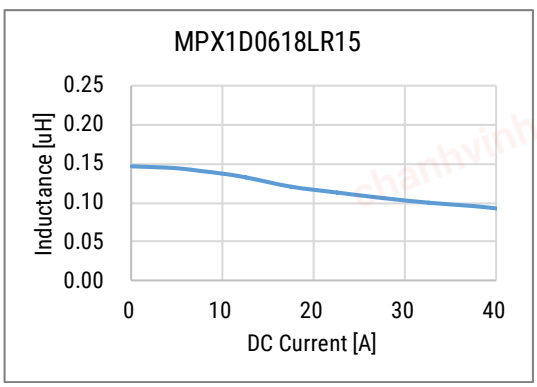
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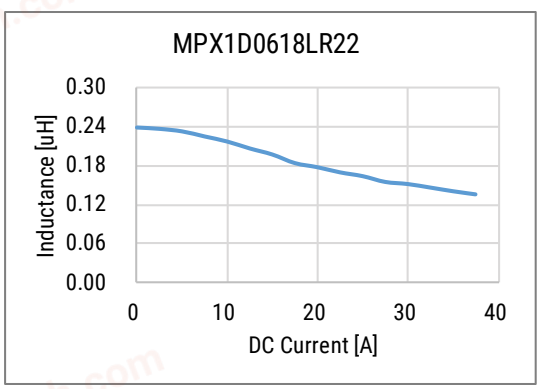
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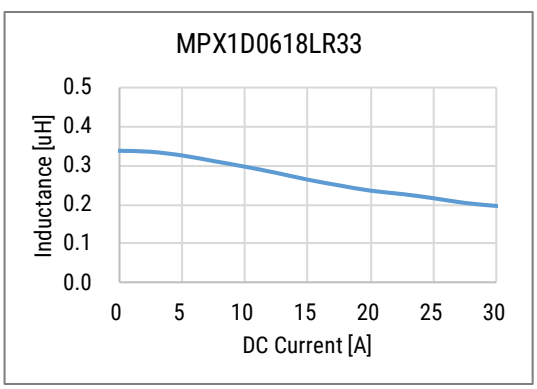


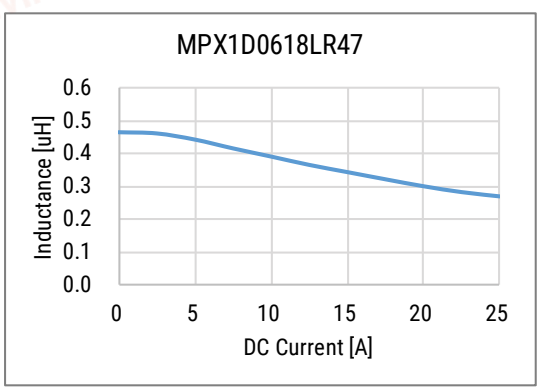


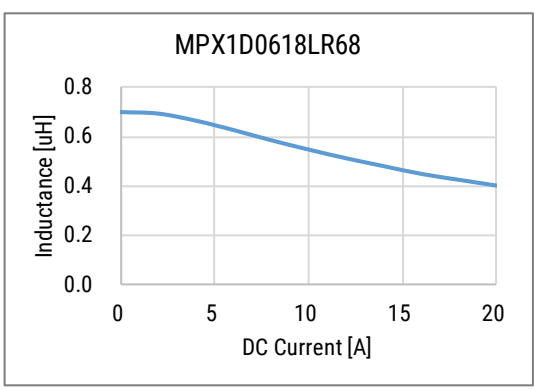






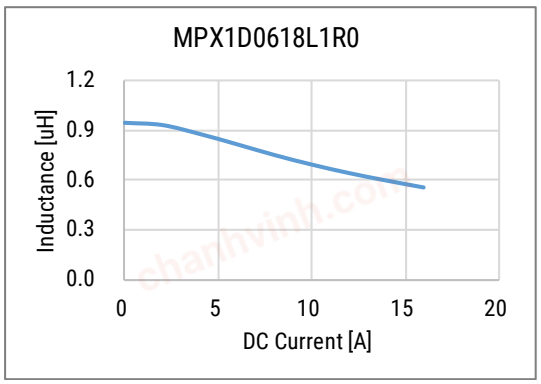


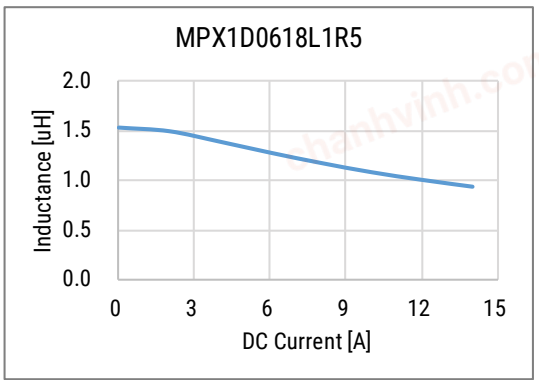


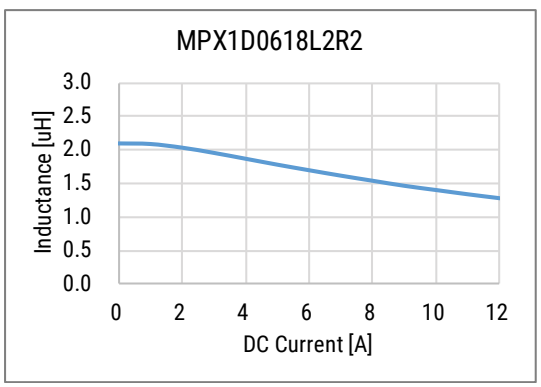


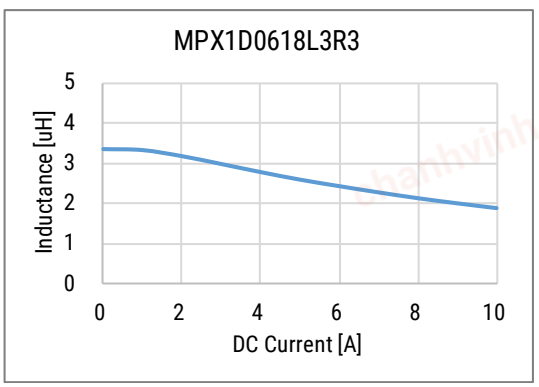
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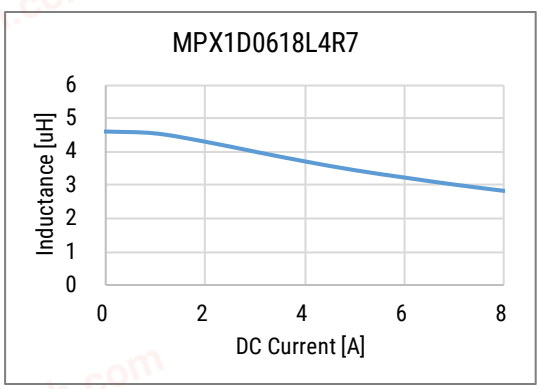
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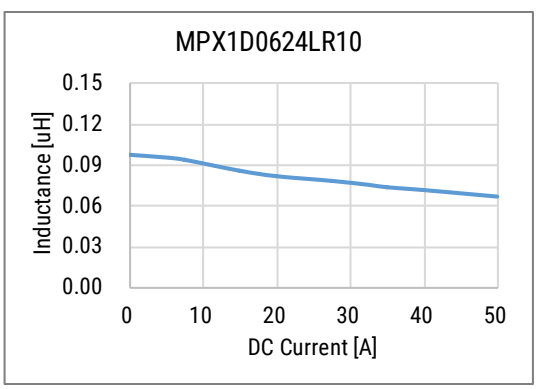


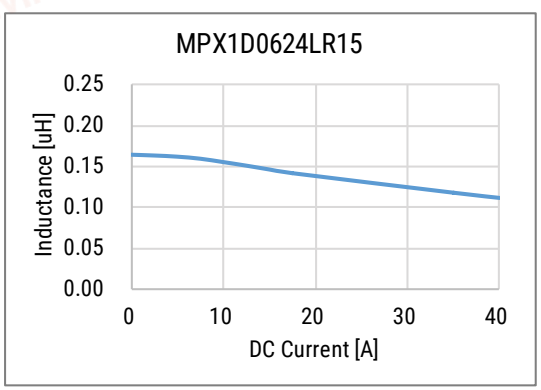


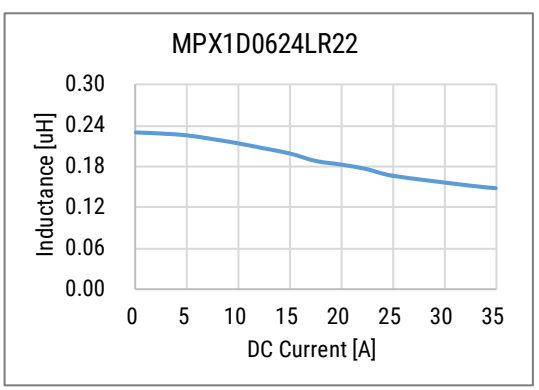






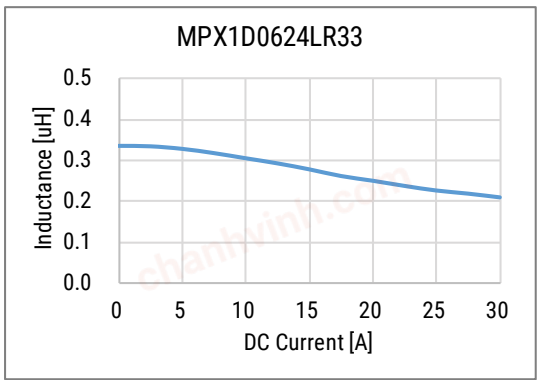


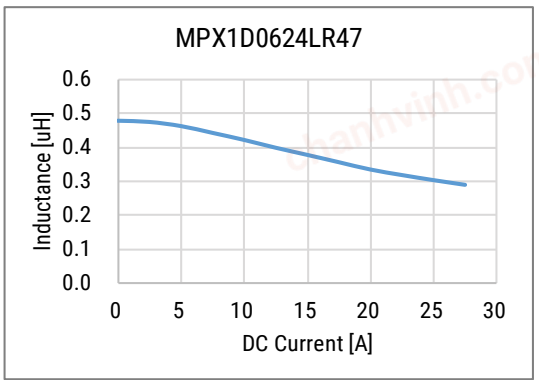


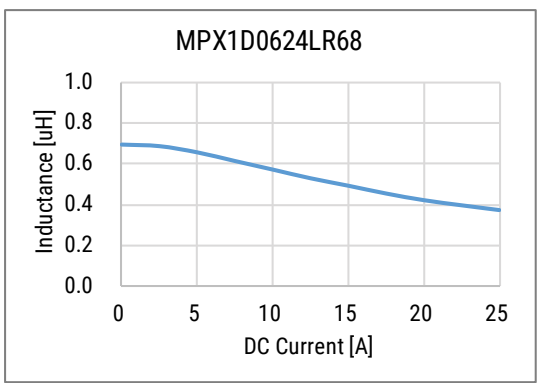


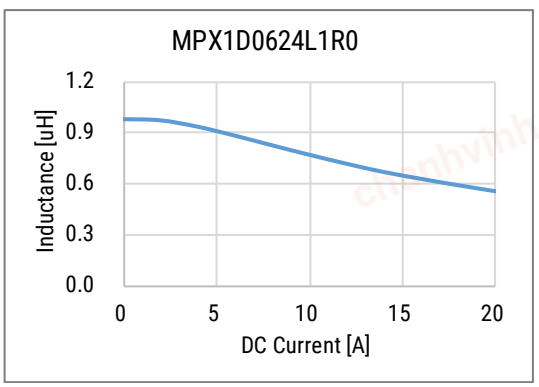
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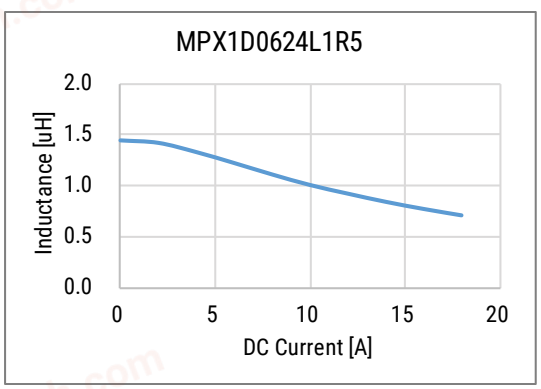
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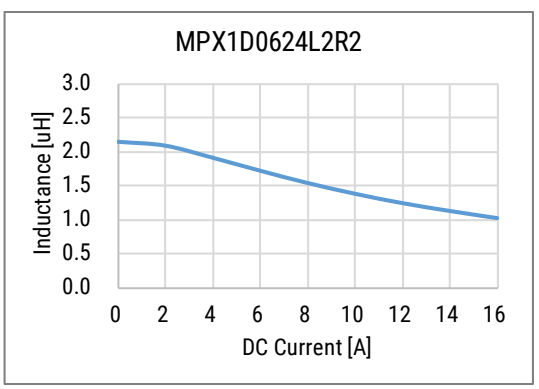


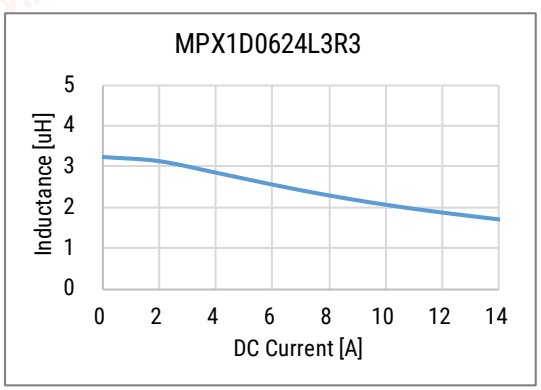


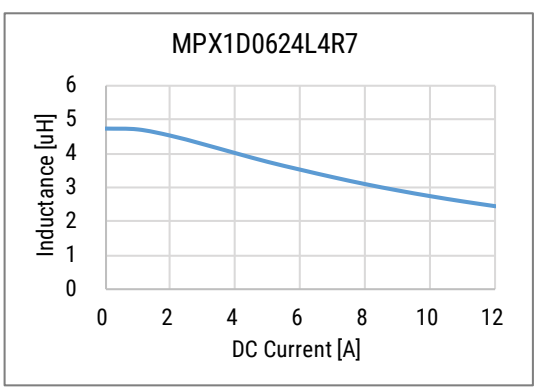






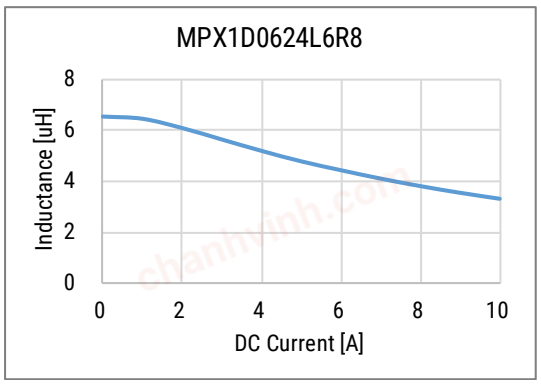


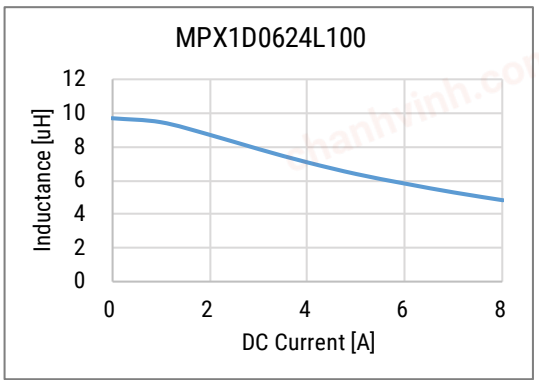


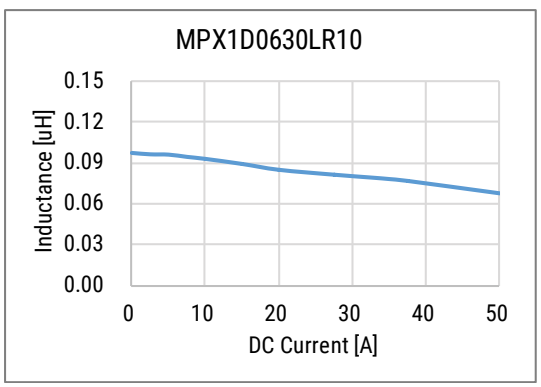


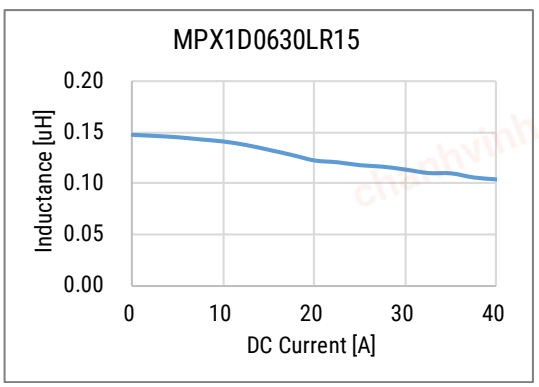
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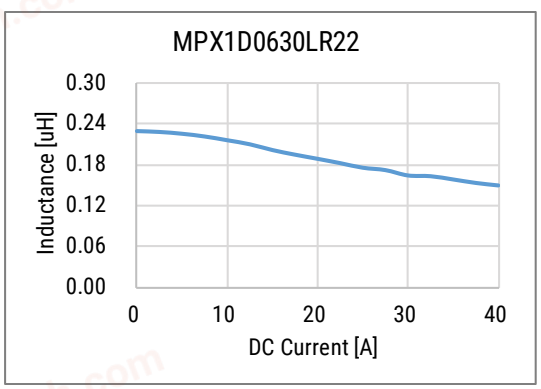
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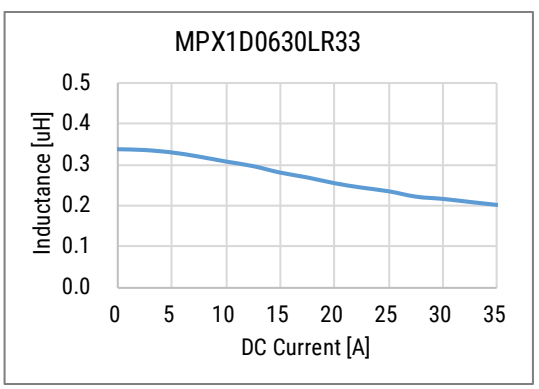


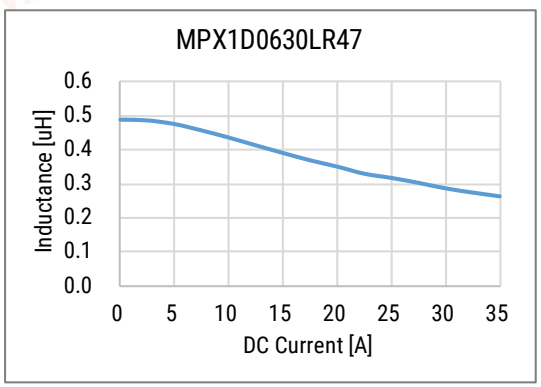


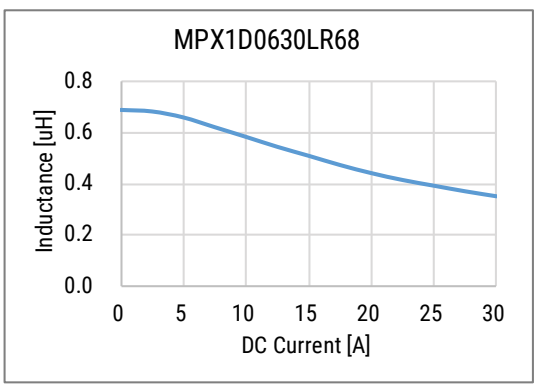






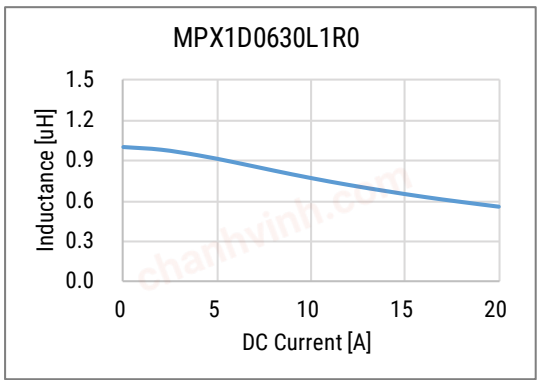


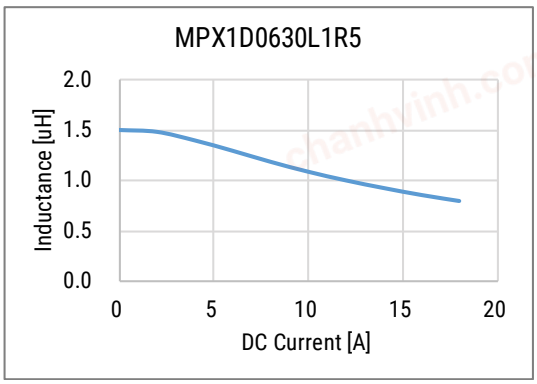


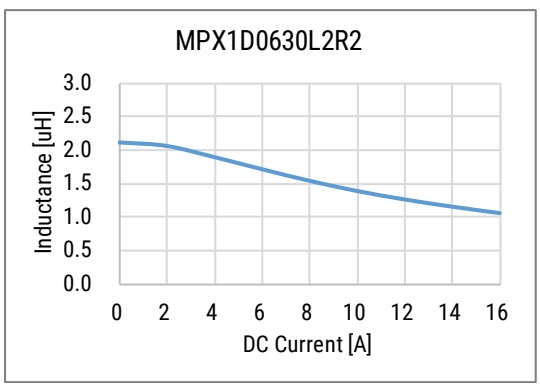


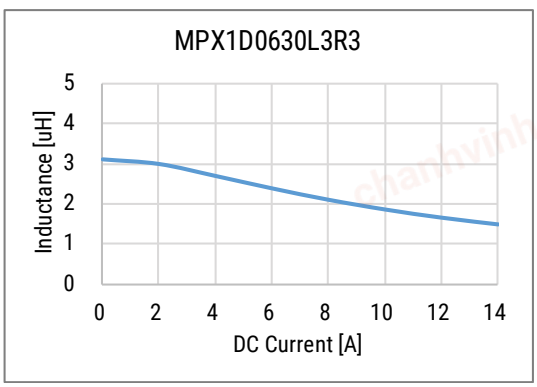
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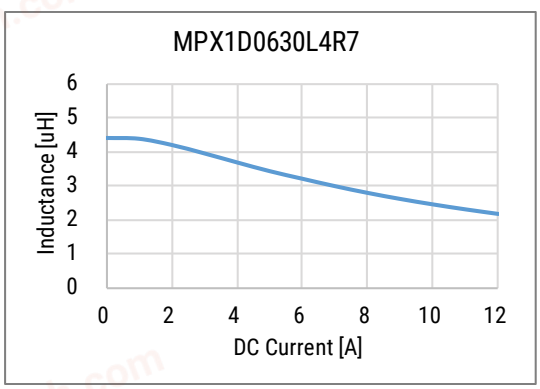
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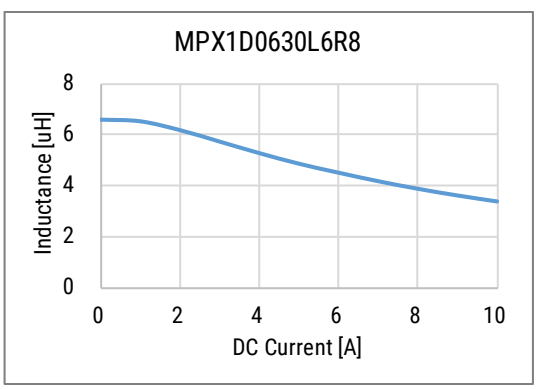


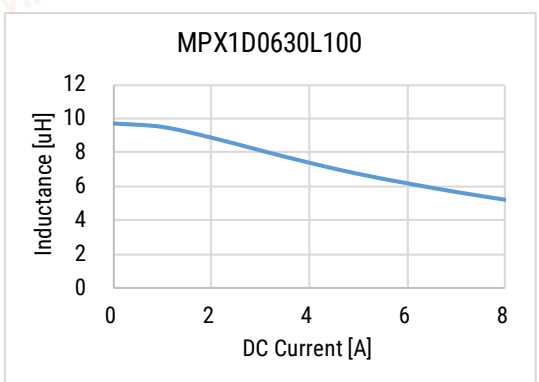


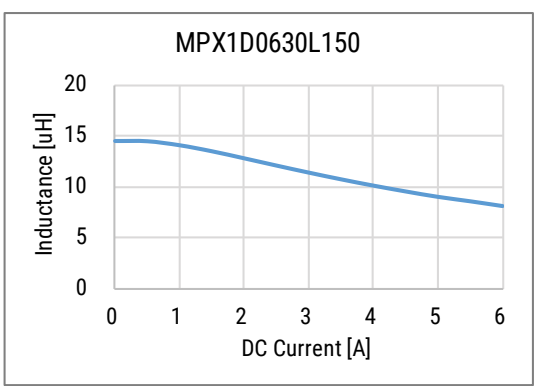






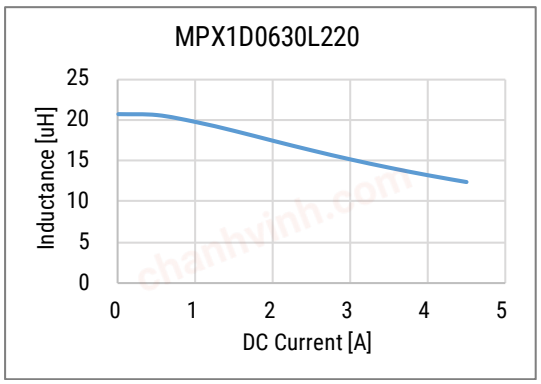


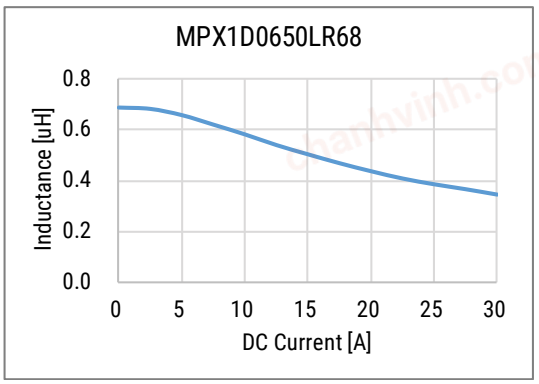


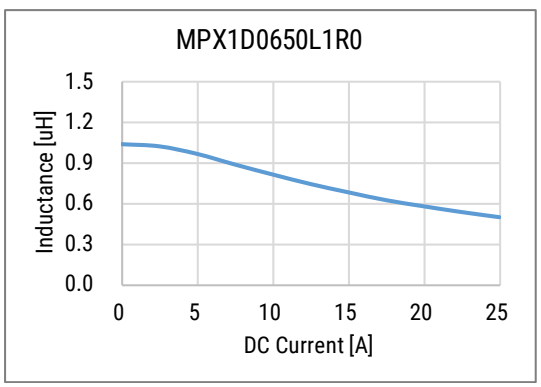


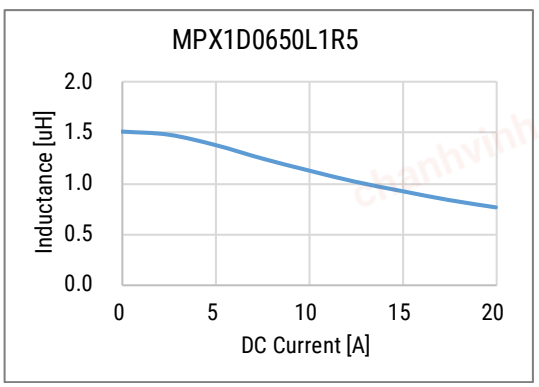
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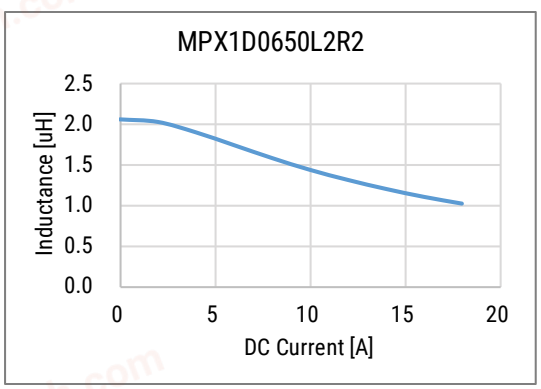
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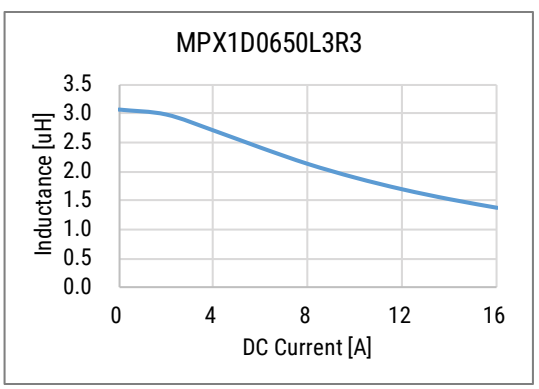


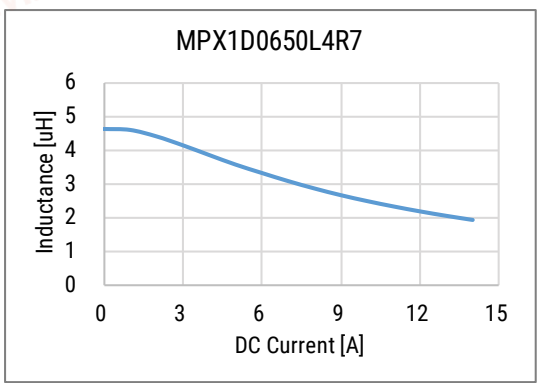


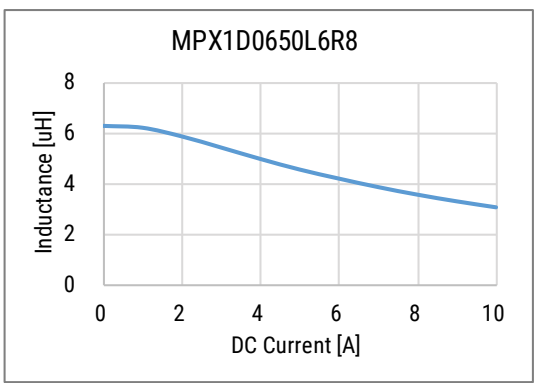








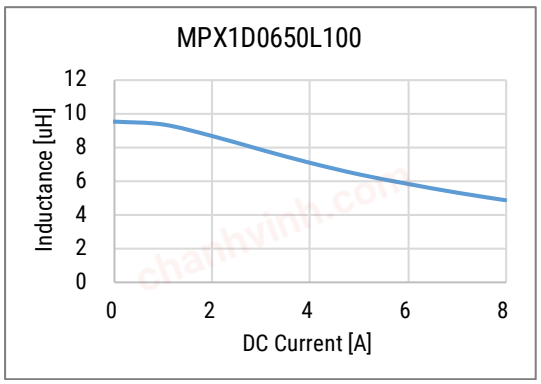


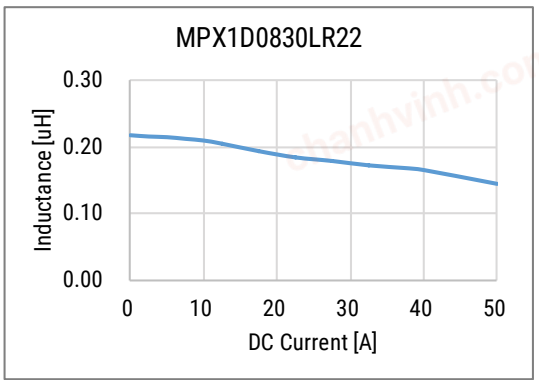


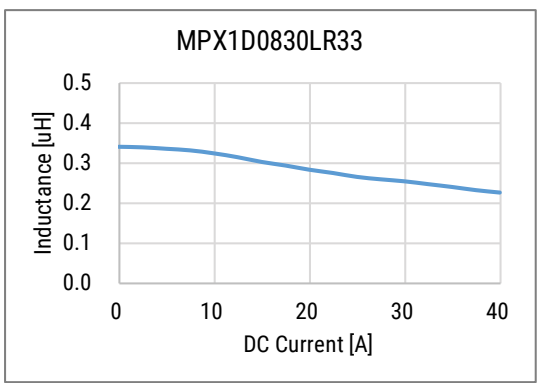
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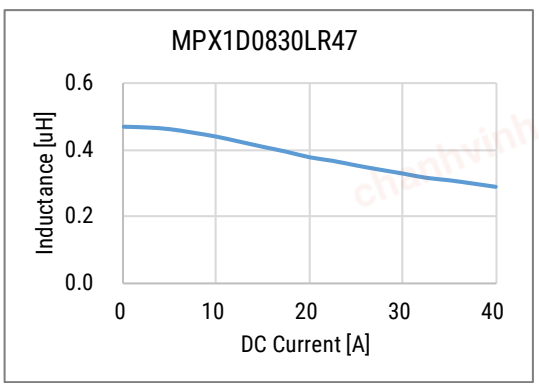
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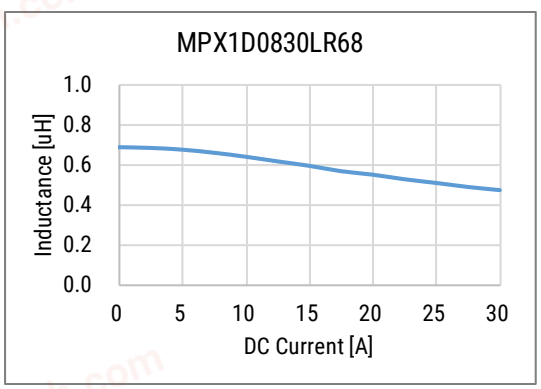
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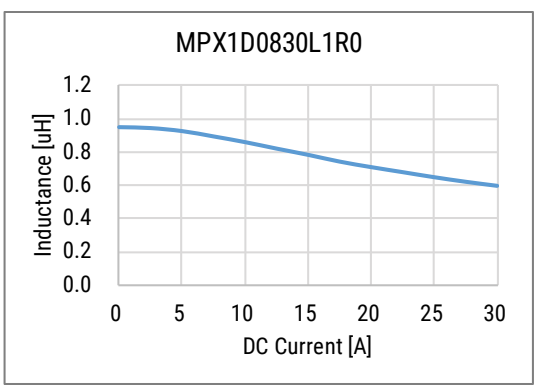


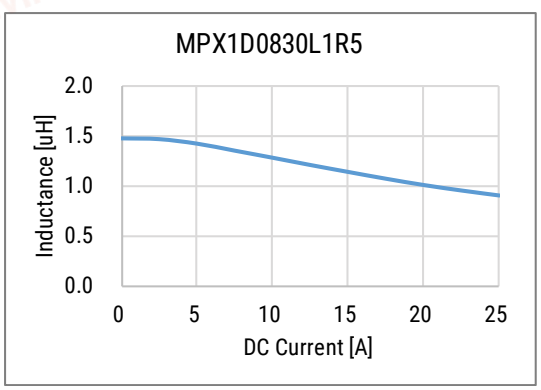


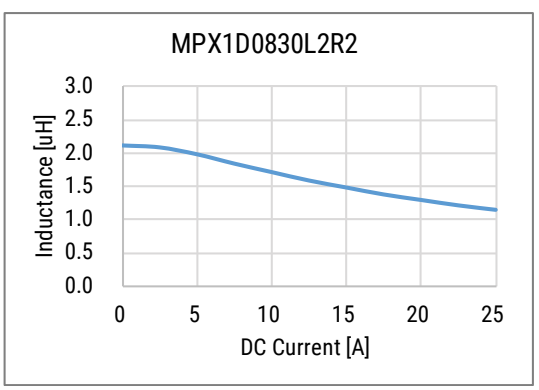






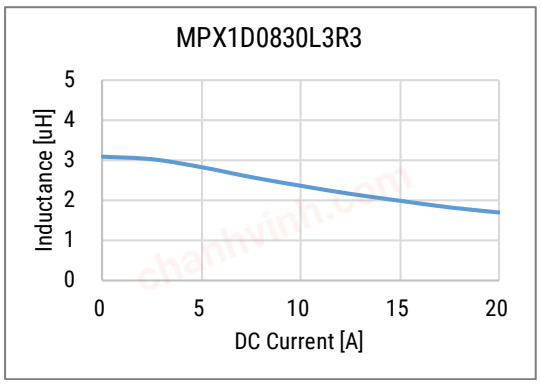


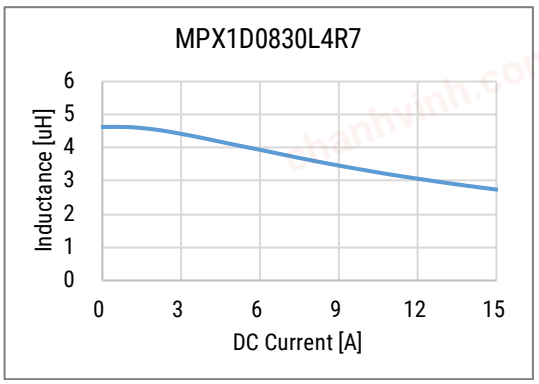


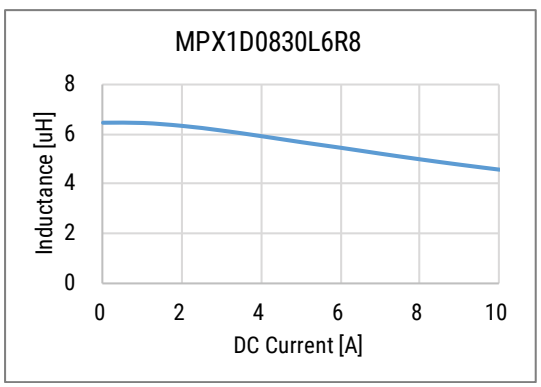


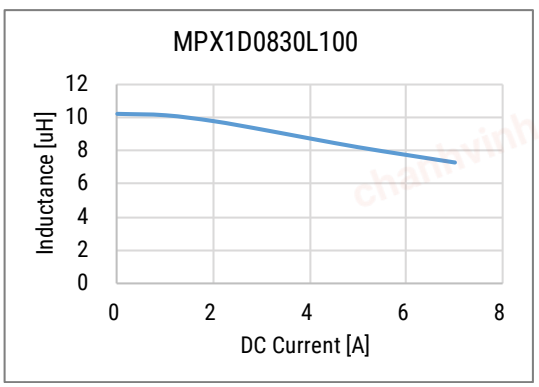
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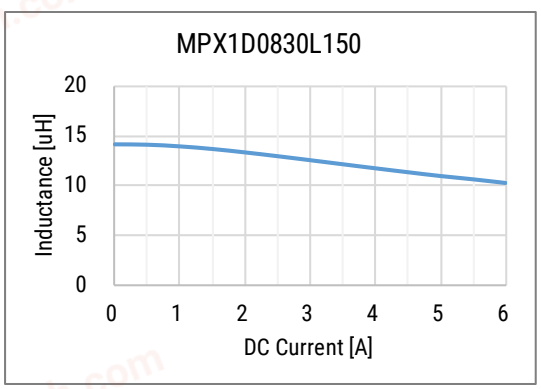
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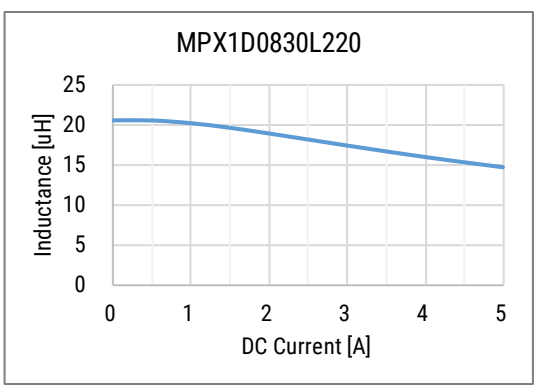


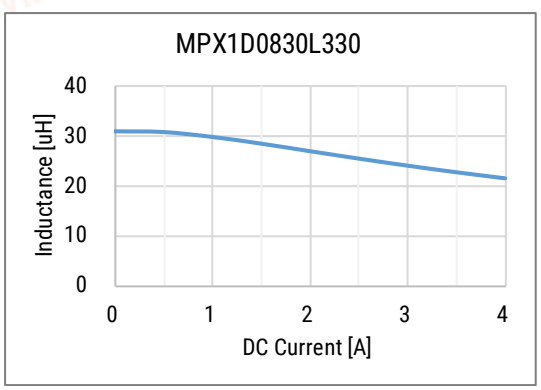


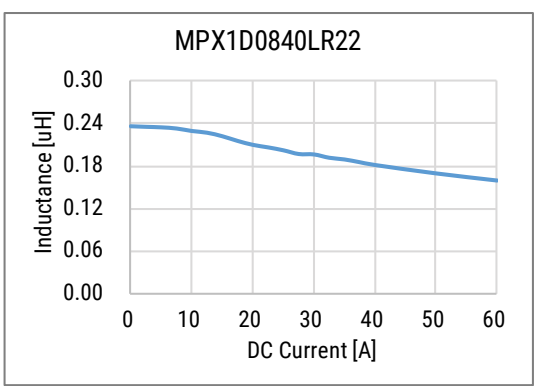






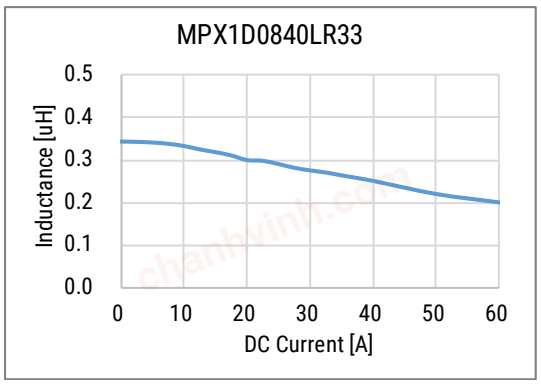


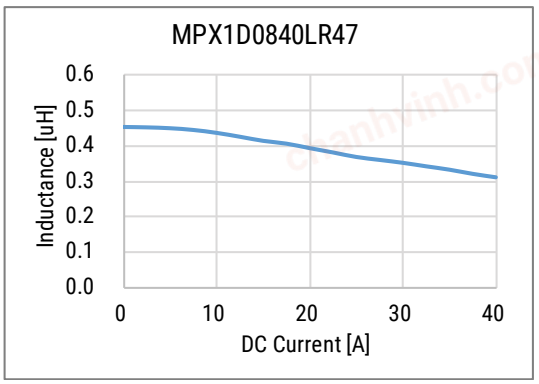


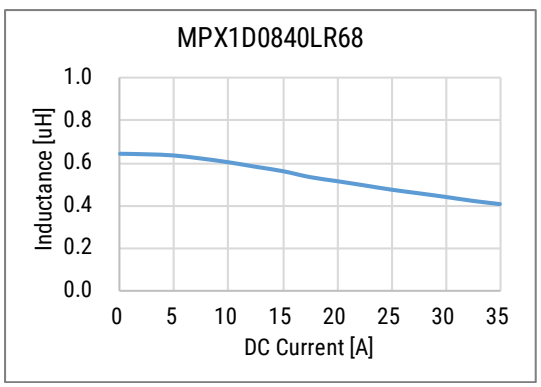


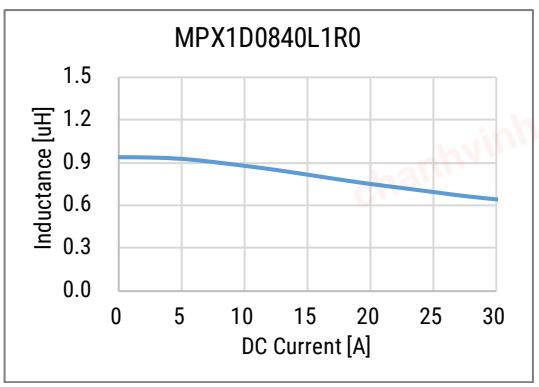
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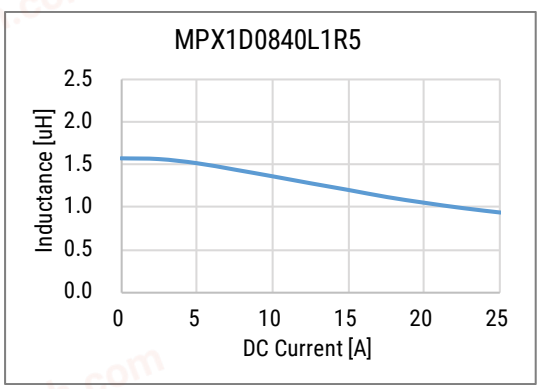
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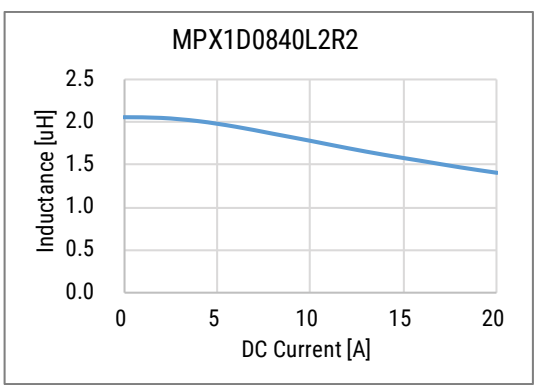


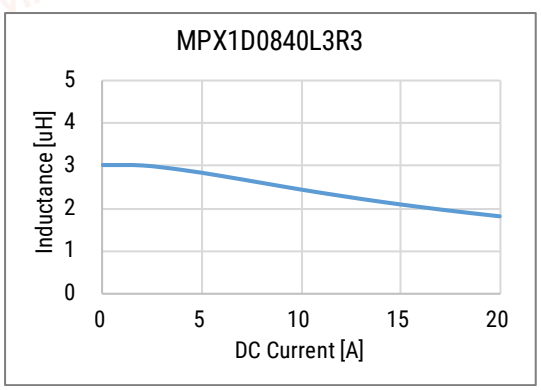


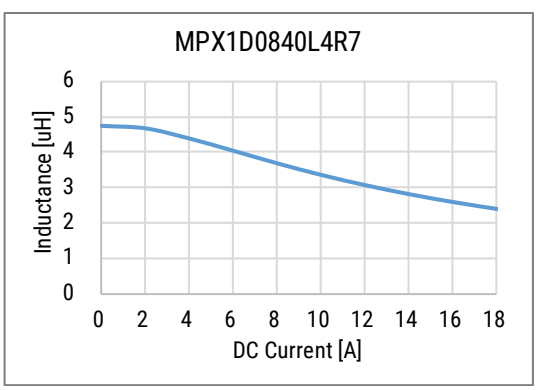






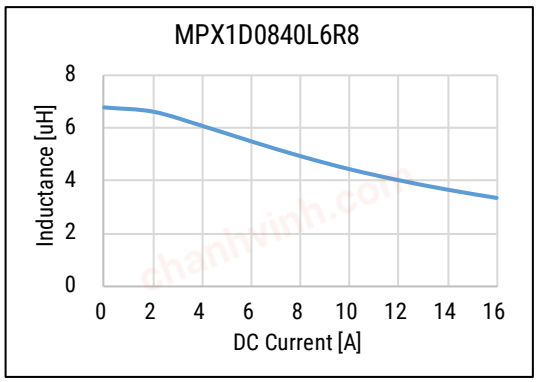


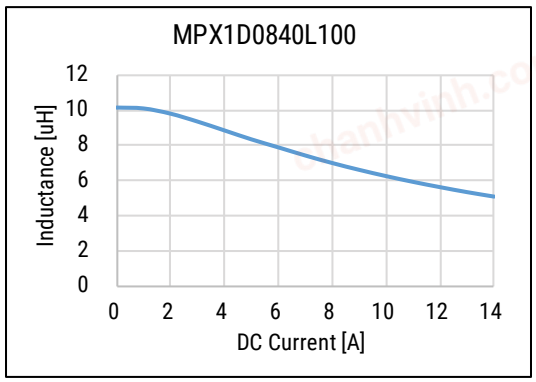


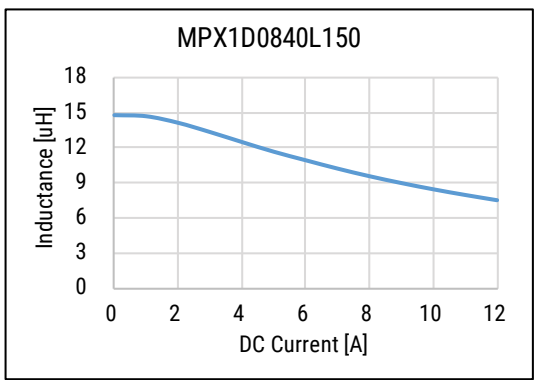


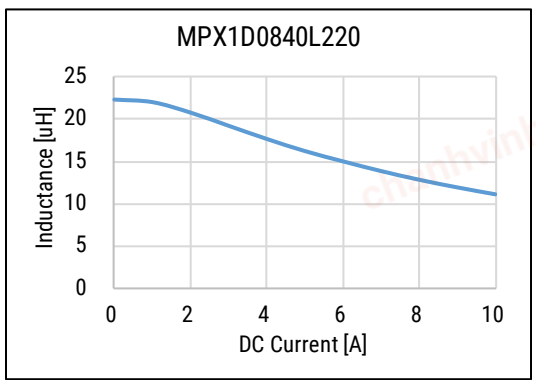
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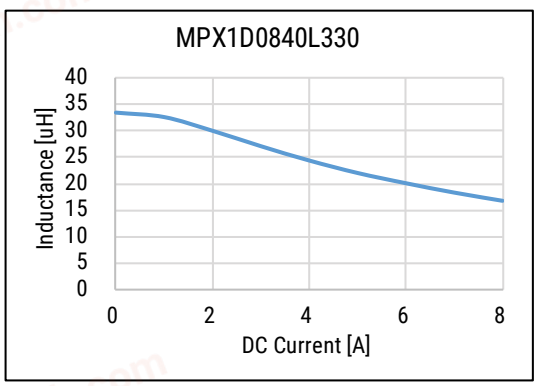
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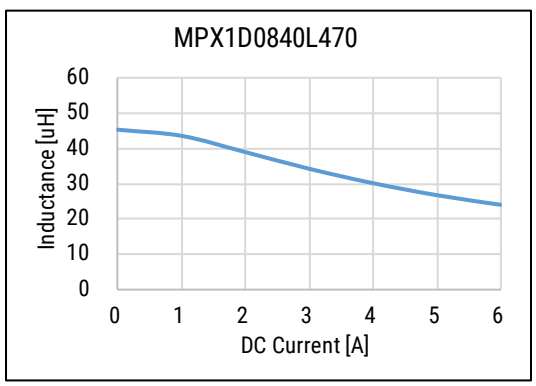


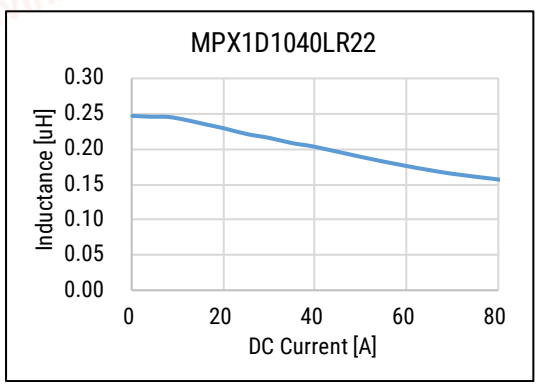


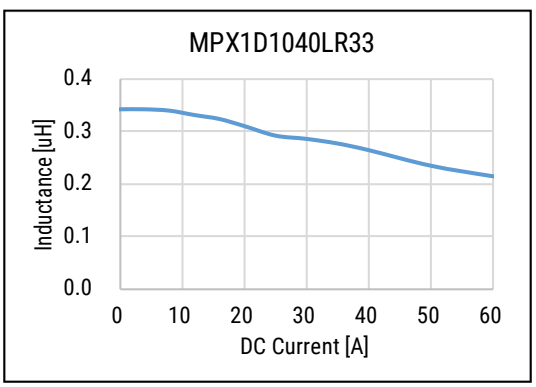






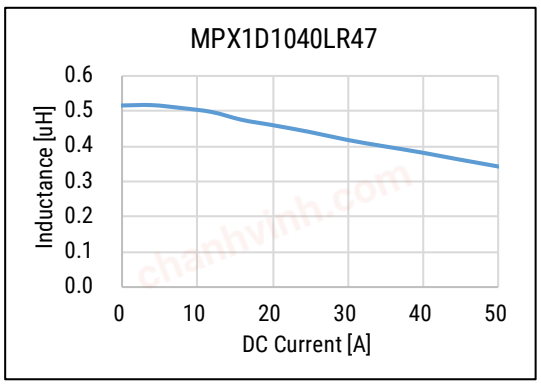


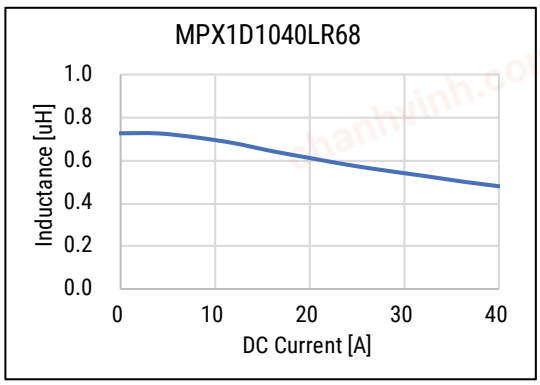


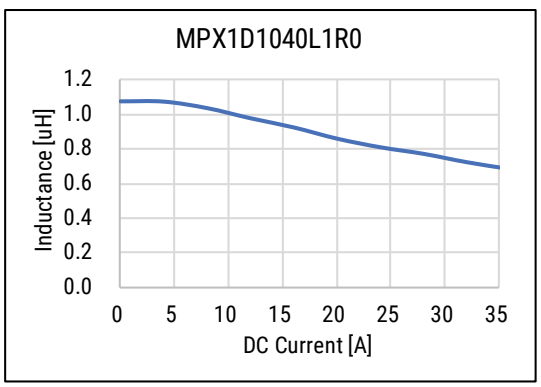


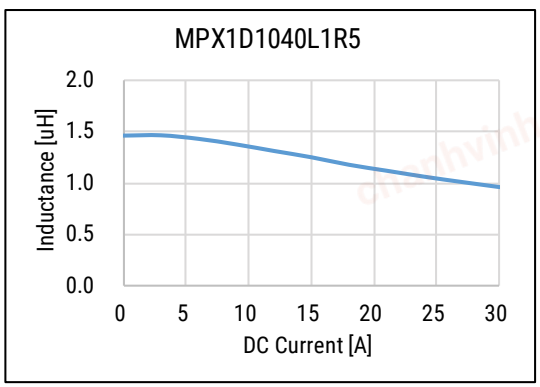
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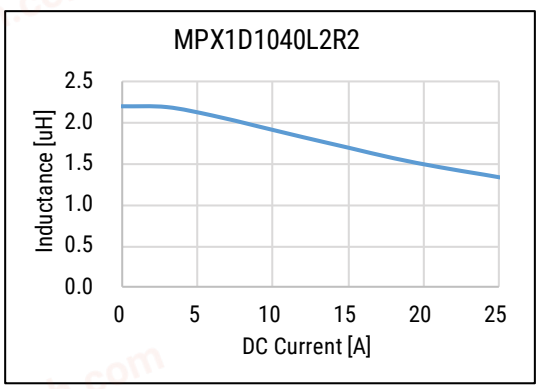
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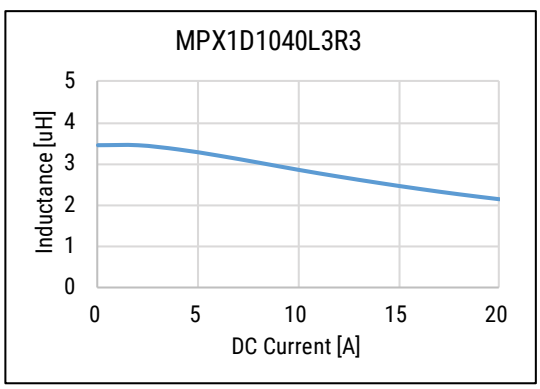


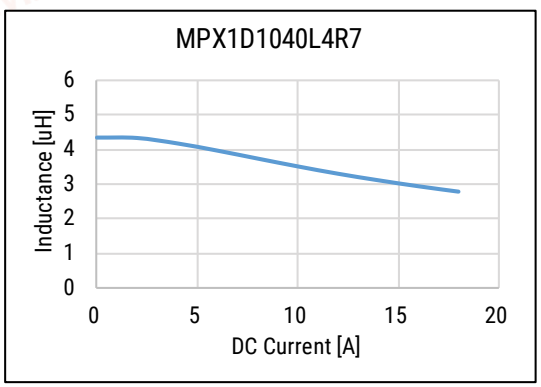


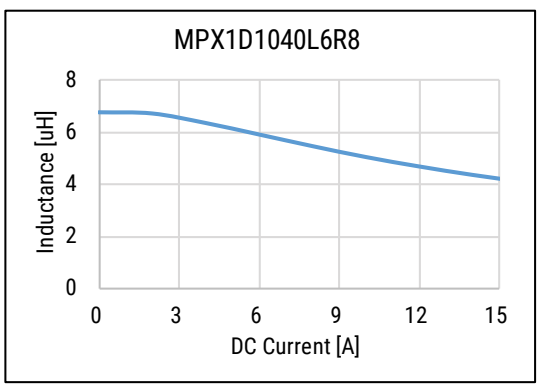






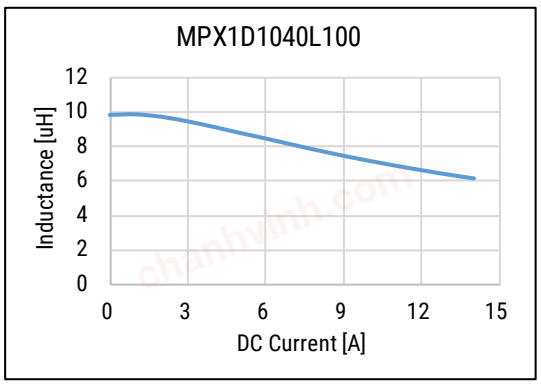


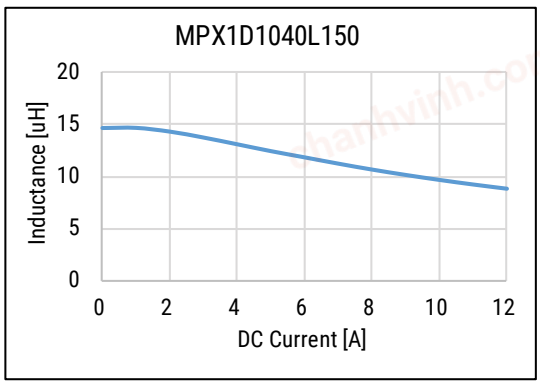


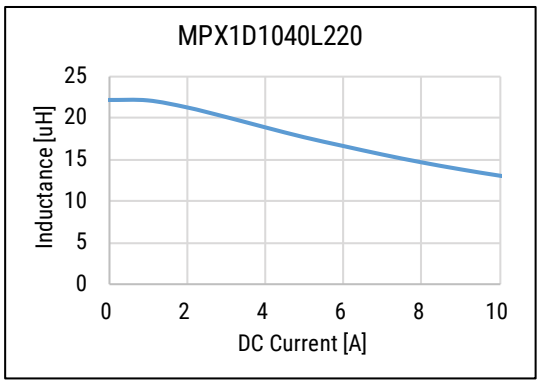


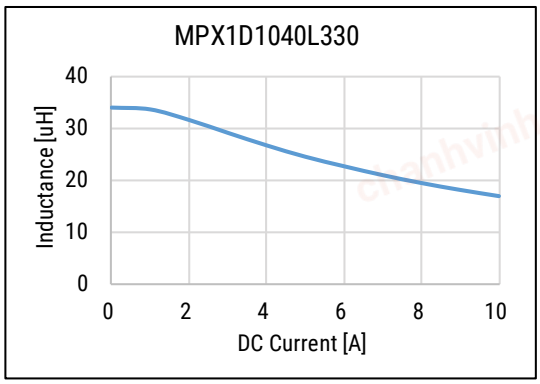
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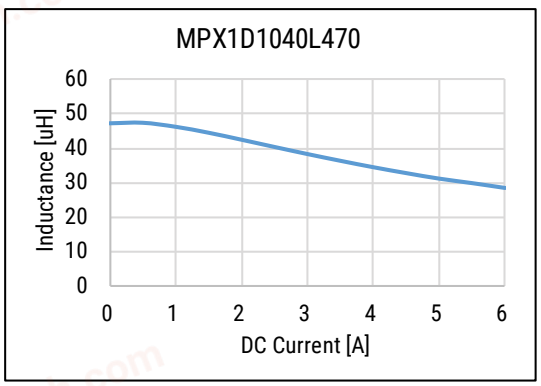
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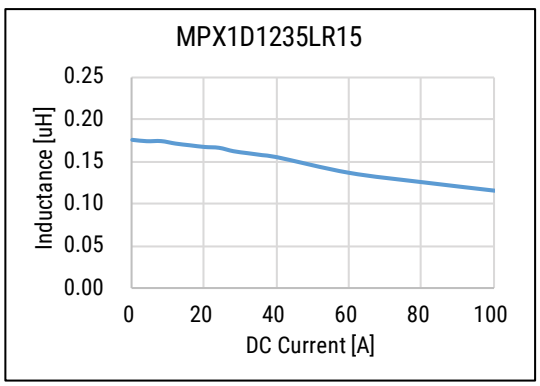


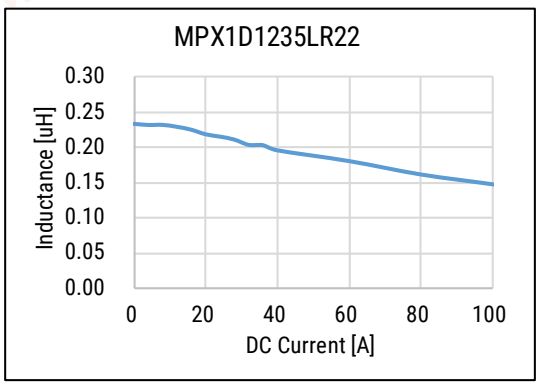


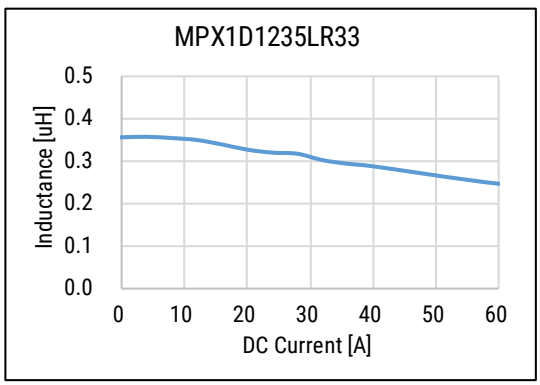






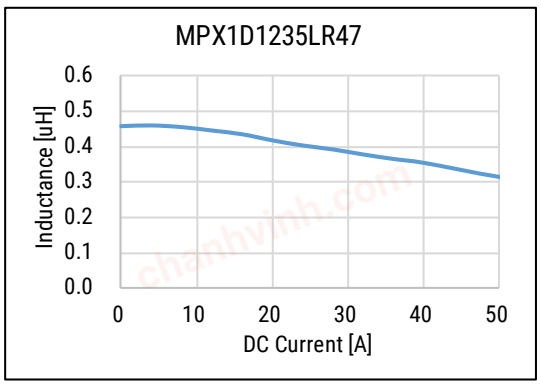


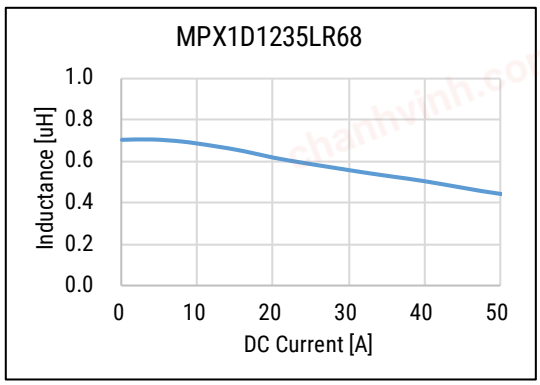


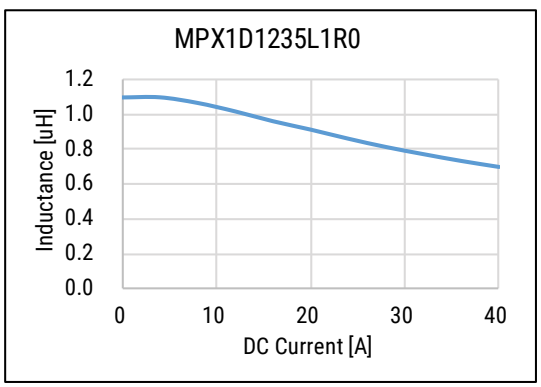


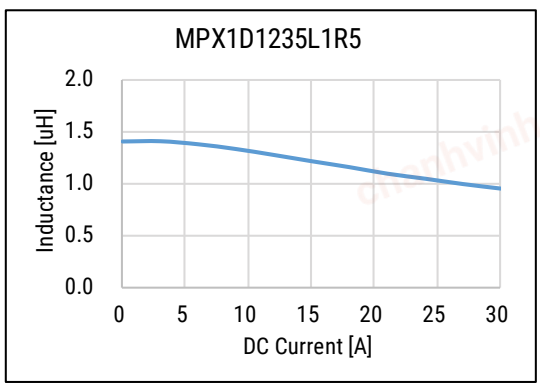
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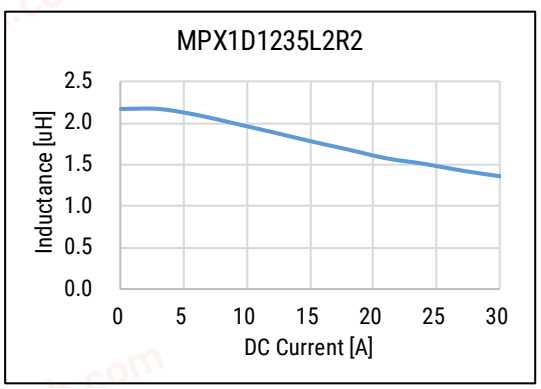
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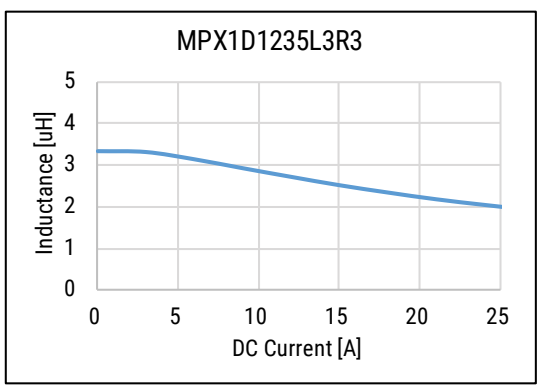


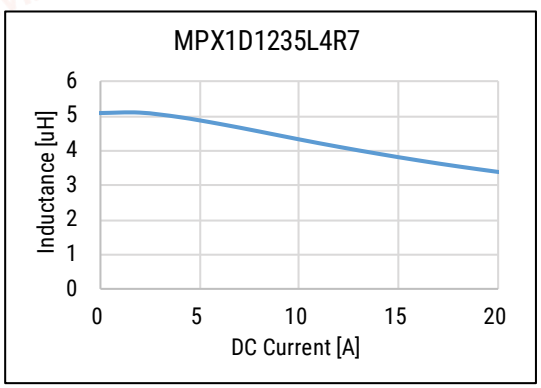


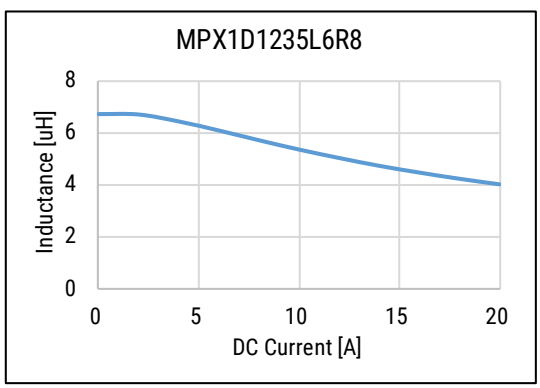






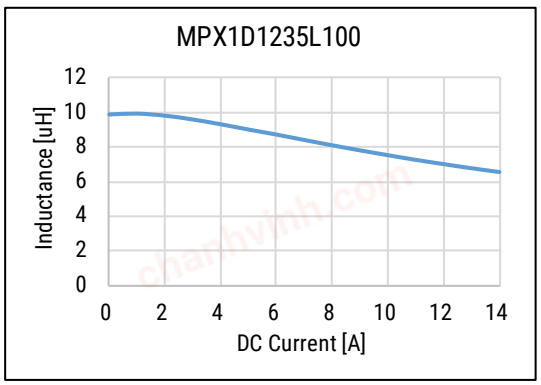


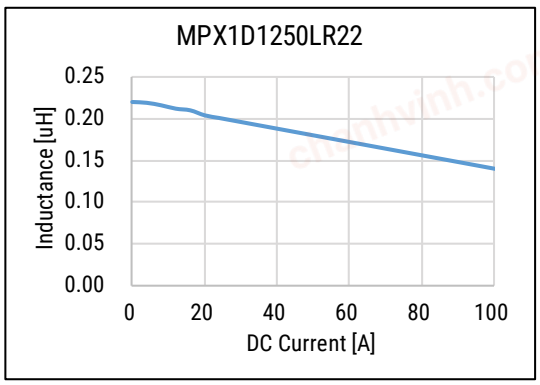


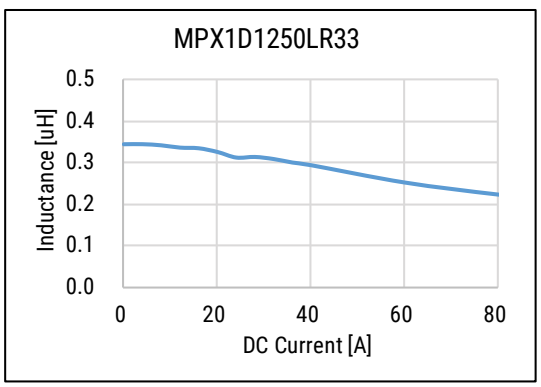


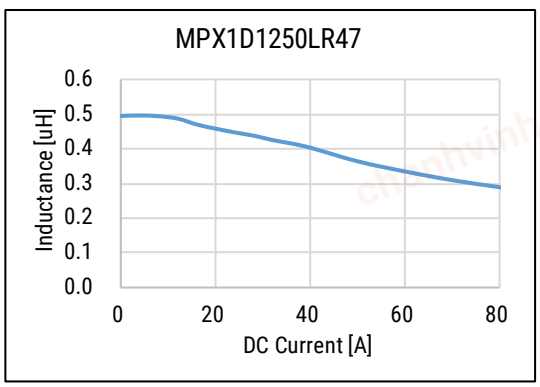
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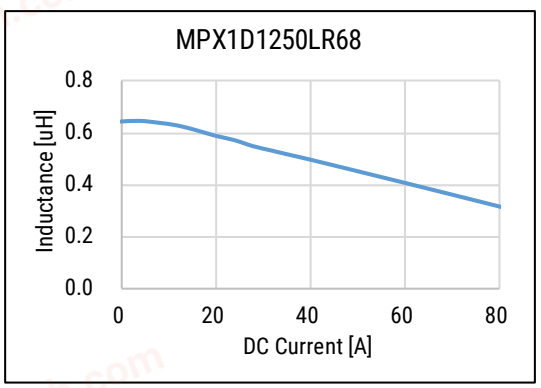
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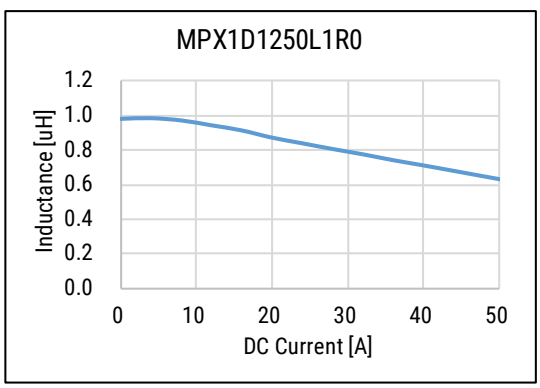


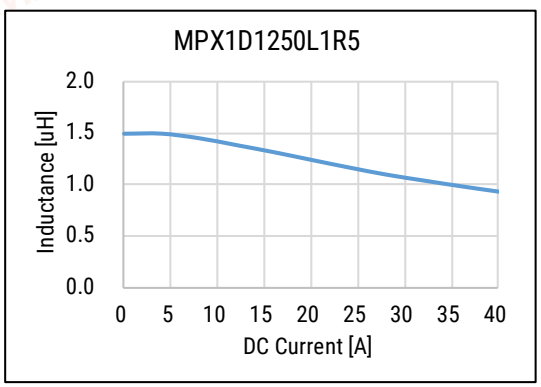


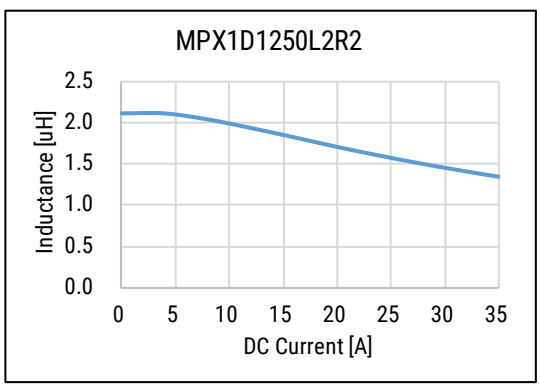






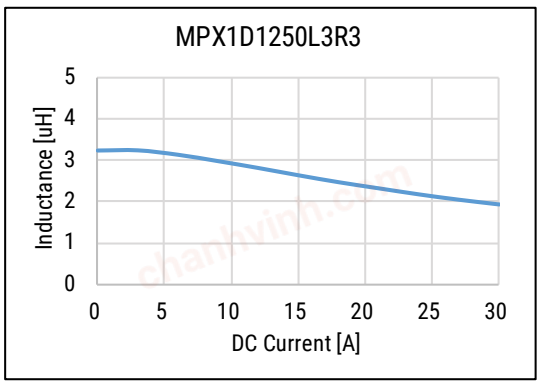


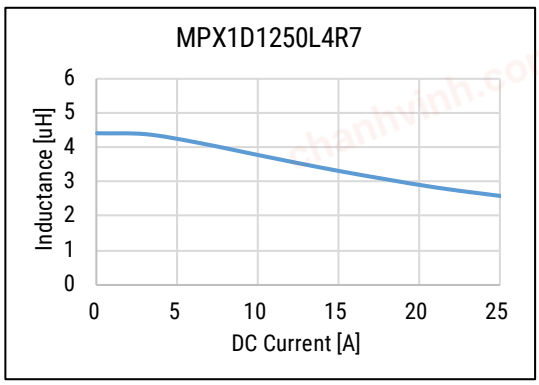


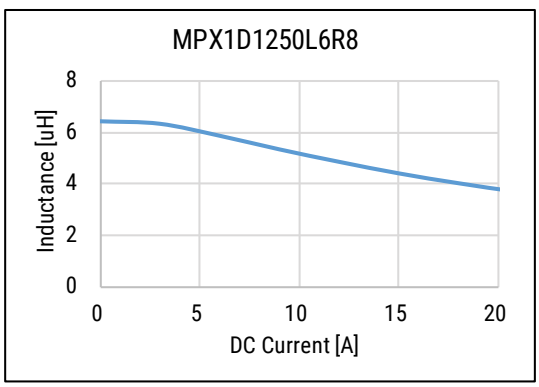


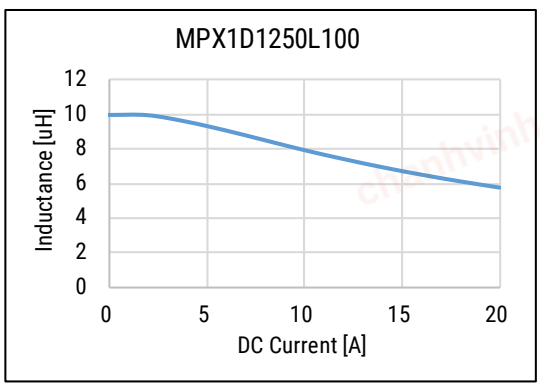
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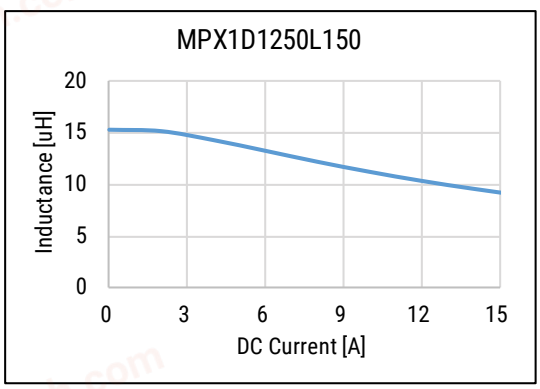
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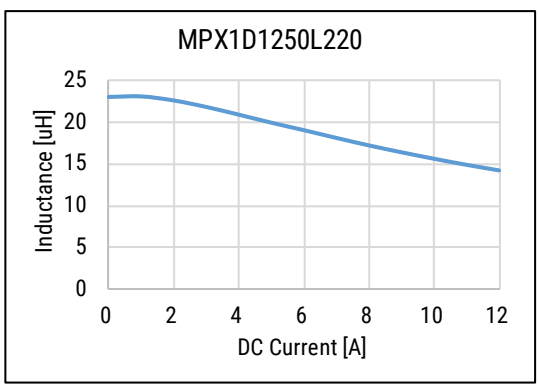


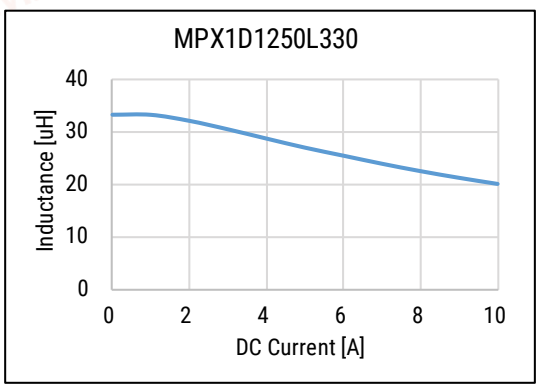


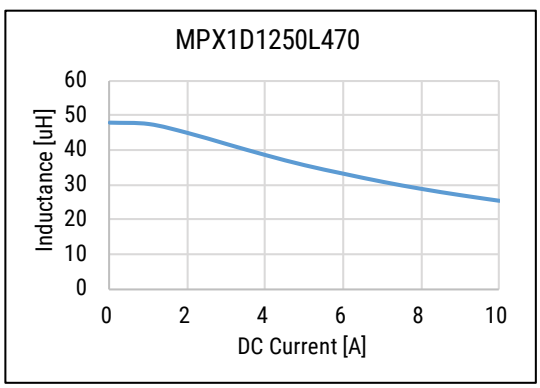






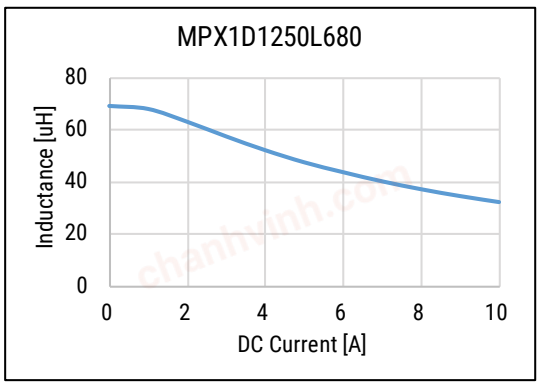


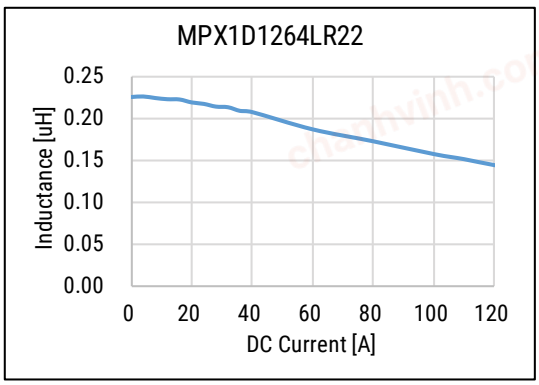


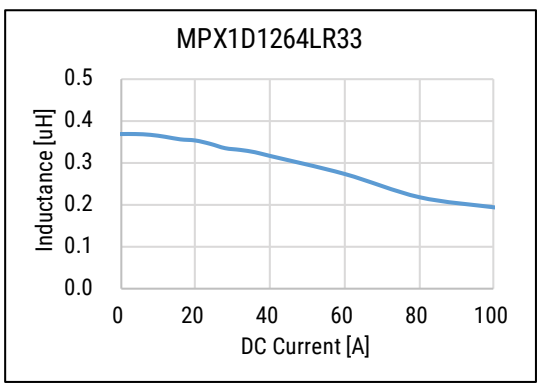


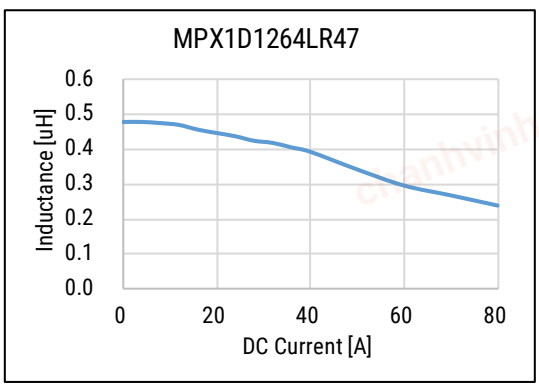
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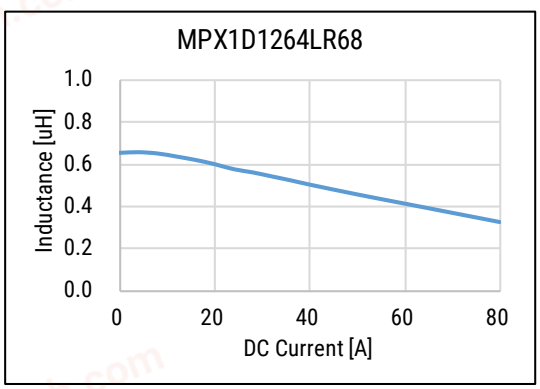
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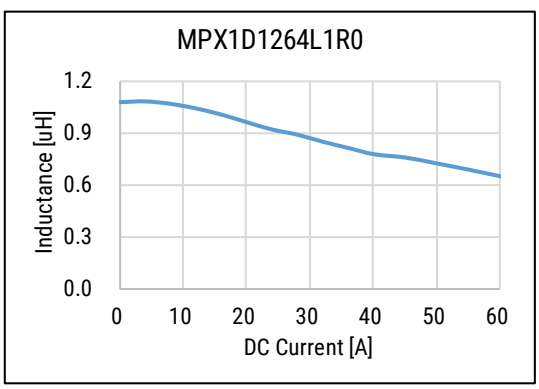


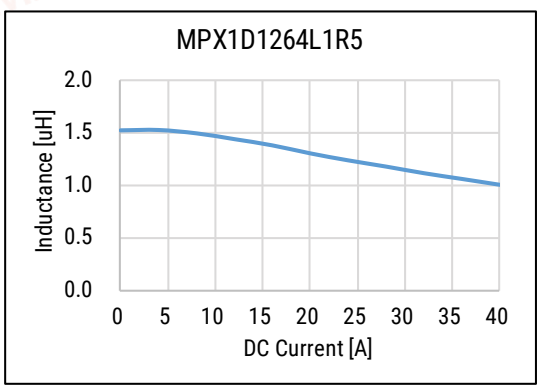


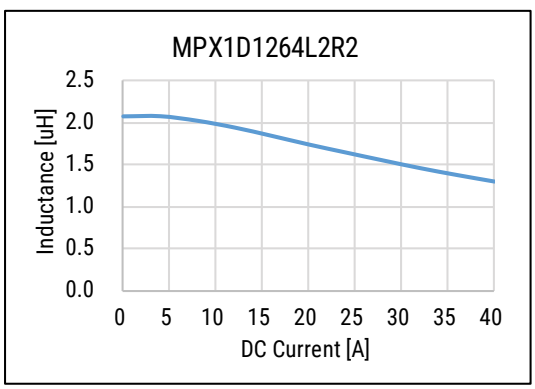






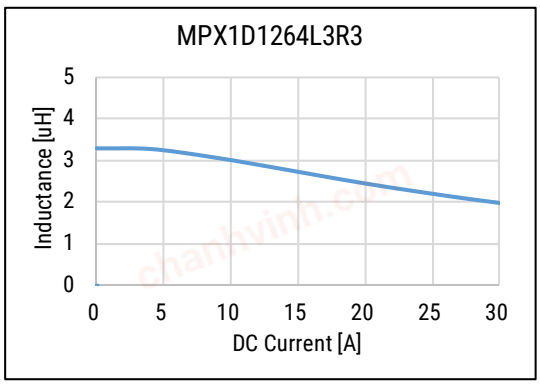


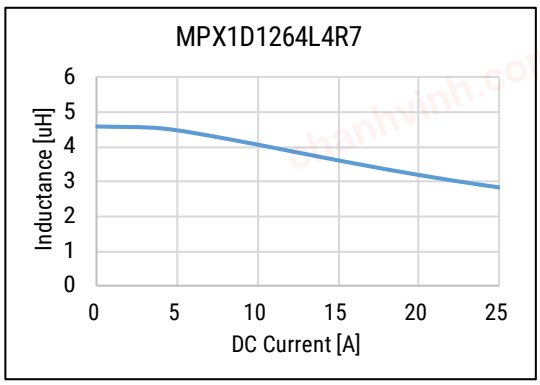


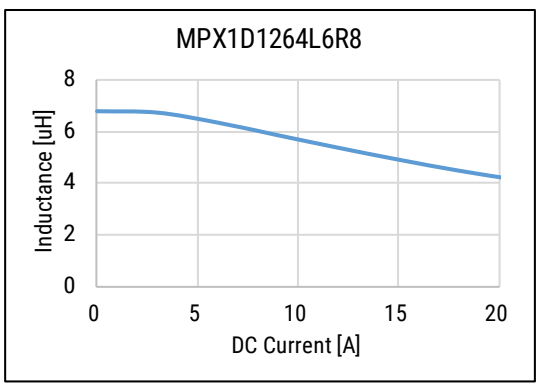


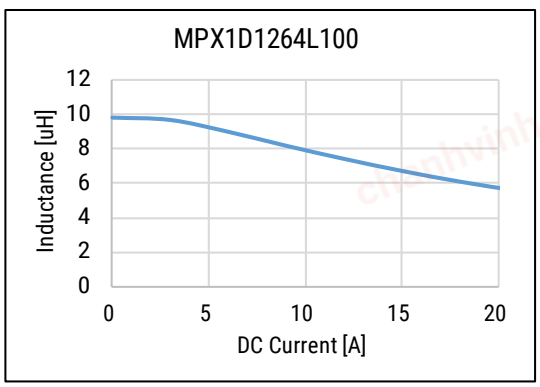
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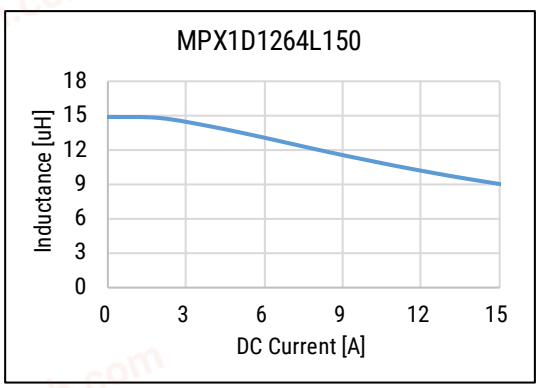
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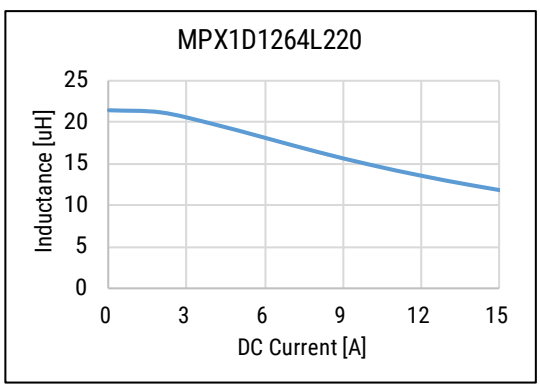


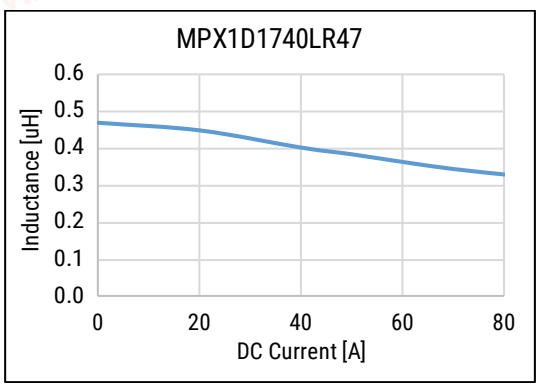


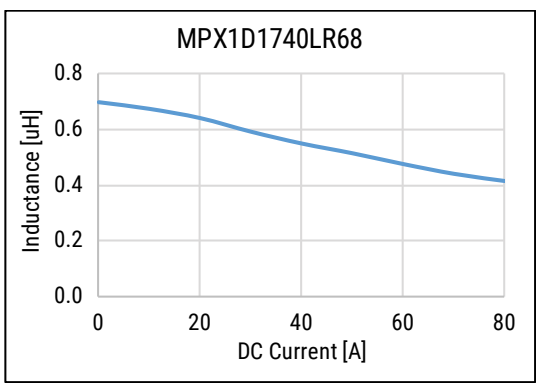






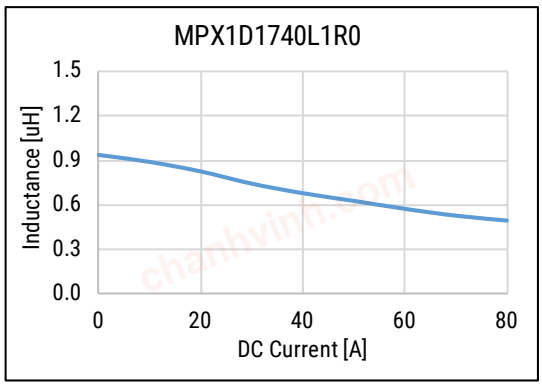


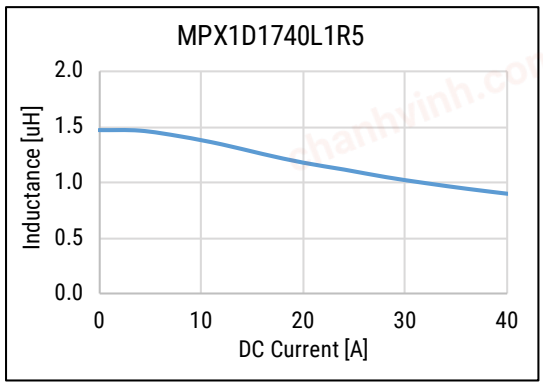


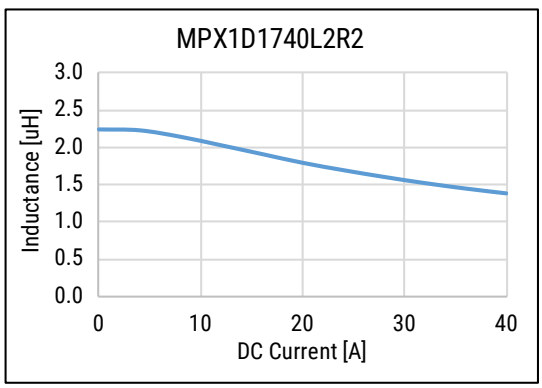


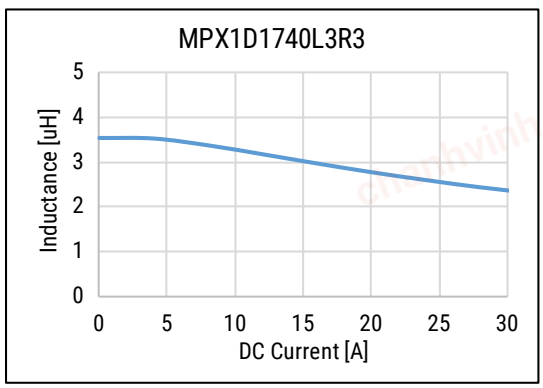
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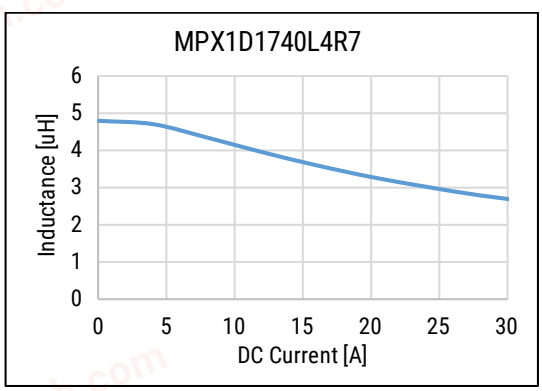
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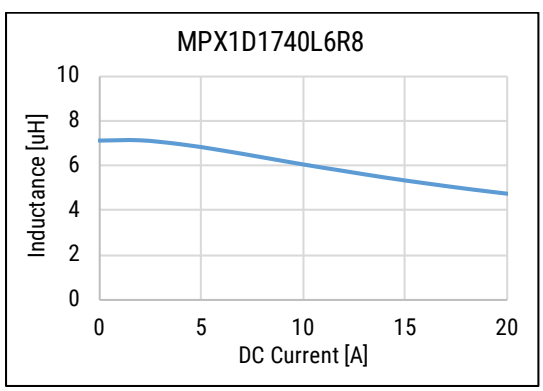


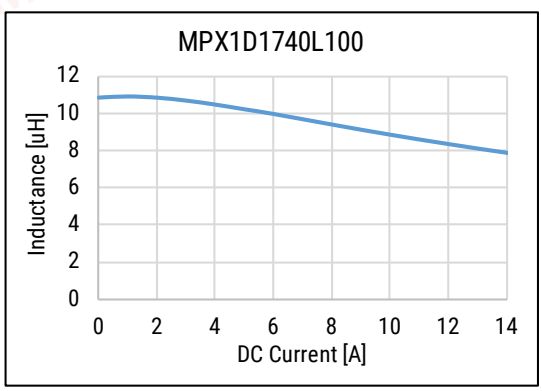


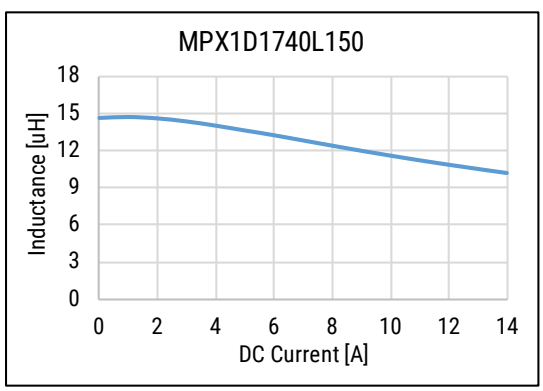






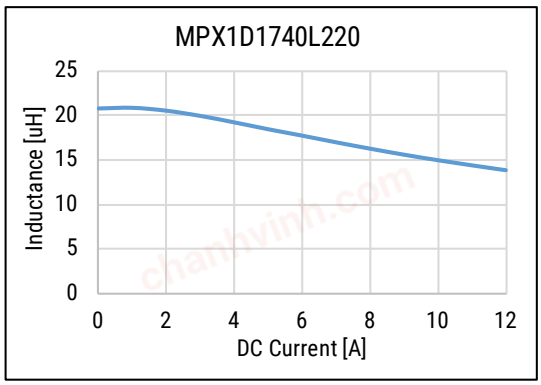


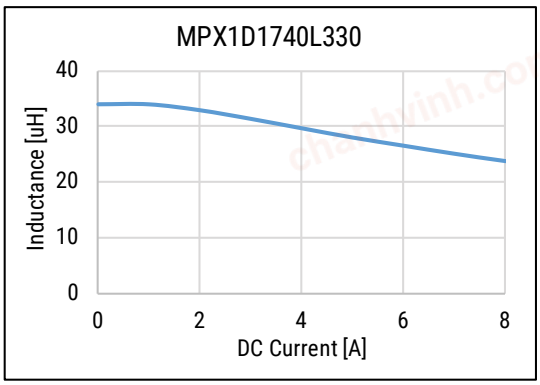


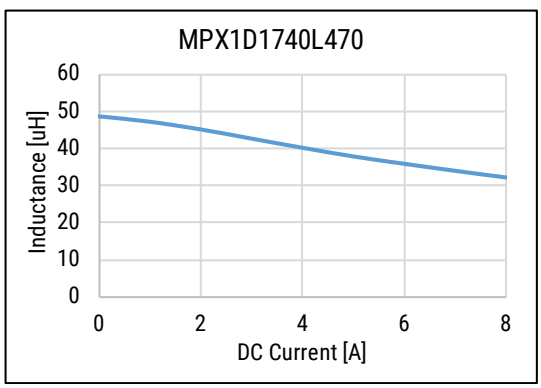


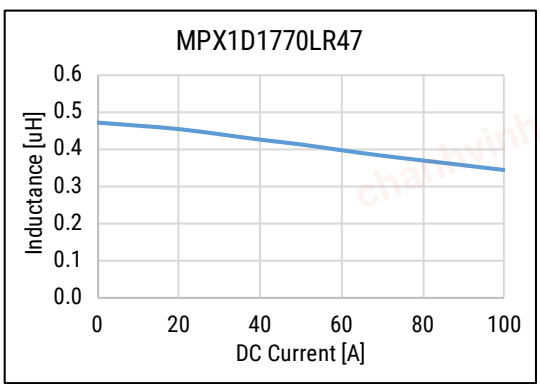
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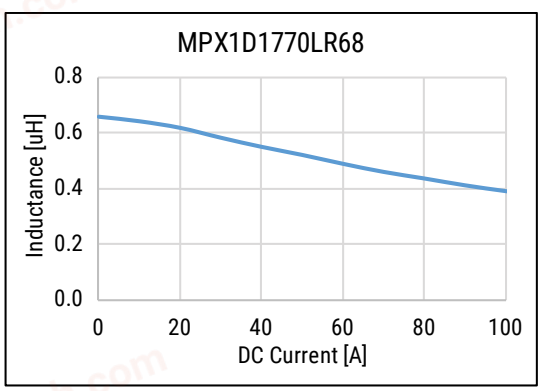
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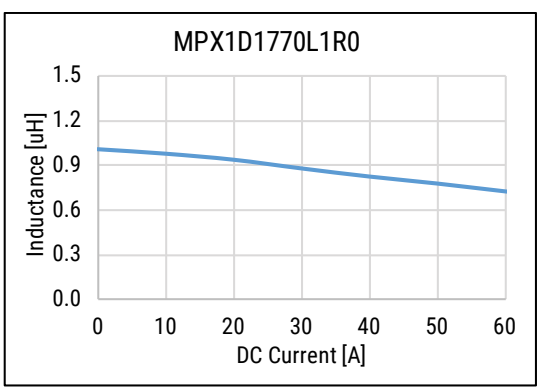


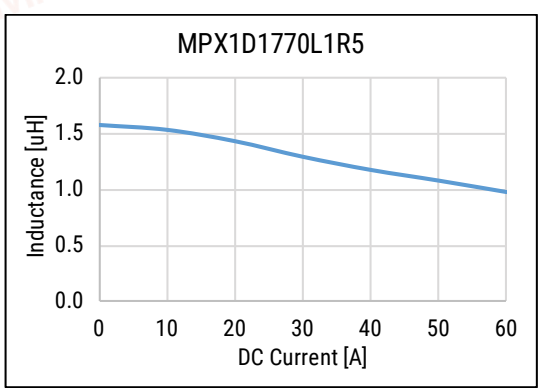


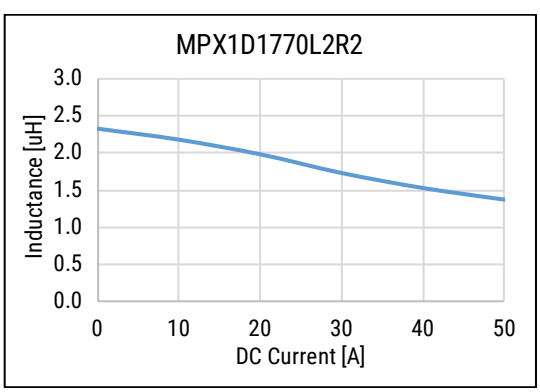






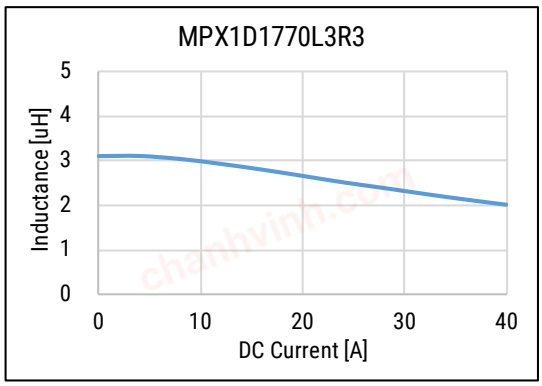


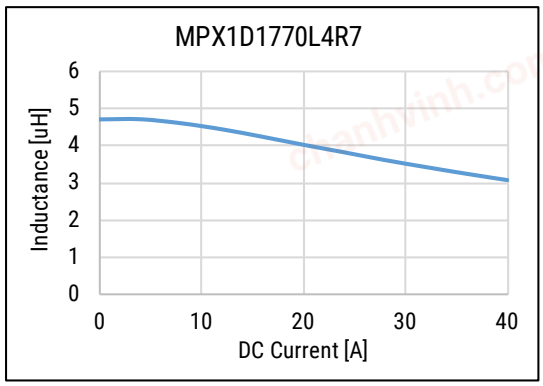


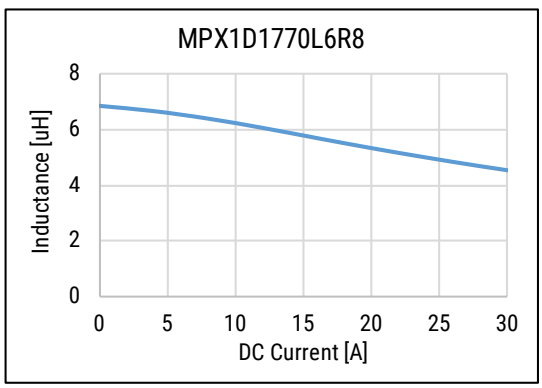


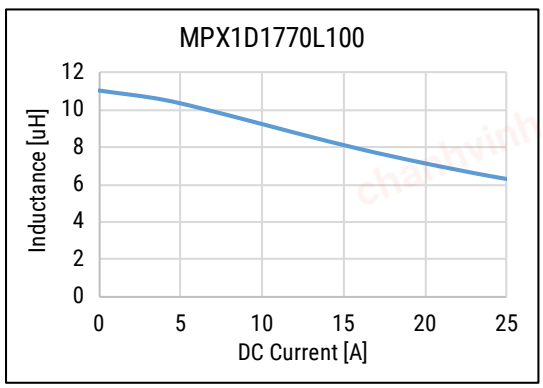
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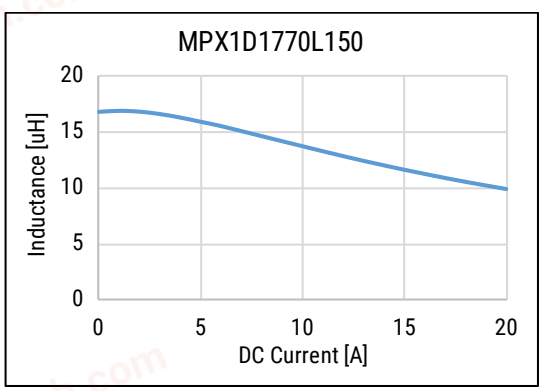
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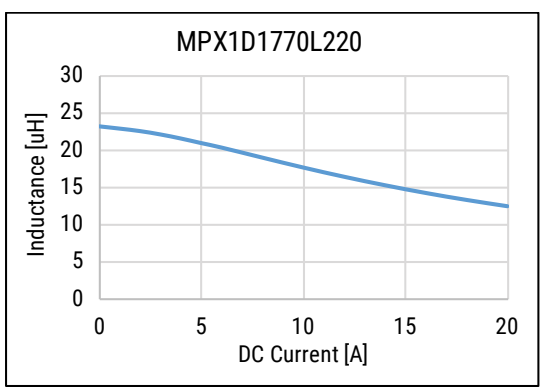


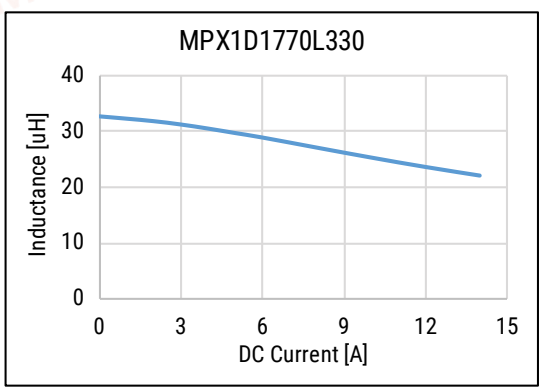


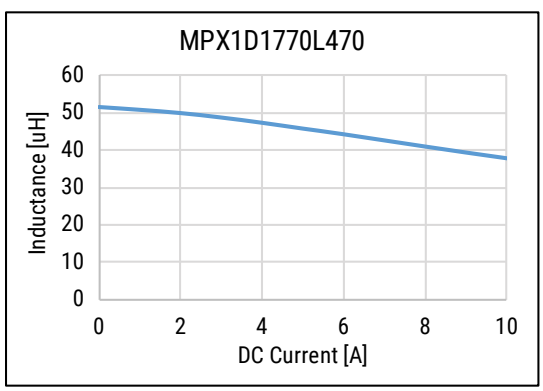






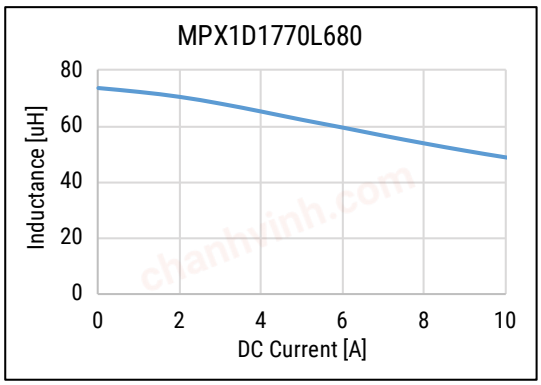


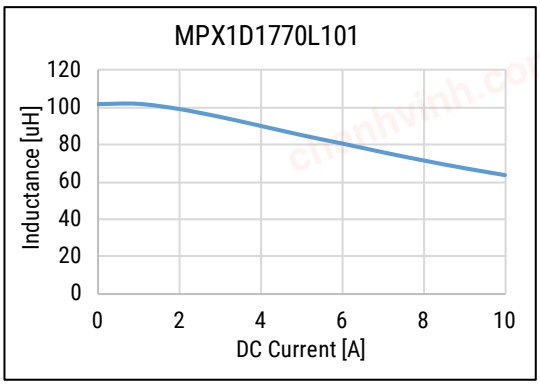


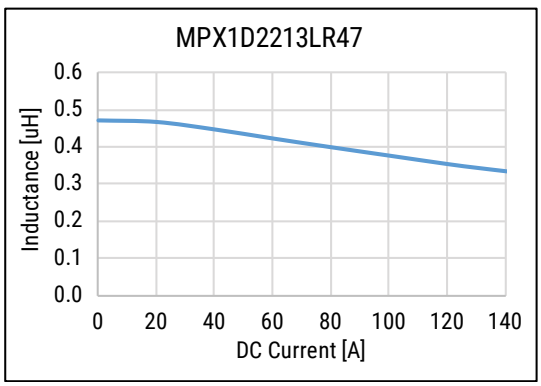


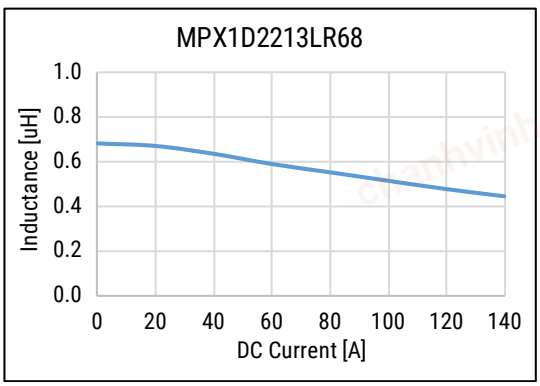
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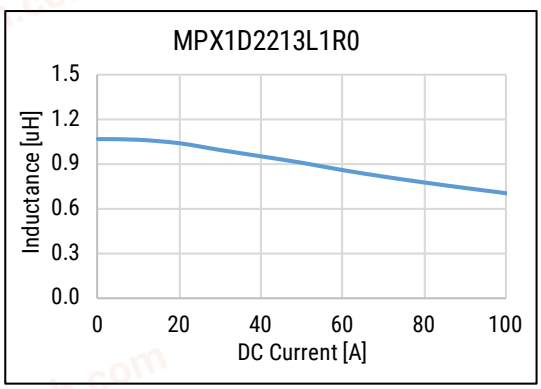
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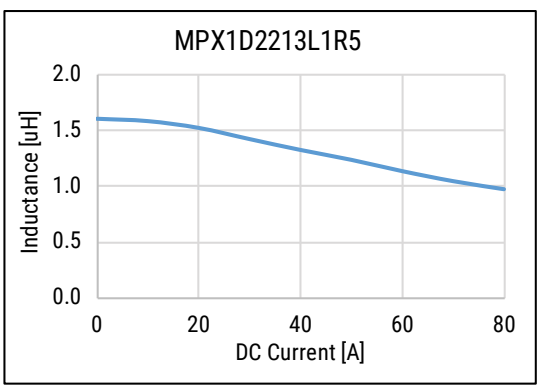


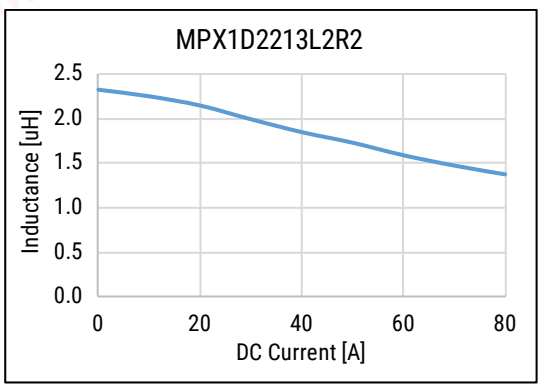


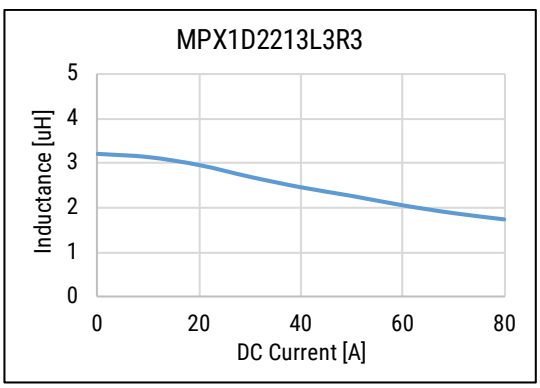






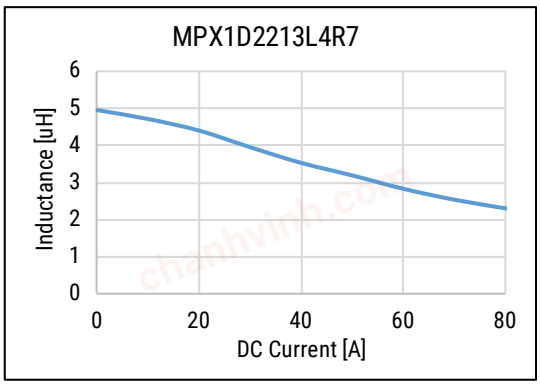


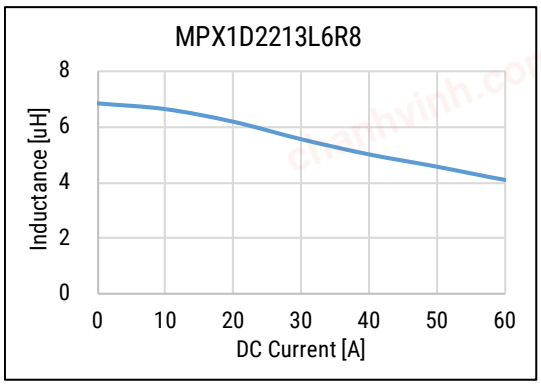


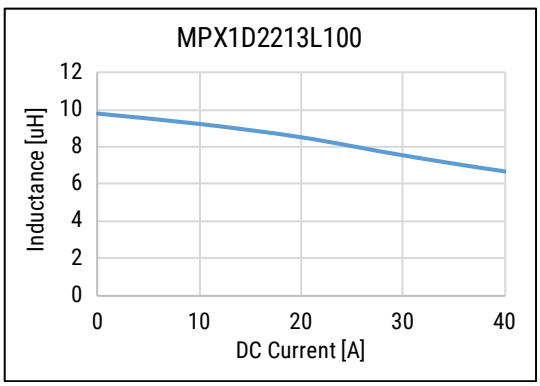


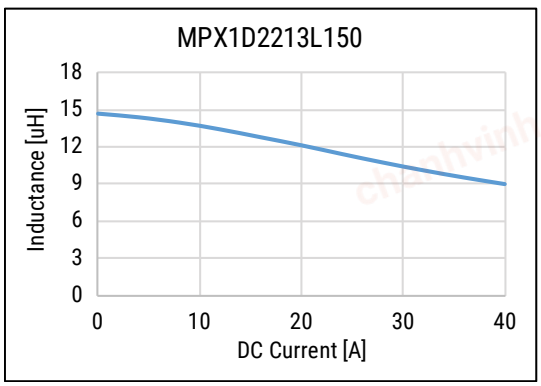
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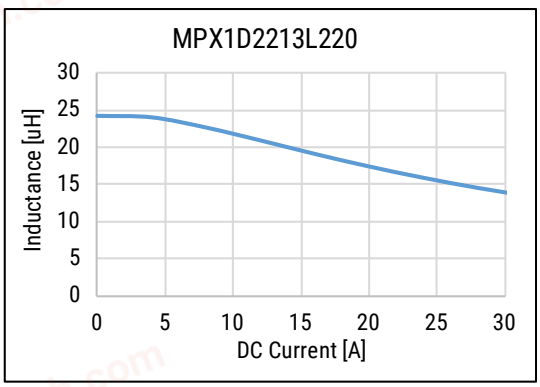
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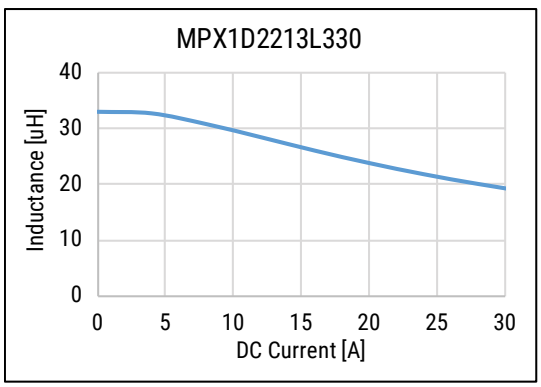


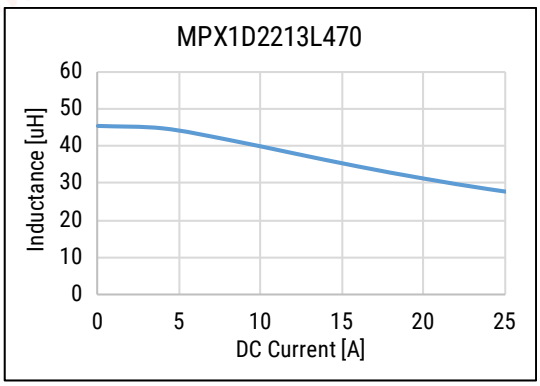


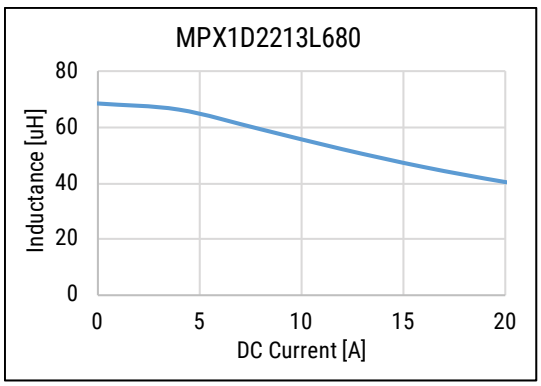






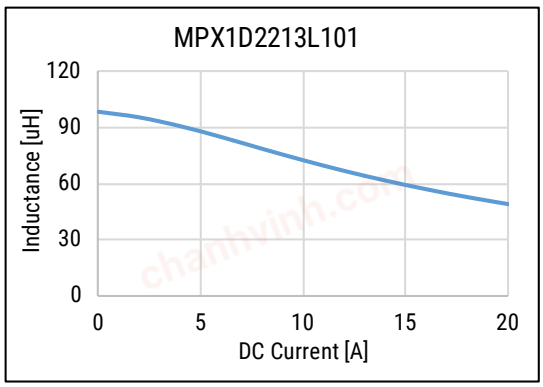




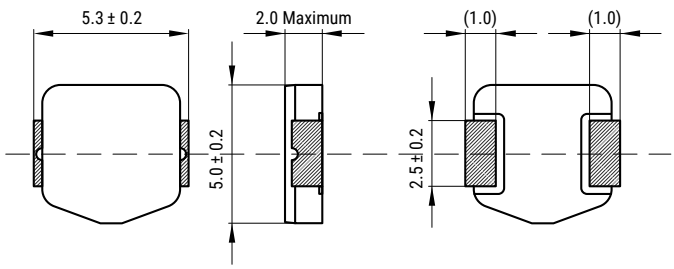
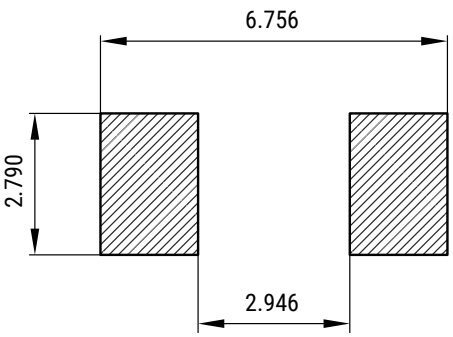
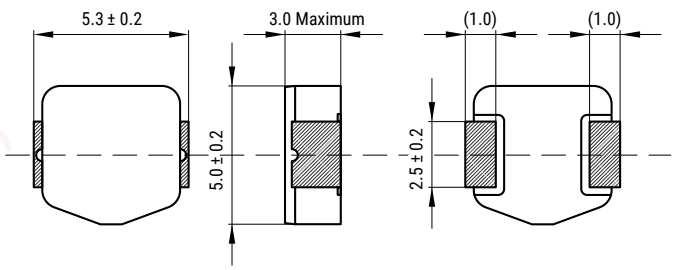
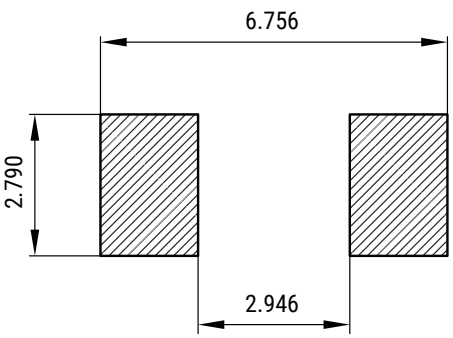


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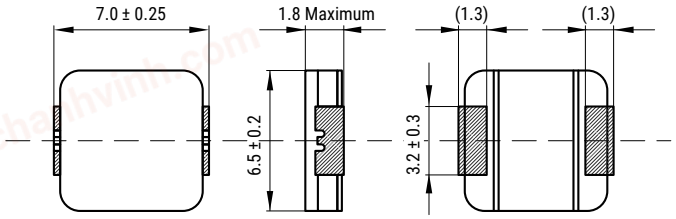
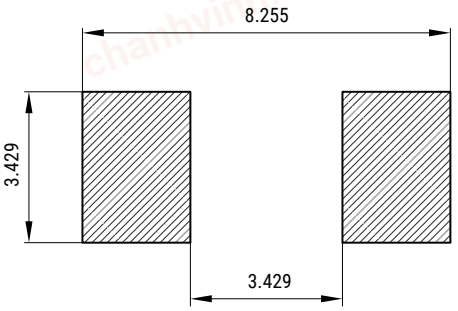
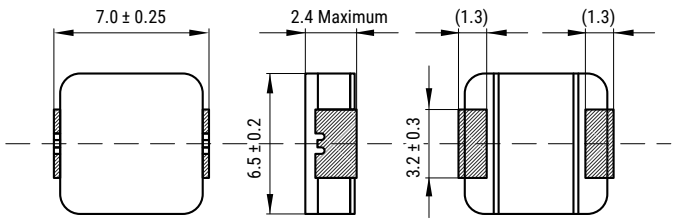
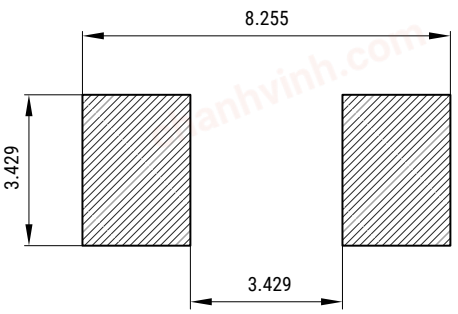
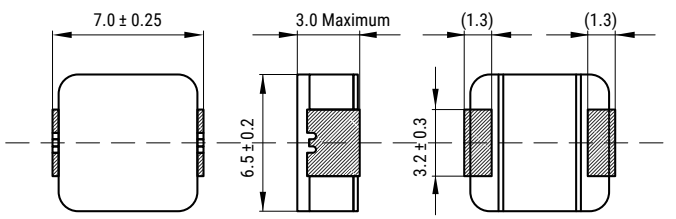
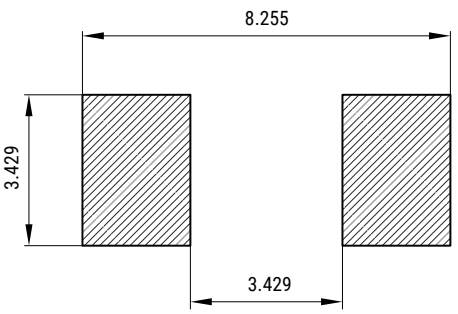
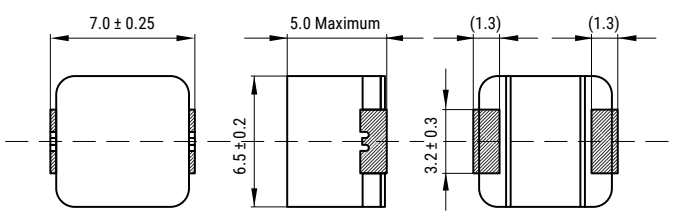
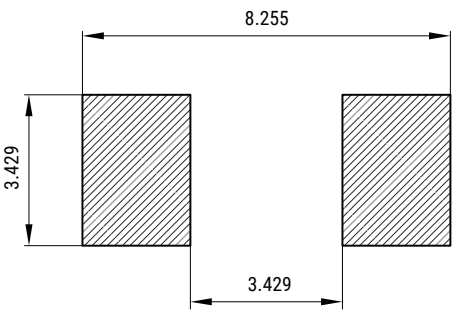


Dimensions

Case Size	Dimensions (mm)	Land Pattern (mm)
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MPX1D0530		

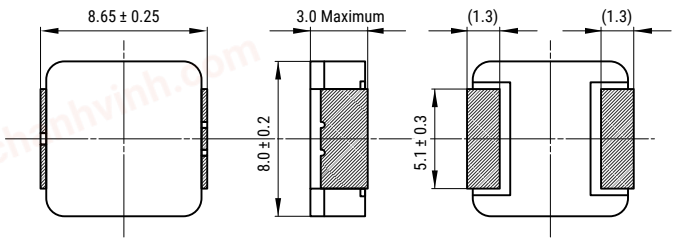
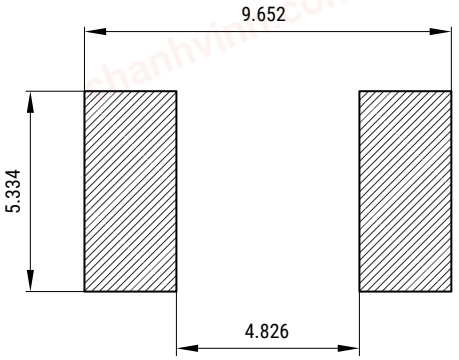
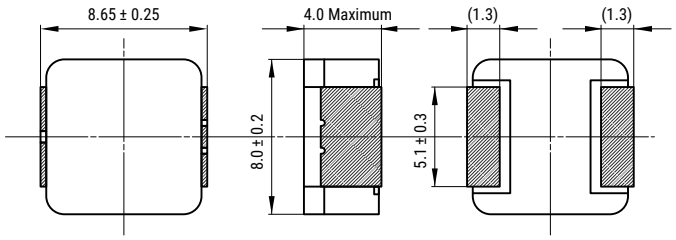
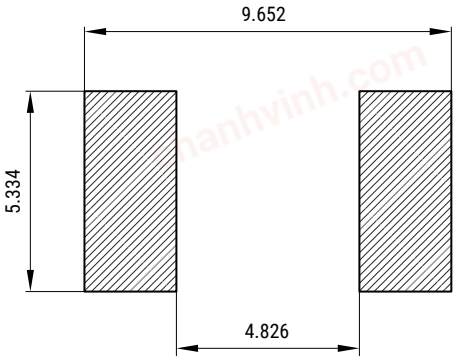
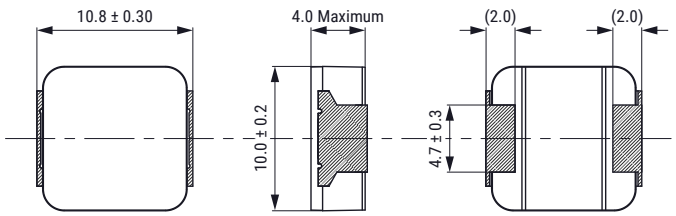
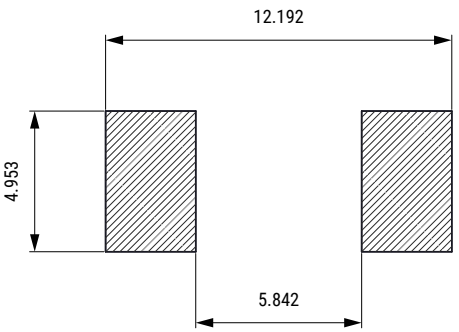
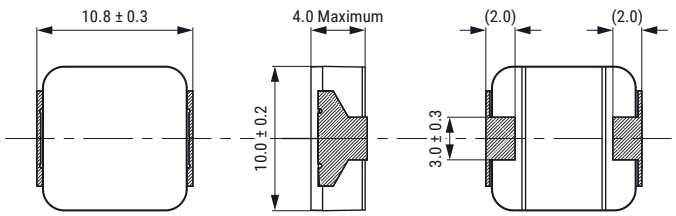
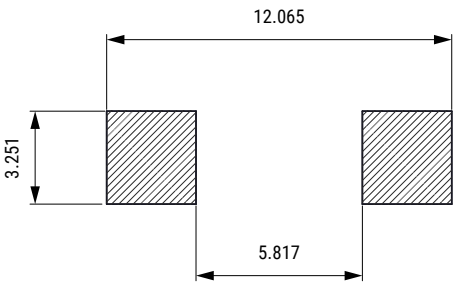
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Dimensions cont.

Case Size	Dimensions (mm)	Land Pattern (mm)
MPX1D0618		
MPX1D0624		
MPX1D0630		
MPX1D0650		

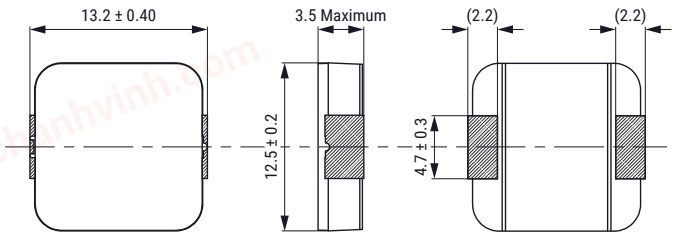
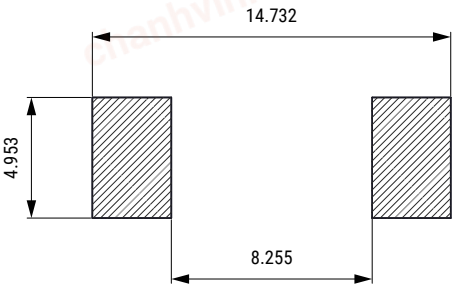
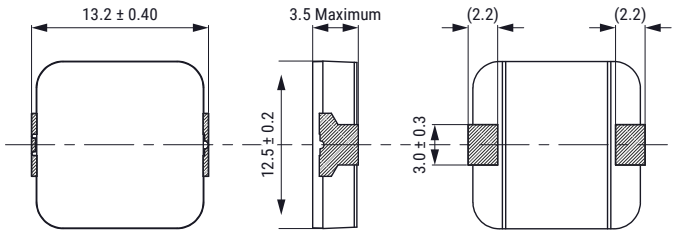
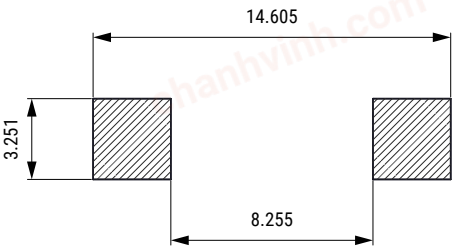
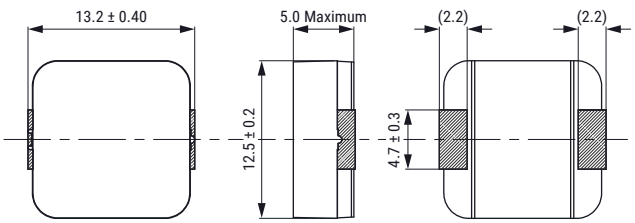
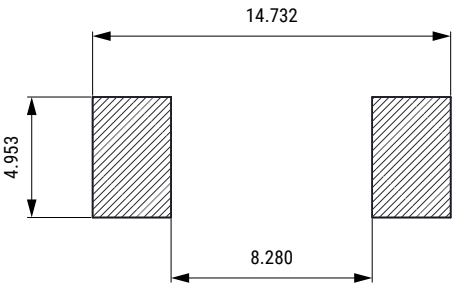
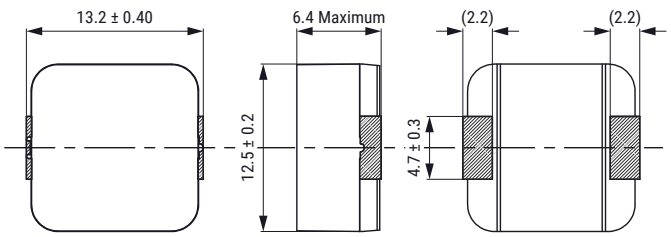
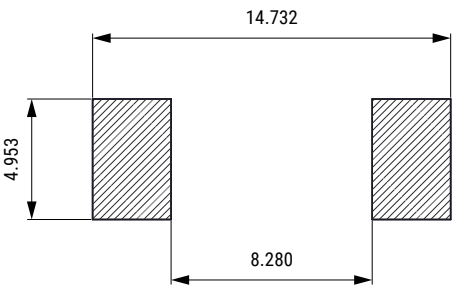
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Dimensions cont.

Case Size	Dimensions (mm)	Land Pattern (mm)
MPX1D0830		
MPX1D0840		
MPX1D1040 For values up to 1.5 µH or below		
MPX1D1040 For values from 2.2 µH or above		

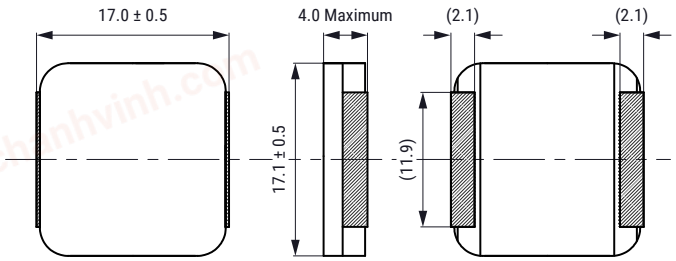
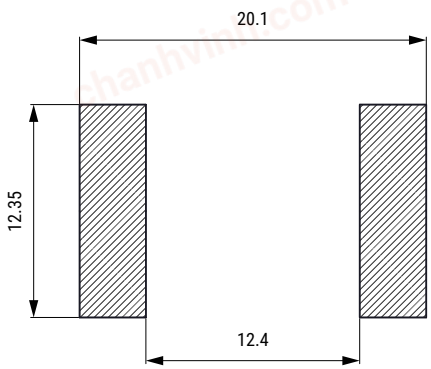
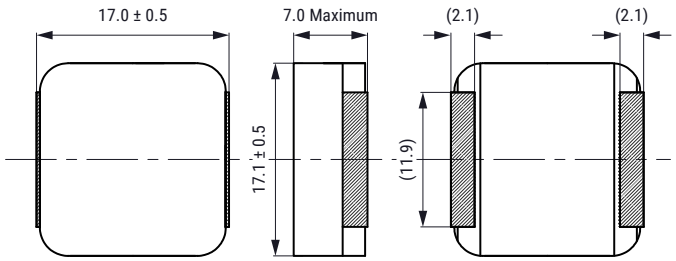
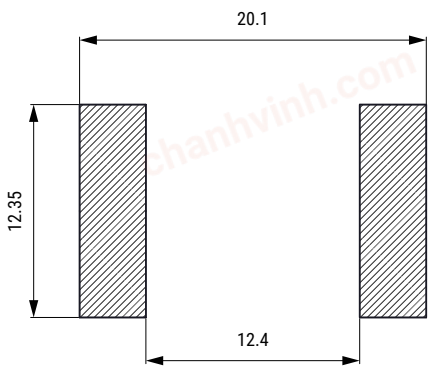
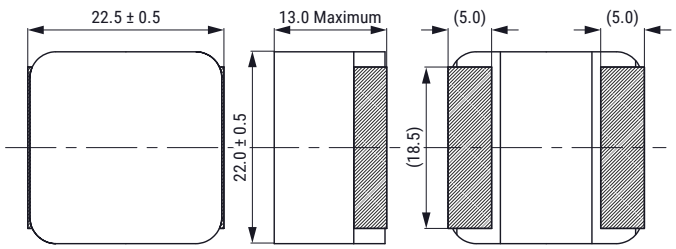
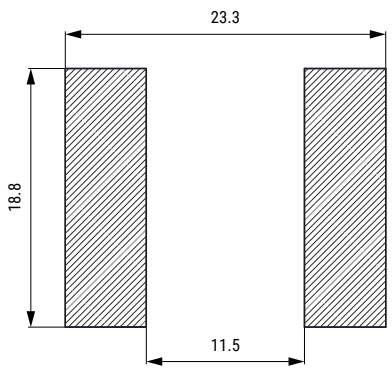
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Dimensions cont.

Case Size	Dimensions (mm)	Land Pattern (mm)
MPX1D1235 For values up to 0.47 µH or below		
MPX1D1235 For values from 0.68 µH or above		
MPX1D1250		
MPX1D1264		

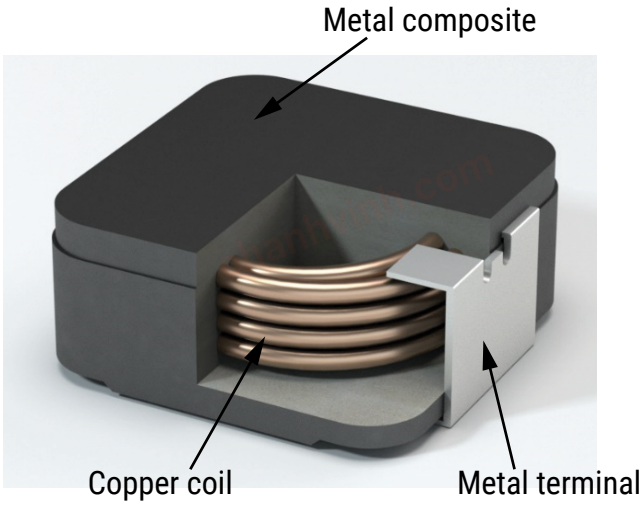
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Dimensions cont.

Case Size	Dimensions (mm)	Land Pattern (mm)
MPX1D1740		
MPX1D1770		
MPX1D2213		

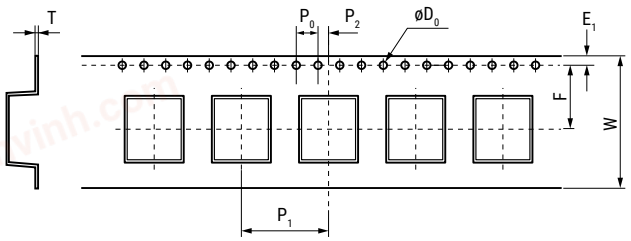
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Construction



Taping Specification

Dimensions of Indented Square Hole Plastic Tape

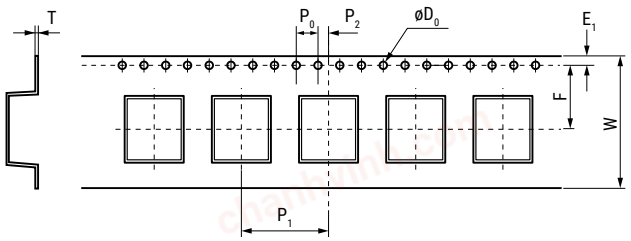


Case Size	Reel Quantity		Dimensions (mm)							
			W	F	E	P_1	P_2	P_0	$øD_0$	T
MPX1D0520	3,500	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05
		Nominal	12.00	5.50	1.75	8.00	2.00	4.00	1.50	0.40
MPX1D0530	2,500	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05
		Nominal	12.00	5.50	1.75	8.00	2.00	4.00	1.50	0.40
MPX1D0618	2,500	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05
		Nominal	16.00	7.50	1.75	12.00	2.00	4.00	1.50	0.40
MPX1D0624	1,500	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05
		Nominal	16.00	7.50	1.75	12.00	2.00	4.00	1.55	0.40
MPX1D0630	1,500	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05
		Nominal	16.00	7.50	1.75	12.00	2.00	4.00	1.55	0.40
MPX1D0650	1,000	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.05
		Nominal	16.00	7.50	1.75	12.00	2.00	4.00	1.55	0.40
MPX1D0830	1,500	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.05
		Nominal	16.00	7.50	1.75	12.00	2.00	4.00	1.55	0.40
MPX1D0840	1,000	Tolerance	±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.05
		Nominal	16.00	7.50	1.75	12.00	2.00	4.00	1.50	0.40

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Taping Specification cont.

Dimensions of Indented Square Hole Plastic Tape

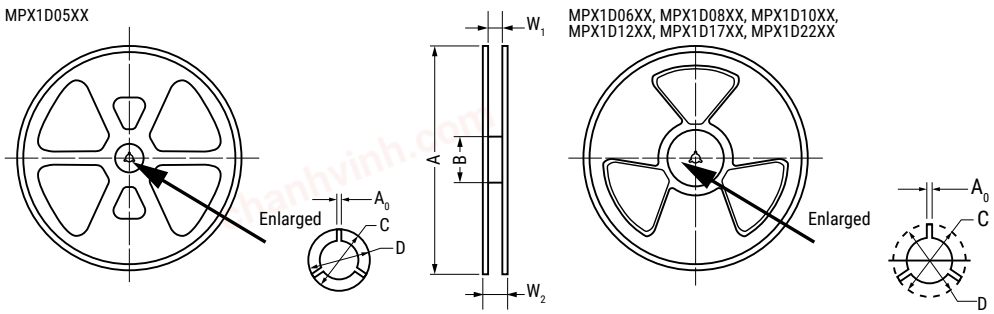


Case Size	Reel Quantity		Dimensions (mm)							
			W	F	E	P_1	P_2	P_0	$øD_0$	T
MPX1D1040	500	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	24.0	11.5	1.75	16.0	2.0	4.0	1.55	0.4
MPX1D1235	500	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	24.0	11.5	1.75	24.0	2.0	4.0	1.55	0.4
MPX1D1250	250	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	24.0	11.5	1.75	24.0	2.0	4.0	1.55	0.4
MPX1D1264	250	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	24.0	11.5	1.75	24.0	2.0	4.0	1.55	0.4
MPX1D1740	100	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05
		Nominal	32.0	14.2	1.75	24.0	2.0	4.0	1.50	0.5
MPX1D1770	100	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05
		Nominal	32.0	14.2	1.75	24.0	2.0	4.0	1.50	0.5
MPX1D2213	50	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05
		Nominal	44.0	20.2	1.75	32.0	2.0	4.0	1.50	0.5

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Reel Specifications

Reel Dimensions



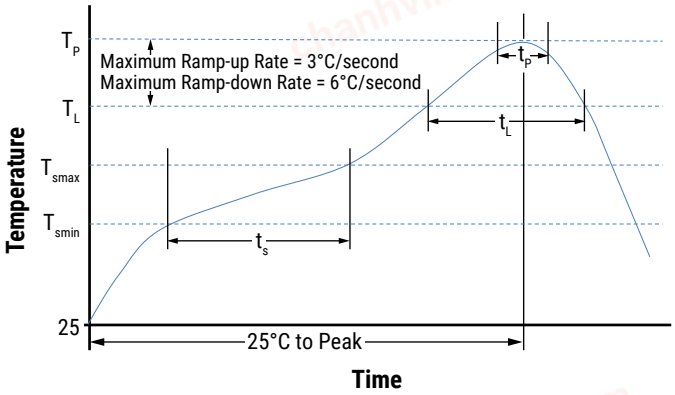
Case Size		Dimensions (mm)						
		A	B	C	D	A_0	W_1	W_2
MPX1D0520	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø80	ø13.0	ø21.0	2.0	13.5	17.5
MPX1D0530	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø80	ø13.0	ø21.0	2.0	13.5	17.5
MPX1D0618	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.2	ø21.5	2.5	16.9	21.3
MPX1D0624	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.2	ø21.5	2.5	16.9	21.3
MPX1D0630	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.2	ø21.5	2.5	16.9	21.3
MPX1D0650	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.2	ø21.5	2.5	16.9	21.3
MPX1D0830	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.2	ø21.5	2.5	16.9	21.3
MPX1D0840	Tolerance	±2.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.2	ø21.5	2.5	16.9	21.3
MPX1D1040	Tolerance	±3.0	±2.0	±0.5	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.0	ø21.5	2.6	17.0	20.6
MPX1D1235	Tolerance	±3.0	±2.0	±0.5	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.0	ø21.5	2.6	17.0	20.6
MPX1D1250	Tolerance	±3.0	±2.0	±0.5	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.0	ø21.5	2.6	17.0	20.6
MPX1D1264	Tolerance	±3.0	±2.0	±0.5	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.0	ø21.5	2.6	17.0	20.6
MPX1D1740	Tolerance	±3.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.0	ø21.0	2.0	32.4	38.4
MPX1D1770	Tolerance	±3.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.0	ø21.0	2.0	32.4	38.4
MPX1D2213	Tolerance	±3.0	±2.0	±0.2	±0.8	±0.5		
	Nominal	ø330	ø100	ø13.0	ø21.0	2.0	44.4	50.4

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Soldering Process

Recommended Reflow Soldering Profile
Reference ICP/JEDEC J-STD-020E

Profile Feature	Pb-Free Assembly
Preheat/Soak	
Temperature Minimum (T_{Smin})	150°C
Temperature Maximum (T_{Smax})	200°C
Time (t_s) from T_{smin} to T_{smax}	60 – 120 seconds
Ramp-Up Rate (T_L to T_P)	3°C/second maximum
Liquidous Temperature (T_L)	217°C
Time Above Liquidous (t_L)	60 – 150 seconds
Peak Temperature (T_P)	260°C for MPX1D0520, 0618, 0624 250°C for MPX1D0530, 0630, 0650, 0830, 0840 245°C for MPX1D1040, 1235, 1250, 1264, 1740, 1770, 2213
Time within 5°C of Maximum Peak Temperature (t_P)	30 seconds maximum
Ramp-Down Rate (T_P to T_L)	6°C/second maximum
Time 25°C to Peak Temperature	8 minutes maximum



Handling Precautions

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

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-bearing and sulfur-bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts.

For optimized solderability, inductor stock should be used promptly, preferably within six months of receipt.

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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.

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