LMax Low Profile Power Inductor

LMLP Series – Style C

FEATURES

- Small and low profile inductor
- It corresponds to high current
- Simple and original magnetic shield structure

APPLICATIONS

•For small DC/DC converter
(cellular phone, HDD, DVC, DSC, PDA, LCD display etc.)

CHARACTERISTICS

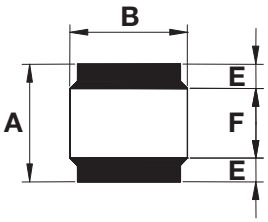
- Rated DC Current: The current when the inductance becomes 30% lower than its initial value.
- Operating temperature range: -40°C ~ +85°C

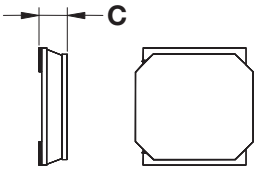
INDUCTANCE AND RATED CURRENT RANGES

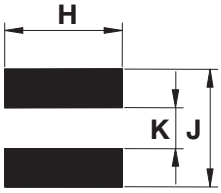
• 0202	2.2 ~ 22µH	1.290 ~ 0.390A
• 0303	1.0 ~ 47µH	1.30 ~ 0.220A
• 03A3	1.0 ~ 47µH	1.50 ~0.250A
• 03B3	1.0 ~ 47µH	2.10 ~ 0.320A
• 0404	1.0 ~ 47µH	1.80 ~ 0.240A
• 04A4	1.0 ~ 47µH	2.50 ~ 0.350A
• 04B4	1.0 ~ 220µH	4.0 ~ 0.270A
• 0505	10µH	1.00A
• 05B5	1.50 ~ 22.0µH	3.35 ~ 0.90A
• 05D5	1.50 ~ 47.0µH	6.00 ~ 1.10A
• 0606	4.7 ~ 10.0µH	1.40 ~ 1.00A
• 06A6	2.50 ~ 100µH	2.10 ~ 0.35A
• 06B6	0.80 ~ 22.0µH	5.50 ~ 1.05A
• 06C6	1.50 ~ 100µH	5.00 ~ 0.62A
• 06D6	1.30 ~ 100µH	8.00 ~ 0.80A
• 0808	0.90 ~ 100µH	11.0 ~ 1.00A

RoHS COMPLIANT

DIMENSIONS







PCB Pattern

mm (inches)

Type	A	B	C max	D	E	F	G	H
0202	2.40 ± 0.10 (0.095 ± 0.004)	2.40 ± 0.10 (0.095 ± 0.004)	1.00 (0.039)	1.45 ± 0.20 (0.057 ± 0.008)	0.60 ± 0.20 (0.240 ± 0.008)	1.45 (0.057)	2.00 (0.079)	0.70 (0.028)
0303	3.00 ± 0.20 (0.118 ± 0.008)	3.00 ± 0.20 (0.118 ± 0.008)	1.00 (0.039)	1.90 ± 0.20 (0.075 ± 0.008)	0.90 ± 0.20 (0.035 ± 0.008)	2.20 (0.087)	2.70 (0.106)	0.80 (0.032)
03A3	3.00 ± 0.20 (0.118 ± 0.008)	3.00 ± 0.20 (0.118 ± 0.008)	1.20 (0.047)	1.90 ± 0.20 (0.075 ± 0.008)	0.90 ± 0.20 (0.035 ± 0.008)	2.20 (0.087)	2.70 (0.106)	0.80 (0.032)
03B3	3.00 ± 0.20 (0.118 ± 0.008)	3.00 ± 0.20 (0.118 ± 0.008)	1.50 (0.059)	1.90 ± 0.20 (0.075 ± 0.008)	0.90 ± 0.20 (0.035 ± 0.008)	2.20 (0.087)	2.70 (0.106)	0.80 (0.032)
0404	4.00 ± 0.20 (0.157 ± 0.008)	4.00 ± 0.20 (0.157 ± 0.008)	1.00 (0.039)	2.50 ± 0.20 (0.099 ± 0.008)	1.10 ± 0.20 (0.043 ± 0.008)	2.80 (0.110)	3.70 (0.146)	1.20 (0.047)
04A4	4.00 ± 0.20 (0.157 ± 0.008)	4.00 ± 0.20 (0.157 ± 0.008)	1.20 (0.047)	2.50 ± 0.20 (0.099 ± 0.008)	1.10 ± 0.20 (0.043 ± 0.008)	2.80 (0.110)	3.70 (0.146)	1.20 (0.047)
04B4	4.00 ± 0.20 (0.157 ± 0.008)	4.00 ± 0.20 (0.157 ± 0.008)	1.80 (0.071)	2.50 ± 0.20 (0.099 ± 0.008)	1.10 ± 0.20 (0.043 ± 0.008)	2.80 (0.110)	3.70 (0.146)	1.20 (0.047)
0505	5.00 ± 0.20 (0.197 ± 0.008)	5.00 ± 0.20 (0.197 ± 0.008)	1.00 (0.039)	3.50 ± 0.20 (0.138 ± 0.008)	1.50 ± 0.20 (0.059 ± 0.008)	3.80 (0.150)	4.70 (0.185)	1.60 (0.063)
05B5	5.00 ± 0.20 (0.197 ± 0.008)	5.00 ± 0.20 (0.197 ± 0.008)	2.00 (0.078)	3.50 ± 0.20 (0.138 ± 0.008)	1.50 ± 0.20 (0.059 ± 0.008)	3.80 (0.150)	4.70 (0.185)	1.60 (0.063)
05D5	5.00 ± 0.20 (0.197 ± 0.008)	5.00 ± 0.20 (0.197 ± 0.008)	4.00 (0.157)	3.50 ± 0.20 (0.138 ± 0.008)	1.50 ± 0.20 (0.059 ± 0.008)	3.80 (0.150)	4.70 (0.185)	1.60 (0.063)
0606	6.00 ± 0.20 (0.236 ± 0.008)	6.00 ± 0.20 (0.236 ± 0.008)	1.00 ± 0.10 (0.039 ± 0.004)	4.00 ± 0.20 (0.157 ± 0.008)	1.35 ± 0.20 (0.053 ± 0.008)	4.70 (0.185)	5.70 (0.224)	1.60 (0.063)
06A6	6.00 ± 0.20 (0.236 ± 0.008)	6.00 ± 0.20 (0.236 ± 0.008)	1.20 (0.047)	4.00 ± 0.20 (0.157 ± 0.008)	1.35 ± 0.20 (0.053 ± 0.008)	4.70 (0.185)	5.70 (0.224)	1.60 (0.063)
06B6	6.00 ± 0.20 (0.236 ± 0.008)	6.00 ± 0.20 (0.236 ± 0.008)	2.00 (0.078)	4.00 ± 0.20 (0.157 ± 0.008)	1.35 ± 0.20 (0.053 ± 0.008)	4.70 (0.185)	5.70 (0.224)	1.60 (0.063)
06C6	6.00 ± 0.20 (0.236 ± 0.008)	6.00 ± 0.20 (0.236 ± 0.008)	2.80 (0.110)	4.00 ± 0.20 (0.157 ± 0.008)	1.35 ± 0.20 (0.053 ± 0.008)	4.70 (0.185)	5.70 (0.224)	1.60 (0.063)
06D6	6.00 ± 0.20 (0.236 ± 0.008)	6.00 ± 0.20 (0.236 ± 0.008)	4.50 (0.177)	4.00 ± 0.20 (0.157 ± 0.008)	1.35 ± 0.20 (0.053 ± 0.008)	4.70 (0.185)	5.70 (0.224)	1.60 (0.063)
0808	8.00 ± 0.20 (0.315 ± 0.008)	8.00 ± 0.20 (0.315 ± 0.008)	4.20 (0.165)	5.60 ± 0.30 (0.220 ± 0.011)	1.60 ± 0.30 (0.063 ± 0.011)	5.60 (0.220)	7.50 (0.188)	1.80 (0.071)

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HOW TO ORDER

LM	LP	0303	M	R04	C	T	A	S
Family LM = Power Inductor	**Series** LP = Low Profile	**Size** 0303 = 3x3xh 03A3 = 3x3xA(h) (h = see catalog)	**Tolerance** M = 20% N = 30%	**Inductance** R39 = 0.390µH 3R9 = 3.900µH 390 = 39.00µH 391 = 390.0µH	**Style**	**Termination** T = Sn Plate	**Special** A = Standard	**Packaging** R = 7" Reel S = 13" Reel

ELECTRICAL CHARACTERISTICS

0202

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N2R2	2.20	±30%	1.29	0.97	0.15
N3R3	3.30	±30%	1.00	0.77	0.22
N4R7	4.70	±30%	0.88	0.67	0.29
N6R8	6.80	±30%	0.75	0.57	0.41
M100	10.0	±20%	0.55	0.45	0.69
M150	15.0	±20%	0.47	0.37	1.02
M220	22.0	±20%	0.39	0.30	1.47

0303

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R0	1.00	±30%	1.30	1.40	0.065
N1R5	1.50	±30%	1.20	1.30	0.08
N2R2	2.20	±30%	1.10	1.10	0.095
N3R3	3.30	±30%	0.87	0.94	0.14
N4R7	4.70	±30%	0.75	0.78	0.19
N6R8	6.80	±30%	0.61	0.63	0.30
M100	10.0	±20%	0.50	0.51	0.45
M150	15.0	±20%	0.40	0.40	0.74
M220	22.0	±20%	0.35	0.35	1.03
M330	33.0	±20%	0.26	0.275	1.55
M470	47.0	±20%	0.22	0.235	2.05

03A3

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R0	1.00	±30%	1.50	1.49	0.05
N1R5	1.50	±30%	1.36	1.40	0.06
N2R2	2.20	±30%	1.10	1.20	0.08
N3R3	3.30	±30%	0.91	1.05	0.10
N4R7	4.70	±30%	0.77	0.98	0.13
N6R8	6.80	±30%	0.67	0.74	0.19
M100	10.0	±20%	0.54	0.63	0.29
M150	15.0	±20%	0.44	0.485	0.45
M220	22.0	±20%	0.37	0.42	0.63
M330	33.0	±20%	0.31	0.33	1.03
M470	47.0	±20%	0.25	0.28	1.45

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03B3

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R0	1.00	±30%	2.10	2.10	0.03
N1R5	1.50	±30%	1.80	1.82	0.04
N2R2	2.20	±30%	1.48	1.50	0.06
N3R3	3.30	±30%	1.21	1.23	0.08
N4R7	4.70	±30%	1.02	1.04	0.12
N6R8	6.80	±30%	0.87	0.88	0.16
M100	10.0	±20%	0.70	0.71	0.23
M150	15.0	±20%	0.56	0.56	0.36
M220	22.0	±20%	0.47	0.47	0.52
M330	33.0	±20%	0.39	0.37	0.84
M470	47.0	±20%	0.32	0.30	1.34

0404

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R0	1.00	±30%	1.80	1.05	0.10
N2R2	2.20	±30%	1.15	0.89	0.15
N3R3	3.30	±30%	1.10	0.82	0.18
N4R7	4.70	±30%	0.90	0.75	0.21
N6R8	6.80	±30%	0.74	0.62	0.30
M100	10.0	±30%	0.56	0.60	0.38
M150	15.0	±20%	0.47	0.51	0.51
M220	22.0	±20%	0.36	0.40	0.87
M330	33.0	±20%	0.28	0.30	1.54
M470	47.0	±20%	0.24	0.28	1.81

04A4

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R0	1.00	±30%	2.50	1.50	0.06
N2R2	2.20	±30%	1.65	1.20	0.09
N3R3	3.30	±30%	1.20	0.98	0.13
N4R7	4.70	±30%	1.05	0.96	0.14
N6R8	6.80	±30%	0.90	0.84	0.18
M100	10.0	±20%	0.74	0.77	0.24
M150	15.0	±20%	0.56	0.60	0.40
M220	22.0	±20%	0.51	0.54	0.48
M330	33.0	±20%	0.40	0.42	0.81
M470	47.0	±20%	0.35	0.37	1.00

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04B4

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R0	1.00	±30%	4.00	1.83	0.03
N2R2	2.20	±30%	2.70	1.44	0.06
N3R3	3.30	±30%	2.00	1.23	0.07
N4R7	4.70	±30%	1.70	1.20	0.09
N6R8	6.80	±30%	1.45	1.06	0.11
M100	10.0	±20%	1.20	0.84	0.18
M150	15.0	±20%	0.94	0.65	0.28
M220	22.0	±20%	0.80	0.59	0.36
M330	33.0	±20%	0.65	0.49	0.53
M470	47.0	±20%	0.57	0.42	0.65
M680	68.0	±20%	0.47	0.32	1.00
M101	100	±20%	0.40	0.27	1.50
M151	150	±20%	0.31	0.22	2.50
M221	220	±20%	0.27	0.17	4.00

0505

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
M100	10.0	±20%	1.00	0.94	0.48

05B5

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R5	1.50	±30%	3.35	3.20	0.026
N2R2	2.20	±30%	2.90	2.90	0.035
N3R3	3.30	±30%	2.40	2.40	0.048
N4R7	4.70	±30%	2.00	2.00	0.06
N6R8	6.80	±30%	1.60	1.65	0.090
M100	10.0	±20%	1.30	1.45	0.12
M150	15.0	±20%	1.10	1.20	0.165
M220	22.0	±20%	0.90	1.00	0.26

05D5

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R5	1.50	±30%	6.00	3.60	0.02
N2R2	2.20	±30%	4.60	3.50	0.022
N3R3	3.30	±30%	3.80	3.30	0.027
N4R7	4.70	±30%	3.30	3.10	0.029
N6R8	6.80	±30%	2.60	2.30	0.049
M100	10.0	±20%	2.30	2.10	0.056
M150	15.0	±20%	2.00	1.80	0.08
M220	22.0	±20%	1.60	1.40	0.126
M330	33.0	±20%	1.30	1.20	0.18
M470	47.0	±20%	1.10	0.90	0.31

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0606

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N4R7	4.70	±30%	1.40	1.40	0.29
N6R8	6.80	±30%	1.20	1.00	0.372
M100	10.0	±20%	1.00	0.85	0.50

06A6

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N2R5	2.50	±30%	2.10	1.73	0.09
N4R0	4.00	±30%	1.80	1.57	0.105
N5R0	5.00	±30%	1.50	1.40	0.11
N6R8	6.80	±30%	1.30	1.18	0.165
M100	10.0	±20%	1.00	1.00	0.235
M150	15.0	±20%	0.80	0.79	0.33
M220	22.0	±20%	0.76	0.63	0.530
M330	23.0	±20%	0.59	0.53	0.70
M470	47.0	±20%	0.52	0.46	1.05
M680	68.0	±20%	0.44	0.41	1.35
M101	100	±20%	0.35	0.32	2.18

06B6

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N0R8	0.80	±30%	5.50	3.80	0.02
N1R5	1.50	±30%	4.00	3.20	0.026
N2R2	2.20	±30%	3.20	2.70	0.034
N3R3	3.30	±30%	2.80	2.60	0.04
N4R7	4.70	±30%	2.40	2.00	0.058
N6R8	6.80	±30%	2.00	1.80	0.085
M100	10.0	±20%	1.70	1.40	0.125
M220	22.0	±20%	1.05	0.95	0.29

06C6

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R5	1.50	±30%	5.00	4.20	0.016
N2R2	2.20	±30%	4.20	3.70	0.02
N3R0	3.00	±30%	3.60	3.40	0.023
N4R7	4.70	±30%	2.70	3.00	0.031
N6R0	6.00	±30%	2.50	2.50	0.04
M100	10.0	±20%	1.90	1.90	0.065
M150	15.0	±20%	1.60	1.80	0.095
M220	22.0	±20%	1.30	1.40	0.135
M330	33.0	±20%	1.10	1.10	0.22
M470	47.0	±20%	0.95	0.92	0.30
M680	68.0	±20%	0.76	0.77	0.42
M101	100	±20%	0.62	0.66	0.60

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06D6

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N1R3	1.30	±30%	8.00	4.00	0.016
N1R8	1.80	±30%	7.00	3.70	0.018
N2R3	2.30	±30%	6.00	3.50	0.021
N3R0	3.00	±30%	5.00	3.20	0.024
N4R5	4.50	±30%	4.00	3.00	0.031
N6R3	6.30	±30%	3.80	2.80	0.038
M100	10.0	±20%	3.00	2.50	0.047
M150	15.0	±20%	2.30	1.90	0.077
M220	22.0	±20%	1.90	1.50	0.115
M330	33.0	±20%	1.50	1.40	0.145
M470	47.0	±20%	1.30	1.10	0.22
M680	68.0	±20%	1.00	0.90	0.33
M101	100	±20%	0.80	0.70	0.50

0808

Code	Inductance L(µH) At 100KHz, 1.0V	Tolerance	Rated Current (A)		DC Resistance (Ω) ±20%
			Saturation Current Idc1	Temperature Rise Current Idc2	
N0R9	0.90	±30%	11.0	7.80	0.006
N1R4	1.40	±30%	9.00	7.00	0.007
N2R0	2.00	±30%	7.40	6.30	0.009
N3R6	3.60	±30%	5.30	4.90	0.015
N4R7	4.70	±30%	4.70	4.10	0.018
N6R8	6.80	±30%	4.00	3.70	0.025
M100	10.0	±20%	3.40	3.10	0.034
M150	15.0	±20%	2.70	2.40	0.05
M220	22.0	±20%	2.20	2.20	0.066
M330	33.0	±20%	1.90	1.70	0.10
M470	47.0	±20%	1.50	1.40	0.15
M680	68.0	±20%	1.20	1.10	0.23
M101	100	±20%	1.00	1.00	0.29

NOTES:
1. Operating Temp: -25ºC±120ºC
2. The saturation current value (Idc1) is the DC current value having inductance decrease down 30% (at 20ºC).
3. The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40ºC (at 20ºC).
4. The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.