INTRODUCTION

E & E Magnetic Products Limited

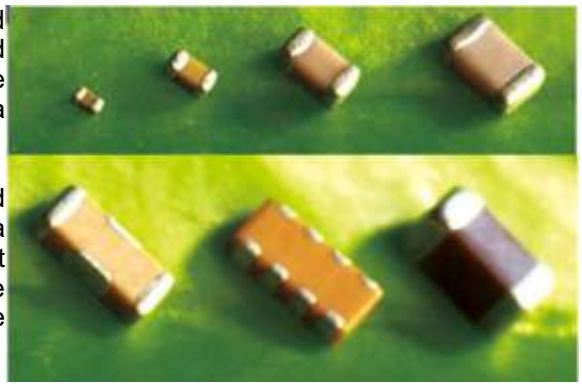
E & E Magnetic Products Limited (EEMPL) has been positioned as a major supplier of high quality magnetic related products. With the worldwide presence of our engineering teams, we design and manufacture a wide range of products such as magnetic components, magnetic integrated connectors and electronic modules. Products are widely used in telecommunications, networking, computing, industrial, automotive and consumer electronic applications.

As one of our key factors to success, EEMPL has established a far-reaching sales and marketing network which well covers our customers located worldwide. In addition to our sales representatives and distributors, we have direct sales support offices in USA, Canada, Europe, Singapore, Taiwan, Hong Kong and China.

In order to fulfill our mission of providing the best value to our customers, EEMPL is committed to develop cutting-edge technology with our high-tech business partners, uphold stringent product quality and compliances with international industrial standards, provide on time deliveries and offer our products at most competitive pricings.

Power Chip Inductors

The demanding for communications, IT and consumer electronics products promote the rapid development of chip inductor manufacturing, the chip inductors demand in more than ten billion a year.



In order to fulfill various design challenges and criteria for various applications in the market, a multilayer chip inductor with excellent electromangetic properties and filter from it suitable for high density surface mounted technology are made by special design and improved skill.

Our chip Inductors are designed and optimized for miniature volume, no lead, very large rated current, low direct-current resistance, multilayer monolithic construction yields high reliability.

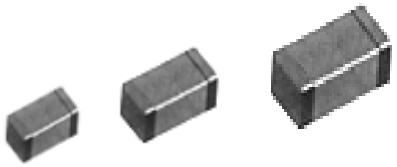
Elec & Eltek依利安達
E & E Magnetic Products Limited

Multilayer Chip Inductor

Chip High Frequency Inductor

RoHS COMPLIANT

- High self-resonant frequency
- Multilayer monolithic construction yields high reliability
- Excellent solderability and heat resistance for either wave or reflow soldring
- Portable telephone, Pagers, PHS and PDA
- Miscellaneous high-frequency circuits
- EMI countermeasure in high frequency circuits
- Operating temperature Type1005: -55 C to +125 C, Type1608 & 2012: -40°C to +85 C



0603-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				100	300	500	800	1000			
MLC0603S-1N0F	1.0	4	100	6	12	17	22	27	10000	0.11	470
MLC0603S-1N2F	1.2	4	100	6	12	16	21	25	10000	0.12	450
MLC0603S-1N5F	1.5	4	100	6	12	15	20	23	10000	0.13	430
MLC0603S-1N8F	1.8	4	100	6	12	15	20	23	10000	0.16	390
MLC0603S-2N0F	2.0	4	100	6	12	15	20	22	10000	0.17	380
MLC0603S-2N2F	2.2	4	100	6	12	15	20	22	8800	0.19	360
MLC0603S-2N4F	2.4	4	100	6	12	15	20	22	8300	0.20	350
MLC0603S-2N7F	2.7	5	100	7	12	15	20	22	7700	0.21	340
MLC0603S-3N0F	3.0	5	100	7	12	15	20	22	7200	0.22	330
MLC0603S-3N3F	3.3	5	100	7	12	15	20	22	6700	0.23	320
MLC0603S-3N6F	3.6	5	100	7	12	15	20	22	6400	0.25	310
MLC0603S-3N9F	3.9	5	100	7	12	15	20	22	6000	0.27	300
MLC0603S-4N3F	4.3	5	100	7	12	15	19	21	5700	0.30	280
MLC0603S-4N7F	4.7	5	100	7	12	15	19	21	5300	0.30	280
MLC0603S-5N1F	5.1	5	100	7	12	15	19	21	5000	0.33	270
MLC0603S-5N6F	5.6	5	100	7	12	15	19	21	4600	0.36	260
MLC0603S-6N2F	6.2	5	100	7	11	14	18	20	4200	0.38	250
MLC0603S-6N8F	6.8	5	100	7	11	14	18	20	3900	0.39	250
MLC0603S-7N5F	7.5	5	100	7	11	14	18	19	3600	0.41	240
MLC0603S-8N2F	8.2	5	100	7	11	14	18	19	3400	0.45	230
MLC0603S-9N1F	9.1	5	100	7	11	14	17	18	3200	0.48	220
MLC0603S-10NF	10	5	100	7	11	14	17	18	2900	0.51	220
MLC0603S-12NF	12	5	100	7	11	14	17	18	2700	0.68	190
MLC0603S-15NF	15	5	100	7	11	13	16	17	2300	0.71	180

Notes:

1. Ordering Information: MLC0603S-1N0FT.

MLC0603 = Product Type.
S = Tolerance of Inductance (S = ± 0.3nH, D =0.5nH, J = ± 5%, K = ± 10%, M = ± 20%).
1N0 = Inductance value in uH (i.e. 1N0 = 1.0uH; 10N = 10uH; R10 =100).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

0603-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				100	300	500	800	1000			
MLC0603S-18NF	18	5	100	7	11	13	16	17	2100	0.81	170
MLC0603S-22NF	22	5	100	7	11	13	15	16	1800	1.00	150
MLC0603S-27NF	27	4	100	6	10	12	14	15	1800	1.35	120
MLC0603S-33NF	33	4	100	6	10	12	14	14	1700	1.47	110
MLC0603S-39NF	39	4	100	6	10	12	13	12	1500	1.72	100
MLC0603S-47NF	47	4	100	6	10	11	12	11	1300	1.90	100
MLC0603S-56NF	56	4	100	6	10	11	11	10	1100	2.27	80
MLC0603S-68NF	68	4	100	6	10	11	11	10	1100	2.66	80
MLC0603S-82NF	82	4	100	6	10	11	10	8	1000	3.37	70
MLC0603S-R10F	100	4	100	6	9	10	9	6	900	3.74	60

0603A-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				500	800	1.8G	2.0G	2.4G			
MLC0603AS-0N6F	0.6	15	500	30	40	75	80	88	1000	0.07	850
MLC0603AS-0N7F	0.7	15	500	30	40	75	80	88	1000	0.07	850
MLC0603AS-0N8F	0.8	15	500	30	40	75	80	88	1000	0.07	850
MLC0603AS-0N9F	0.9	15	500	30	40	75	80	88	1000	0.09	760
MLC0603AS-1N0F	1.0	15	500	30	40	75	80	88	1000	0.12	680
MLC0603AS-1N1F	1.1	15	500	30	40	75	80	88	1000	0.10	750
MLC0603AS-1N2F	1.2	15	500	30	40	75	80	88	1000	0.10	750
MLC0603AS-1N3F	1.3	15	500	30	40	70	74	85	1000	0.12	650
MLC0603AS-1N4F	1.4	15	500	30	39	65	68	80	1000	0.12	650
MLC0603AS-1N5F	1.5	15	500	30	39	60	63	75	1000	0.12	650
MLC0603AS-1N6F	1.6	15	500	26	34	55	57	70	1000	0.14	610
MLC0603AS-1N7F	1.7	15	500	25	33	53	55	62	1000	0.14	610
MLC0603AS-1N8F	1.8	15	500	25	32	53	55	62	1000	0.14	610
MLC0603AS-1N9F	1.9	15	500	25	32	53	55	62	1000	0.14	610
MLC0603AS-2N0F	2.0	15	500	25	32	53	55	62	1000	0.14	610
MLC0603AS-2N1F	2.1	15	500	25	32	52	54	61	1000	0.14	610
MLC0603AS-2N2F	2.2	15	500	25	32	52	54	61	1000	0.14	610
MLC0603AS-2N3F	2.3	15	500	25	32	52	54	61	1000	0.16	560
MLC0603AS-2N4F	2.4	15	500	25	32	51	53	61	1000	0.16	560

Notes:

1. Ordering Information: MLC0603AS-1N0FT.

MLC0603A = Product Type.
S = Tolerance of Inductance (S = ± 0.3nH, D =0.5nH, J = ± 5%, K = ± 10%, M = ± 20%).
1N0 = Inductance value in uH (i.e. 1N0 = 1.0uH; 10N = 10uH; R10 =100).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				500	800	1.8G	2.0G	2.4G			
MLC0603AS-2N5F	2.5	15	500	24	32	51	53	60	8500	0.16	560
MLC0603AS-2N6F	2.6	15	500	24	32	50	52	56	8500	0.16	560
MLC0603AS-2N7F	2.7	15	500	23	31	48	49	54	8500	0.19	510
MLC0603AS-2N8F	2.8	15	500	23	31	48	50	53	8500	0.20	500
MLC0603AS-2N9F	2.9	15	500	23	31	48	49	52	8500	0.20	500
MLC0603AS-3N0F	3.0	15	500	22	31	46	47	52	8500	0.20	500
MLC0603AS-3N1F	3.1	15	500	22	30	46	48	52	8500	0.20	500
MLC0603AS-3N2F	3.2	15	500	22	30	46	48	52	8500	0.20	500
MLC0603AS-3N3F	3.3	15	500	22	30	45	46	50	8000	0.20	500
MLC0603AS-3N4F	3.4	15	500	22	30	46	47	50	8000	0.20	500
MLC0603AS-3N5F	3.5	15	500	22	29	45	46	50	8000	0.20	500
MLC0603AS-3N6F	3.6	15	500	22	29	45	46	50	7000	0.20	500
MLC0603AS-3N7F	3.7	15	500	22	28	43	44	48	7000	0.20	500
MLC0603AS-3N8F	3.8	15	500	22	28	43	44	47	7000	0.20	500
MLC0603AS-3N9F	3.9	15	500	22	28	43	43	47	7000	0.25	440
MLC0603AS-4N3F	4.3	15	500	21	29	43	44	47	6000	0.30	400
MLC0603AS-4N7F	4.7	15	500	21	29	42	42	45	6000	0.35	370
MLC0603AS-5N1F	5.1	15	500	21	27	41	41	44	6000	0.35	370
MLC0603AS-5N6F	5.6	15	500	21	28	40	40	43	6000	0.35	370
MLC0603AS-6N2F	6.2	15	500	21	27	40	41	41	6000	0.40	340
MLC0603AS-6N8F	6.8	15	500	21	27	39	39	40	6000	0.50	310
MLC0603AS-7N5F	7.5	14	500	20	27	37	37	39	5000	0.60	300
MLC0603AS-8N2F	8.2	14	500	20	27	37	37	40	5000	0.70	250
MLC0603AS-9N1F	9.1	14	500	20	26	36	36	39	4000	0.70	250
MLC0603AS-10NF	10	14	500	20	26	35	35	37	4000	0.85	220
MLC0603AS-12NF	12	14	500	20	26	32	33	34	3000	0.85	220
MLC0603AS-15NF	15	14	500	20	24	30	29	27	3000	0.90	200
MLC0603AS-18NF	18	14	500	19	24	28	26	25	2500	1.20	180
MLC0603AS-22NF	22	14	500	18	23	26	26	22	2500	1.60	160

Notes:

1. Ordering Information: MLC0603AS-1N0FT.

MLC0603A = Product Type.
S = Tolerance of Inductance (S = ± 0.3nH, D =0.5nH, J = ± 5%, K = ± 10%, M = ± 20%).
1N0 = Inductance value in uH (i.e. 1N0 = 1.0uH; 10N = 10uH; R10 =100).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

1005-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				100	300	500	800	1000			
MLC1005S-1N0F	1.0	7	100	8	20	26	34	38	6000	0.17	300
MLC1005S-1N2F	1.2	7	100	8	20	26	34	38	6000	0.17	300
MLC1005S-1N5F	1.5	7	100	8	20	26	34	38	6000	0.18	300
MLC1005S-1N8F	1.8	7	100	8	18	24	30	35	6000	0.19	300
MLC1005S-2N2F	2.2	7	100	8	17	24	29	35	6000	0.21	300
MLC1005S-2N7F	2.7	7	100	8	17	23	29	34	5500	0.22	300
MLC1005S-3N3F	3.3	7	100	8	17	23	28	34	5500	0.25	300
MLC1005S-3N9F	3.9	7	100	8	17	23	28	33	5200	0.25	300
MLC1005S-4N7F	4.7	7	100	8	17	23	28	33	4800	0.30	300
MLC1005S-5N6F	5.6	7	100	8	17	22	28	33	4600	0.30	300
MLC1005S-6N8F	6.8	7	100	8	17	22	27	33	4000	0.37	250
MLC1005S-8N2F	8.2	7	100	10	16	22	28	32	3600	0.45	250
MLC1005J-10NF	10	7	100	10	17	22	30	32	3200	0.47	250
MLC1005J-12NF	12	8	100	11	17	24	31	34	2800	0.55	250
MLC1005J-15NF	15	8	100	11	18	24	30	33	2500	0.70	250
MLC1005J-18NF	18	8	100	11	18	24	30	32	2200	0.70	200
MLC1005J-22NF	22	8	100	11	18	24	30	31	2000	0.70	200
MLC1005J-27NF	27	8	100	11	18	23	27	29	1600	0.90	200
MLC1005J-33NF	33	8	100	11	18	22	25	25	1300	1.00	200
MLC1005J-39NF	39	8	100	11	18	22	24	23	1200	1.30	150
MLC1005J-47NF	47	8	100	11	18	21	23	21	1000	1.40	150

1608-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				100	300	500	800	1000			
MLC1608S-1N0F	1.0	8	100	14	20	30	35	50	10000	0.05	500
MLC1608S-1N2F	1.2	8	100	14	20	30	35	50	10000	0.10	500
MLC1608S-1N5F	1.5	8	100	14	22	37	38	68	10000	0.10	400
MLC1608S-1N8F	1.8	8	100	14	21	33	35	61	9800	0.12	400
MLC1608S-2N2F	2.2	8	100	14	26	40	39	60	7600	0.20	400
MLC1608S-2N7F	2.7	8	100	12	23	27	37	47	7000	0.20	400
MLC1608S-3N3F	3.3	8	100	12	23	27	36	47	6200	0.20	400
MLC1608S-3N9F	3.9	8	100	12	25	28	38	47	5600	0.25	400

Notes:

1. Ordering Information: MLC0603S-1N0FT.

MLC0603 = Product Type.
S = Tolerance of Inductance (S = ± 0.3nH, D =0.5nH, J = ± 5%, K = ± 10%, M = ± 20%).
1N0 = Inductance value in uH (i.e. 1N0 = 1.0uH; 10N = 10uH; R10 =100).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

1608-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				100	300	500	800	1000			
MLC1608S-4N7F	4.7	8	100	12	26	30	38	49	4800	0.30	400
MLC1608S-5N6F	5.6	8	100	12	26	29	35	34	4600	0.30	400
MLC1608S-6N8F	6.8	8	100	12	23	27	35	40	4200	0.35	400
MLC1608J-8N2F	8.2	8	100	12	22	26	33	39	3600	0.35	400
MLC1608J-10NF	10	8	100	13	25	31	38	45	3200	0.40	300
MLC1608J-12NF	12	8	100	13	24	28	35	39	2800	0.40	300
MLC1608J-15NF	15	8	100	13	22	27	34	40	2600	0.45	300
MLC1608J-18NF	18	8	100	13	24	28	35	38	2400	0.60	300
MLC1608J-22NF	22	8	100	15	27	32	38	43	2000	0.60	300
MLC1608J-27NF	27	8	100	14	26	29	36	44	1900	0.80	300
MLC1608J-33NF	33	8	100	14	26	29	35	34	1600	0.80	300
MLC1608J-39NF	39	8	100	14	22	25	28	28	1400	1.00	300
MLC1608J-47NF	47	8	100	15	25	29	30	25	1200	1.00	200
MLC1608J-56NF	56	8	100	17	28	31	31	25	1000	1.00	200
MLC1608J-68NF	68	8	100	17	22	24	25	15	900	1.00	200
MLC1608J-82NF	82	8	100	17	23	24	22	13	800	1.00	200
MLC1608J-R10F	100	8	100	17	25	27	24	17	700	1.40	200
MLC1608J-R12F	120	8	100	15	24	23	*	*	600	1.60	150
MLC1608J-R15F	150	8	100	13	19	*	*	*	500	1.80	150

2009-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				100	300	500	800	1000			
MLC2009S-1N5F	1.5	8	100	10	23	46	54	85	6000	0.10	600
MLC2009S-1N8F	1.8	8	100	13	24	46	55	85	6000	0.10	600
MLC2009S-2N2F	2.2	8	100	13	25	46	53	85	6000	0.10	600
MLC2009S-2N7F	2.7	8	100	13	25	42	45	76	6000	0.10	600
MLC2009S-3N3F	3.3	8	100	15	28	48	52	85	6000	0.13	600
MLC2009S-3N9F	3.9	8	100	15	28	49	55	85	5400	0.15	600
MLC2009S-4N7F	4.7	8	100	15	28	48	53	85	4500	0.20	400
MLC2009S-5N6F	5.6	8	100	16	30	44	45	78	4000	0.23	400
MLC2009S-6N8F	6.8	8	100	16	30	40	45	69	3650	0.25	400
MLC2009J-8N2F	8.2	8	100	16	28	42	45	69	3000	0.28	400

Notes:

1. Ordering Information: MLC0603S-1N0FT.

MLC0603 = Product Type.
S = Tolerance of Inductance (S = ± 0.3nH, D =0.5nH, J = ± 5%, K = ± 10%, M = ± 20%).
1N0 = Inductance value in uH (i.e. 1N0 = 1.0uH; 10N = 10uH; R10 =100).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2009-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (nH	Q Min	Test Fre. (MHZ)	Q Frequency (MHz)					SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
				100	300	500	800	1000			
MLC2009J-10NF	10	8	100	16	28	43	45	71	2500	0.30	300
MLC2009J-12NF	12	8	100	16	28	43	45	50	2450	0.35	300
MLC2009J-15NF	15	8	100	18	30	43	43	56	2000	0.40	300
MLC2009J-18NF	18	8	100	18	26	40	42	59	1750	0.45	300
MLC2009J-22NF	22	8	100	17	31	45	45	59	1700	0.50	300
MLC2009J-27NF	27	8	100	17	31	45	45	54	1550	0.55	300
MLC2009J-33NF	33	8	100	18	27	41	40	44	1350	0.60	300
MLC2009J-39NF	39	8	100	19	31	42	31	20	1300	0.70	300
MLC2009J-47NF	47	8	100	20	24	33	31	29	1200	0.80	300
MLC2009J-56NF	56	8	100	21	34	43	35	25	1150	0.80	300
MLC2009J-68NF	68	8	100	19	28	37	29	*	1000	0.85	300
MLC2009J-82NF	82	8	100	19	29	30	27	*	850	0.90	300
MLC2009J-R10F	100	8	100	13	27	36	*	*	600	1.00	300
MLC2009J-R12F	120	8	100	19	27	*	*	*	500	1.20	300
MLC2009K-R15F	150	8	100	19	27	*	*	*	500	1.50	300
MLC2009K-R18F	180	8	100	19	25	*	*	*	400	1.80	300
MLC2009K-R22F	220	8	100	19	22	*	*	*	350	1.80	300

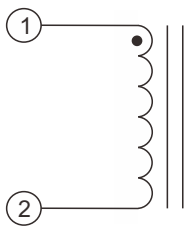
Notes:

1. Ordering Information: MLC0603S-1N0FT.

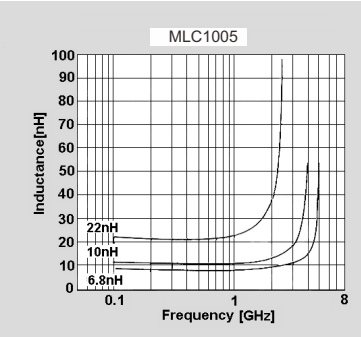
MLC0603	=	Product Type.
S	=	Tolerance of Inductance (S = ± 0.3nH, D =0.5nH, J = ± 5%, K = ± 10%, M = ± 20%).
1N0	=	Inductance value in uH (i.e. 1N0 = 1.0uH; 10N = 10uH; R10 =100).
F	=	Internal Control Code.
T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

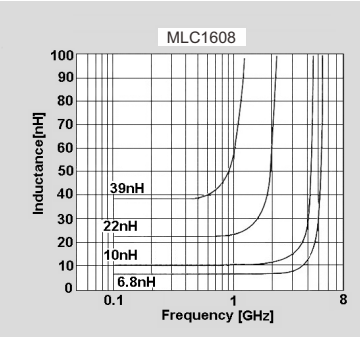
2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

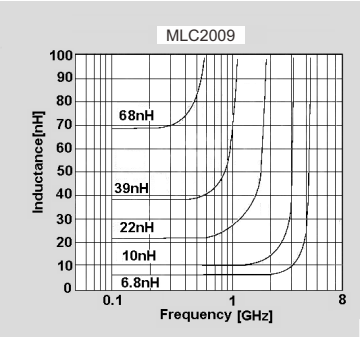
SCHEMATICS

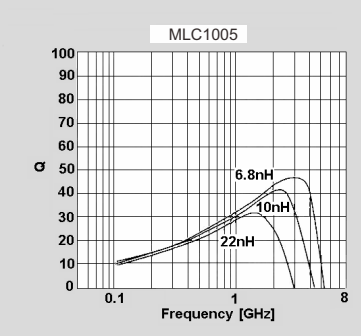


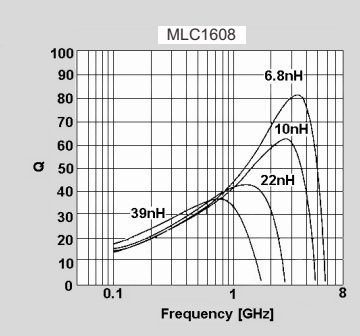
TYPICAL IMPEDANCE CURVES

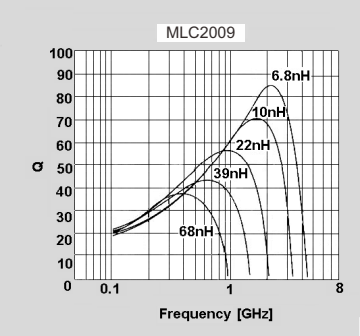


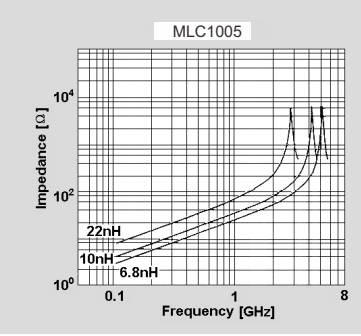


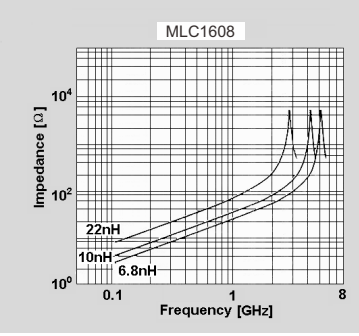


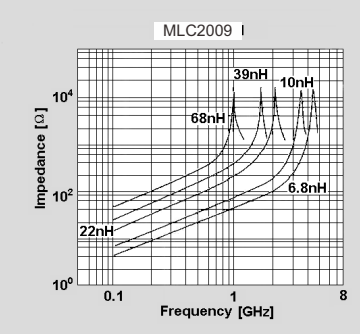




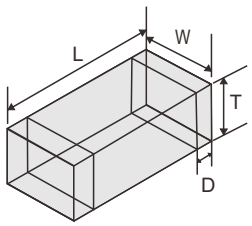








MECHANICAL DIMENSIONS

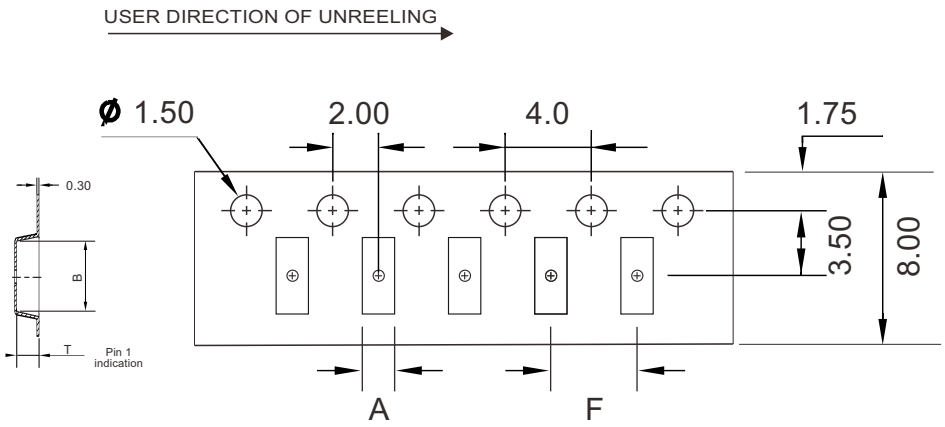


Part Number	L	W	T	D
0603	.024±.001 0.60±0.03	.012±.001 0.30±0.03	.012±.001 0.30±0.03	.006±.002 0.15±0.05
1005	.039±.006 1.00±0.15	.020±.006 0.50±0.15	.020±.006 0.50±0.15	.010±.004 0.25±0.10
1608	.063±.008 1.60±0.20	.031±.008 0.80±0.20	.031±.008 0.80±0.20	.010±.008 0.30±0.20
2009	.079±.008 2.00±0.20	.047±.008 1.20±0.20	.035±.008 0.90±0.20	.020±.012 0.50±0.30

Notes:

3. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
4. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
0603	0.45	0.75	2.00	0.62	15000	75000	0.0004
1005	0.65	1.15	2.00	0.62	10000	50000	0.0008
1608	1.10	1.90	4.00	1.10	4000	20000	0.003
2009	1.50	2.30	4.00	1.10	4000	20000	0.007

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatin, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com

Elec & Eltek依利安達
E & E Magnetic Products Limited

Multilayer Chip Inductor

Ferrite Chip Inductor

RoHS COMPLIANT

- Miniature volume
- No cross coupling between inductors due to low magnetic shield and high reliability
- No lead, ideal for high density SMT installation, with no directionality
- Superior solderability and resistance to soldering heat, ideal for wave or reflow soldering
- VCD/DVD, digital cameras, personal computers etc
- Operating temperature Type1005: -55 C to +125 C, Type1608 & 2012: -40°C to +85 C

1005-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1005V-47NKF	0.047	10	50	220	0.45	25
MLN1005V-56NKF	0.056	10	50	210	0.45	25
MLN1005V-68NKF	0.068	10	50	210	0.45	25
MLN1005V-82NKF	0.082	10	50	200	0.45	25
MLN1005V-R10KF	0.10	15	25	200	0.70	25
MLN1005V-R12KF	0.12	15	25	165	0.70	25
MLN1005V-R15KF	0.15	15	25	140	0.80	25
MLN1005V-R18KF	0.18	15	25	120	0.80	25
MLN1005V-R22KF	0.22	15	25	110	1.00	25
MLN1005V-R27KF	0.27	15	25	95	1.20	25
MLN1005V-R33KF	0.33	15	25	85	1.20	25
MLN1005V-R39KF	0.39	15	25	70	1.30	20
MLN1005V-R47KF	0.47	15	25	68	1.50	20
MLN1005V-R56KF	0.56	15	25	55	2.00	20
MLN1005V-R68KF	0.68	15	25	50	2.30	20
MLN1005V-R82KF	0.82	15	25	45	3.00	18
MLN1005U-1R0KF	1.0	20	10	40	0.90	25
MLN1005U-1R2KF	1.2	20	10	35	1.20	25
MLN1005U-1R5KF	1.5	20	10	30	1.30	20
MLN1005U-1R8KF	1.8	20	10	30	1.40	20
MLN1005U-2R2KF	2.2	20	10	28	1.70	20
MLN1005U-2R7KF	2.7	20	10	22	1.90	20
MLN1005U-3R3KF	3.3	20	10	20	2.00	20
MLN1005U-3R9KF	3.9	20	10	18	2.20	20

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005	=	Product Type.	J	=	Material Code (U & V & J & X).
180	=	Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).			
M	=	Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).			
F	=	Internal Control Code.	T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

1005-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1005X-4R7KF	4.7	20	10	15	2.50	18
MLN1005J-5R6MF	5.6	20	4	13	2.20	18
MLN1005J-6R8MF	6.8	20	4	11	2.40	18
MLN1005J-8R2MF	8.2	20	4	10	2.90	18
MLN1005J-100MF	10	20	2	9	3.10	10
MLN1005J-120MF	12	20	2	8	3.30	5
MLN1005J-150MF	15	20	1	8	3.50	5
MLN1005J-180MF	18	20	1	8	3.50	5

1608-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1608V-47NKF	0.047	15	50	260	0.20	50
MLN1608V-56NKF	0.056	15	50	260	0.20	50
MLN1608V-68NKF	0.068	15	50	250	0.20	50
MLN1608V-82NKF	0.082	15	50	245	0.20	50
MLN1608V-R10KF	0.10	20	25	240	0.25	50
MLN1608V-R12KF	0.12	20	25	205	0.30	50
MLN1608V-R15KF	0.15	20	25	180	0.30	50
MLN1608V-R18KF	0.18	20	25	165	0.30	50
MLN1608V-R22KF	0.22	20	25	150	0.40	50
MLN1608V-R27KF	0.27	20	25	136	0.45	50
MLN1608V-R33KF	0.33	20	25	125	0.50	50
MLN1608V-R39KF	0.39	20	25	110	0.60	50
MLN1608V-R47KF	0.47	20	25	105	0.70	50
MLN1608V-R56KF	0.56	20	25	95	0.70	50
MLN1608V-R68KF	0.68	20	25	90	0.90	50
MLN1608V-R82KF	0.82	20	25	85	1.00	50
MLN1608U-1R0KF	1.0	25	10	75	0.50	25
MLN1608U-1R2KF	1.2	25	10	65	0.55	25
MLN1608U-1R5KF	1.5	25	10	60	0.70	25
MLN1608U-1R8KF	1.8	25	10	55	0.75	25
MLN1608U-2R2KF	2.2	25	10	50	0.80	55

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005	=	Product Type.	J	=	Material Code (U & V & J & X).
180	=	Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).			
M	=	Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).			
F	=	Internal Control Code.	T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

1608-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1608U-2R7KF	2.7	25	10	45	0.90	15
MLN1608U-3R3KF	3.3	25	10	40	1.00	15
MLN1608U-3R9KF	3.9	25	10	35	1.30	15
MLN1608X-4R7KF	4.7	25	10	33	1.50	15
MLN1608X-5R6KF	5.6	12	4	22	1.55	5
MLN1608J-6R8KF	6.8	12	4	20	1.55	5
MLN1608J-8R2KF	8.2	12	4	18	1.65	5
MLN1608J-100KF	10	20	2	17	1.75	3
MLN1608J-120KF	12	20	2	15	1.85	3
MLN1608J-150KF	15	20	1	14	2.50	1
MLN1608J-180KF	18	20	1	13	2.70	1
MLN1608J-220KF	22	20	1	11	3.00	1
MLN1608J-270KF	27	20	1	10	3.10	1
MLN1608J-330KF	33	20	1	9	3.30	1

2012-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN2012J-390KF	39	25	1	16	1.50	5
MLN2012J-470KF	47	25	1	15	1.70	5
MLN2012J-560KF	56	25	1	15	1.80	5

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005	=	Product Type.	J	=	Material Code (U & V & J & X).
180	=	Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).			
M	=	Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).			
F	=	Internal Control Code.	T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN2009V-47NKF	0.047	25	50	320	0.15	300
MLN2009V-56NKF	0.056	25	50	320	0.15	300
MLN2009V-68NKF	0.068	25	50	280	0.20	300
MLN2009V-82NKF	0.082	25	50	280	0.20	300
MLN2009V-R10KF	0.10	20	25	235	0.20	250
MLN2009V-R12KF	0.12	20	25	220	0.25	250
MLN2009V-R15KF	0.15	20	25	200	0.25	250
MLN2009V-R18KF	0.18	20	25	185	0.30	250
MLN2009V-R22KF	0.22	20	25	170	0.30	250
MLN2009V-R27KF	0.27	20	25	150	0.40	250
MLN2009V-R33KF	0.33	20	25	145	0.40	250
MLN2009V-R39KF	0.39	25	25	135	0.50	200
MLN2009V-R47KF	0.47	25	25	125	0.50	200
MLN2009V-R56KF	0.56	25	25	115	0.60	150
MLN2009V-R68KF	0.68	25	25	105	0.65	150
MLN2009V-R82KF	0.82	25	25	100	0.70	150
MLN2009U-1R0KF	1.0	35	10	75	0.40	50
MLN2009U-1R2KF	1.2	35	10	65	0.40	50
MLN2009U-1R5KF	1.5	35	10	60	0.40	50
MLN2009U-1R8KF	1.8	35	10	55	0.40	50
MLN2009U-2R2KF	2.2	35	10	50	0.60	50
MLN2009U-2R7KF	2.7	35	10	45	0.60	50
MLN2009U-3R3KF	3.3	35	10	41	0.60	50
MLN2009U-3R9KF	3.9	35	10	38	0.80	50
MLN2009U-4R7KF	4.7	35	10	35	0.90	30
MLN2009X-5R6KF	5.6	30	4	32	1.00	15
MLN2009X-6R8KF	6.8	30	4	29	1.05	15
MLN2009X-8R2KF	8.2	30	4	26	1.05	15
MLN2009X-100KF	10	30	2	24	1.15	15
MLN2009X-120KF	12	30	2	22	1.15	15
MLN2009J-150KF	15	25	1	19	1.15	5
MLN2009J-180KF	18	25	1	18	1.20	5
MLN2009J-220KF	22	25	1	16	1.20	5
MLN2009J-270KF	27	25	1	16	1.50	5
MLN2009J-330KF	33	25	1	16	1.50	5

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

3209-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN3209V-47NKF	0.047	30	50	320	0.15	300
MLN3209V-56NKF	0.056	30	50	320	0.20	300
MLN3209V-68NKF	0.068	30	50	280	0.25	300
MLN3209V-82NKF	0.082	30	50	280	0.25	300
MLN3209V-R10KF	0.10	25	25	235	0.25	250
MLN3209V-R12KF	0.12	25	25	220	0.25	250
MLN3209V-R15KF	0.15	25	25	200	0.25	250
MLN3209V-R18KF	0.18	25	25	185	0.30	250
MLN3209V-R22KF	0.22	25	25	170	0.30	250
MLN3209V-R27KF	0.27	25	25	150	0.30	250
MLN3209V-R33KF	0.33	25	25	145	0.30	250
MLN3209V-R39KF	0.39	30	25	135	0.50	200
MLN3209V-R47KF	0.47	30	25	125	0.50	200
MLN3209V-R56KF	0.56	30	25	115	0.50	150
MLN3209V-R68KF	0.68	30	25	105	0.50	150
MLN3209V-R82KF	0.82	30	25	100	0.60	150
MLN3209U-1R0KF	1.0	35	10	75	0.30	100
MLN3209U-1R2KF	1.2	35	10	65	0.40	100
MLN3209U-1R5KF	1.5	35	10	60	0.40	50
MLN3209U-1R8KF	1.8	35	10	55	0.40	50
MLN3209U-2R2KF	2.2	35	10	50	0.50	50
MLN3209U-2R7KF	2.7	35	10	45	0.50	50
MLN3209U-3R3KF	3.3	35	10	41	0.50	50
MLN3209U-3R9KF	3.9	35	10	38	0.60	50
MLN3209U-4R7KF	4.7	35	10	35	0.65	25
MLN3209U-5R6KF	5.6	35	4	32	0.80	25
MLN3209X-6R8KF	6.8	35	4	29	0.80	25
MLN3209X-8R2KF	8.2	35	4	26	0.80	25
MLN3209X-100KF	10	35	2	24	0.80	25
MLN3209X-120KF	12	35	2	22	0.90	15
MLN3209J-150KF	15	30	1	19	1.00	5
MLN3209J-180KF	18	30	1	18	1.00	5
MLN3209J-220KF	22	30	1	16	1.20	5
MLN3209J-270KF	27	30	1	14	1.20	5
MLN3209J-330KF	33	30	1	13	1.30	5
MLN3209J-390KF	39	30	1	13	1.30	5

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

3211-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN3211J-470KF	47	30	1	12	1.60	5
MLN3211J-560KF	56	30	1	12	1.80	5
MLN3211J-680KF	68	30	1	11	2.00	5
MLN3211J-820KF	82	30	1	11	2.40	5
MLN3211J-101KF	100	30	1	8	3.00	5
MLN3211J-121KF	120	30	1	8	3.20	5

3213-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN3213U-1R0KF	1.0	40	10	70	0.20	500
MLN3213U-1R2KF	1.2	40	10	70	0.20	500
MLN3213U-1R5KF	1.5	40	10	70	0.30	500
MLN3213U-1R8KF	1.8	40	10	70	0.30	500
MLN3213U-2R2KF	2.2	40	10	50	0.30	500
MLN3213U-2R7KF	2.7	40	10	50	0.30	500
MLN3213U-3R3KF	3.3	40	10	50	0.40	500
MLN3213U-3R9KF	3.9	40	10	30	0.40	500
MLN3213U-4R7KF	4.7	40	10	30	0.50	500
MLN3213U-5R6KF	5.6	35	4	30	0.60	450
MLN3213X-6R8KF	6.8	35	4	20	0.60	450
MLN3213X-8R2KF	8.2	35	4	20	0.70	400
MLN3213X-100KF	10	35	2	20	0.70	300
MLN3213X-120KF	12	35	2	20	0.70	300
MLN3213J-150KF	15	35	1	20	0.70	200
MLN3213J-180KF	18	35	1	10	0.70	200
MLN3213J-220KF	22	35	1	10	0.75	150
MLN3213J-270KF	27	35	1	10	0.80	150
MLN3213J-330KF	33	35	1	10	1.10	100
MLN3213J-390KF	39	35	1	10	1.30	100
MLN3213J-470KF	47	35	1	10	1.50	50
MLN3213J-560KF	56	35	1	5	1.60	50
MLN3213J-680KF	68	35	1	5	1.80	30
MLN3213J-820KF	82	35	1	5	2.00	30
MLN3213J-101KF	100	35	1	5	2.00	20
MLN3213J-121KF	120	35	1	5	2.20	20
MLN3213J-151KF	150	35	1	5	2.40	20

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

4516-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN4516U-1R0KF	1.0	40	10	80	0.25	500
MLN4516U-1R2KF	1.2	40	10	75	0.30	500
MLN4516U-1R5KF	1.5	40	10	60	0.30	500
MLN4516U-1R8KF	1.8	40	10	55	0.35	450
MLN4516U-2R2KF	2.2	40	10	50	0.35	400
MLN4516U-2R7KF	2.7	40	10	45	0.40	400
MLN4516U-3R3KF	3.3	40	10	40	0.45	400
MLN4516U-3R9KF	3.9	40	10	35	0.45	400
MLN4516U-4R7KF	4.7	40	10	30	0.50	300
MLN4516U-5R6KF	5.6	40	4	20	0.50	300
MLN4516U-6R8KF	6.8	35	4	20	0.60	300
MLN4516X-8R2KF	8.2	35	4	15	0.70	250
MLN4516X-100KF	10	35	2	15	0.70	250

4515-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN4515U-1R0KF	1.0	35	10	50	0.55	650
MLN4515U-1R2KF	1.2	35	10	50	0.55	650
MLN4515U-1R5KF	1.5	35	10	45	0.55	600
MLN4515U-1R8KF	1.8	35	10	45	0.65	600
MLN4515U-2R2KF	2.2	35	10	40	0.65	500
MLN4515U-2R7KF	2.7	35	10	40	0.70	500
MLN4515U-3R3KF	3.3	35	10	35	0.75	500
MLN4515U-3R9KF	3.9	35	10	35	0.80	500
MLN4515U-4R7KF	4.7	30	10	25	0.90	500
MLN4515U-5R6KF	5.6	30	4	20	0.90	500
MLN4515U-6R8KF	6.8	30	4	18	1.00	500
MLN4515X-8R2KF	8.2	30	4	17	1.00	450
MLN4515X-100KF	10	30	2	16	1.00	450
MLN4515X-120KF	12	35	2	15	1.00	450
MLN4515J-150KF	15	35	1	14	1.00	400
MLN4515J-180KF	18	35	1	13	1.00	400
MLN4515J-220KF	22	35	1	12	1.30	300

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

4515-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN4515J-270KF	27	35	1	10	1.30	300
MLN4515J-330KF	33	40	1	10	1.50	250
MLN4515J-390KF	39	40	1	10	1.50	250
MLN4515J-470KF	47	40	1	8	1.65	250
MLN4515J-560KF	56	40	1	8	1.80	250
MLN4515J-680KF	68	40	1	6	2.00	200
MLN4515J-820KF	82	40	1	6	2.30	200
MLN4515J-101KF	100	40	1	6	2.30	150
MLN4515J-121KF	120	40	1	6	2.50	150
MLN4515J-151KF	150	40	1	5	3.00	150
MLN4515J-181KF	180	40	1	5	3.00	150
MLN4515J-221KF	220	40	1	5	3.50	100
MLN4515J-271KF	270	40	1	5	4.00	50
MLN4515J-331KF	330	40	1	3	5.00	50

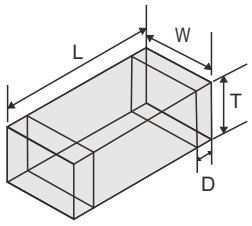
Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

MECHANICAL DIMENSIONS



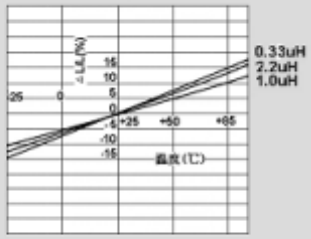
Part Number	L	W	T	D
1005 (0402)	.040±.006 1.00±0.15	.020±.006 0.50±0.15	.020±.006 0.50±0.15	.010±.004 0.25±0.10
1608 (0603)	.063±.008 1.60±0.20	.031±.008 0.80±0.20	.031±.008 0.80±0.20	.010±.008 0.30±0.20
2009 (0805)	.079±.008 2.00±0.20	.047±.008 1.20±0.20	.035±.008 0.90±0.20	.020±.012 0.50±0.30
2012 (0805)	.079±.008 2.00±0.20	.047±.008 1.20±0.20	.047±.008 1.20±0.20	.020±.012 0.50±0.30
3211 (1206)	.126±.008 3.20±0.20	.063±.008 1.60±0.20	.043±.008 1.10±0.20	.020±.012 0.50±0.30
3209 (1206)	.126±.008 3.20±0.20	.063±.008 1.60±0.20	.035±.008 0.90±0.20	.020±.012 0.50±0.30
3213 (1210)	.126±.008 3.20±0.20	.063±.008 1.60±0.20	.051±.008 1.30±0.20	.020±.012 0.50±0.30
4516 (1806)	.186±.008 4.50±0.20	.063±.008 1.60±0.20	.063±.008 1.60±0.20	.020±.012 0.50±0.30
4515 (1812)	.186±.008 4.50±0.20	.126±.008 3.20±0.20	.060±.008 1.50±0.20	.020±.012 0.50±0.30

Notes:

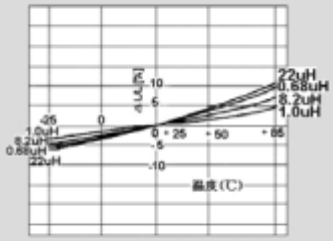
3. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
4. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

TYPICAL IMPEDANCE CURVES

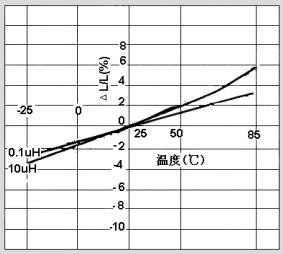
MLN1005



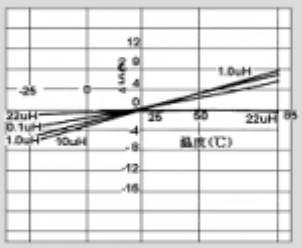
MLN1608



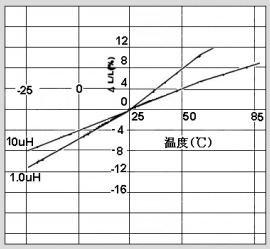
MLN2009



MLN3209



MLN3213



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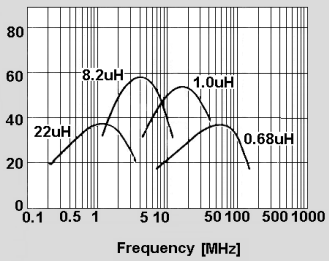

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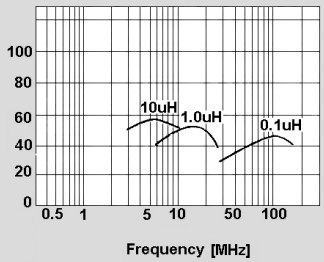

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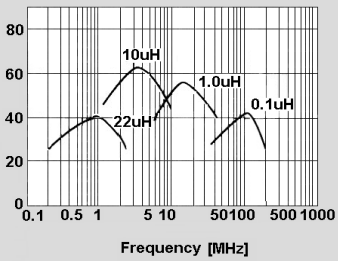
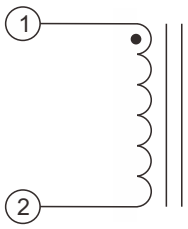
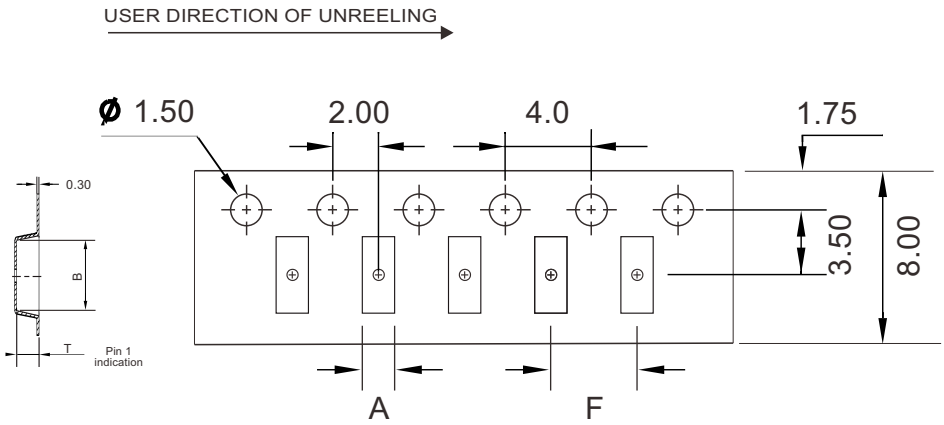


SCHEMATICS



PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
1005	0.65	1.15	2.00	0.62	10000	50000	0.002
1608	1.10	1.90	4.00	1.10	4000	40000	0.005
2009	1.50	2.30	4.00	1.10	4000	40000	0.01
2012	1.90	3.50	4.00	1.50	4000	40000	0.01
3211	1.90	3.50	4.00	1.40	4000	40000	0.024
3209	1.90	3.50	4.00	1.10	4000	40000	0.022
3213	2.80	3.50	4.00	1.50	3000	30000	0.053
4516	1.90	4.80	4.00	1.80	5000	20000	0.059
4515	3.50	4.80	4.00	1.70	3000	12000	0.111

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatian, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com

Elec & Eltek依利安達
E & E Magnetic Products Limited

Multilayer Chip Inductor

Ferrite Chip Inductor

RoHS COMPLIANT

- Miniature volume
- No cross coupling between inductors due to low magnetic shield and high reliability
- No lead, ideal for high density SMT installation, with no directionality
- Superior solderability and resistance to soldering heat, ideal for wave or reflow soldering
- VCD/DVD, digital cameras, personal computers etc
- Operating temperature Type1005: -55 C to +125 C, Type1608 & 2012: -40°C to +85 C

1005-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1005V-47NKF	0.047	10	50	220	0.45	25
MLN1005V-56NKF	0.056	10	50	210	0.45	25
MLN1005V-68NKF	0.068	10	50	210	0.45	25
MLN1005V-82NKF	0.082	10	50	200	0.45	25
MLN1005V-R10KF	0.10	15	25	200	0.70	25
MLN1005V-R12KF	0.12	15	25	165	0.70	25
MLN1005V-R15KF	0.15	15	25	140	0.80	25
MLN1005V-R18KF	0.18	15	25	120	0.80	25
MLN1005V-R22KF	0.22	15	25	110	1.00	25
MLN1005V-R27KF	0.27	15	25	95	1.20	25
MLN1005V-R33KF	0.33	15	25	85	1.20	25
MLN1005V-R39KF	0.39	15	25	70	1.30	20
MLN1005V-R47KF	0.47	15	25	68	1.50	20
MLN1005V-R56KF	0.56	15	25	55	2.00	20
MLN1005V-R68KF	0.68	15	25	50	2.30	20
MLN1005V-R82KF	0.82	15	25	45	3.00	18
MLN1005U-1R0KF	1.0	20	10	40	0.90	25
MLN1005U-1R2KF	1.2	20	10	35	1.20	25
MLN1005U-1R5KF	1.5	20	10	30	1.30	20
MLN1005U-1R8KF	1.8	20	10	30	1.40	20
MLN1005U-2R2KF	2.2	20	10	28	1.70	20
MLN1005U-2R7KF	2.7	20	10	22	1.90	20
MLN1005U-3R3KF	3.3	20	10	20	2.00	20
MLN1005U-3R9KF	3.9	20	10	18	2.20	20

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005	=	Product Type.	J	=	Material Code (U & V & J & X).
180	=	Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).			
M	=	Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).			
F	=	Internal Control Code.	T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

1005-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1005X-4R7KF	4.7	20	10	15	2.50	18
MLN1005J-5R6MF	5.6	20	4	13	2.20	18

1608-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1608V-47NKF	0.047	15	50	260	0.20	50
MLN1608V-56NKF	0.056	15	50	260	0.20	50
MLN1608V-68NKF	0.068	15	50	250	0.20	50
MLN1608V-82NKF	0.082	15	50	245	0.20	50
MLN1608V-R10KF	0.10	20	25	240	0.25	50
MLN1608V-R12KF	0.12	20	25	205	0.30	50
MLN1608V-R15KF	0.15	20	25	180	0.30	50
MLN1608V-R18KF	0.18	20	25	165	0.30	50
MLN1608V-R22KF	0.22	20	25	150	0.40	50
MLN1608V-R27KF	0.27	20	25	136	0.45	50
MLN1608V-R33KF	0.33	20	25	125	0.50	50
MLN1608V-R39KF	0.39	20	25	110	0.60	50
MLN1608V-R47KF	0.47	20	25	105	0.70	50
MLN1608V-R56KF	0.56	20	25	95	0.70	50
MLN1608V-R68KF	0.68	20	25	90	0.90	50
MLN1608V-R82KF	0.82	20	25	85	1.00	50
MLN1608U-1R0KF	1.0	25	10	75	0.50	25
MLN1608U-1R2KF	1.2	25	10	65	0.55	25
MLN1608U-1R5KF	1.5	25	10	60	0.70	25
MLN1608U-1R8KF	1.8	25	10	55	0.75	25
MLN1608U-2R2KF	2.2	25	10	50	0.80	55

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005	=	Product Type.	J	=	Material Code (U & V & J & X).
180	=	Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).			
M	=	Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).			
F	=	Internal Control Code.	T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

1608-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN1608U-2R7KF	2.7	25	10	45	0.90	15
MLN1608U-3R3KF	3.3	25	10	40	1.00	15
MLN1608U-3R9KF	3.9	25	10	35	1.30	15
MLN1608X-4R7KF	4.7	25	10	33	1.50	15
MLN1608X-5R6KF	5.6	12	4	22	1.55	5
MLN1608J-6R8KF	6.8	12	4	20	1.55	5
MLN1608J-8R2KF	8.2	12	4	18	1.65	5
MLN1608J-100KF	10	20	2	17	1.75	3
MLN1608J-120KF	12	20	2	15	1.85	3
MLN1608J-150KF	15	20	1	14	2.50	1
MLN1608J-180KF	18	20	1	13	2.70	1
MLN1608J-220KF	22	20	1	11	3.00	1
MLN1608J-270KF	27	20	1	10	3.10	1
MLN1608J-330KF	33	20	1	9	3.30	1

2012-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN2012J-390KF	39	25	1	16	1.50	5
MLN2012J-470KF	47	25	1	15	1.70	5
MLN2012J-560KF	56	25	1	15	1.80	5

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005	=	Product Type.	J	=	Material Code (U & V & J & X).
180	=	Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).			
M	=	Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).			
F	=	Internal Control Code.	T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN2009V-47NKF	0.047	25	50	320	0.15	300
MLN2009V-56NKF	0.056	25	50	320	0.15	300
MLN2009V-68NKF	0.068	25	50	280	0.20	300
MLN2009V-82NKF	0.082	25	50	280	0.20	300
MLN2009V-R10KF	0.10	20	25	235	0.20	250
MLN2009V-R12KF	0.12	20	25	220	0.25	250
MLN2009V-R15KF	0.15	20	25	200	0.25	250
MLN2009V-R18KF	0.18	20	25	185	0.30	250
MLN2009V-R22KF	0.22	20	25	170	0.30	250
MLN2009V-R27KF	0.27	20	25	150	0.40	250
MLN2009V-R33KF	0.33	20	25	145	0.40	250
MLN2009V-R39KF	0.39	25	25	135	0.50	200
MLN2009V-R47KF	0.47	25	25	125	0.50	200
MLN2009V-R56KF	0.56	25	25	115	0.60	150
MLN2009V-R68KF	0.68	25	25	105	0.65	150
MLN2009V-R82KF	0.82	25	25	100	0.70	150
MLN2009U-1R0KF	1.0	35	10	75	0.40	50
MLN2009U-1R2KF	1.2	35	10	65	0.40	50
MLN2009U-1R5KF	1.5	35	10	60	0.40	50
MLN2009U-1R8KF	1.8	35	10	55	0.40	50
MLN2009U-2R2KF	2.2	35	10	50	0.60	50
MLN2009U-2R7KF	2.7	35	10	45	0.60	50
MLN2009U-3R3KF	3.3	35	10	41	0.60	50
MLN2009U-3R9KF	3.9	35	10	38	0.80	50
MLN2009U-4R7KF	4.7	35	10	35	0.90	30
MLN2009X-5R6KF	5.6	30	4	32	1.00	15
MLN2009X-6R8KF	6.8	30	4	29	1.05	15
MLN2009X-8R2KF	8.2	30	4	26	1.05	15
MLN2009X-100KF	10	30	2	24	1.15	15
MLN2009X-120KF	12	30	2	22	1.15	15
MLN2009J-150KF	15	25	1	19	1.15	5
MLN2009J-180KF	18	25	1	18	1.20	5
MLN2009J-220KF	22	25	1	16	1.20	5
MLN2009J-270KF	27	25	1	16	1.50	5
MLN2009J-330KF	33	25	1	16	1.50	5

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

3209-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN3209V-47NKF	0.047	30	50	320	0.15	300
MLN3209V-56NKF	0.056	30	50	320	0.20	300
MLN3209V-68NKF	0.068	30	50	280	0.25	300
MLN3209V-82NKF	0.082	30	50	280	0.25	300
MLN3209V-R10KF	0.10	25	25	235	0.25	250
MLN3209V-R12KF	0.12	25	25	220	0.25	250
MLN3209V-R15KF	0.15	25	25	200	0.25	250
MLN3209V-R18KF	0.18	25	25	185	0.30	250
MLN3209V-R22KF	0.22	25	25	170	0.30	250
MLN3209V-R27KF	0.27	25	25	150	0.30	250
MLN3209V-R33KF	0.33	25	25	145	0.30	250
MLN3209V-R39KF	0.39	30	25	135	0.50	200
MLN3209V-R47KF	0.47	30	25	125	0.50	200
MLN3209V-R56KF	0.56	30	25	115	0.50	150
MLN3209V-R68KF	0.68	30	25	105	0.50	150
MLN3209V-R82KF	0.82	30	25	100	0.60	150
MLN3209U-1R0KF	1.0	35	10	75	0.30	100
MLN3209U-1R2KF	1.2	35	10	65	0.40	100
MLN3209U-1R5KF	1.5	35	10	60	0.40	50
MLN3209U-1R8KF	1.8	35	10	55	0.40	50
MLN3209U-2R2KF	2.2	35	10	50	0.50	50
MLN3209U-2R7KF	2.7	35	10	45	0.50	50
MLN3209U-3R3KF	3.3	35	10	41	0.50	50
MLN3209U-3R9KF	3.9	35	10	38	0.60	50
MLN3209U-4R7KF	4.7	35	10	35	0.65	25
MLN3209U-5R6KF	5.6	35	4	32	0.80	25
MLN3209X-6R8KF	6.8	35	4	29	0.80	25
MLN3209X-8R2KF	8.2	35	4	26	0.80	25
MLN3209X-100KF	10	35	2	24	0.80	25
MLN3209X-120KF	12	35	2	22	0.90	15
MLN3209J-150KF	15	30	1	19	1.00	5
MLN3209J-180KF	18	30	1	18	1.00	5
MLN3209J-220KF	22	30	1	16	1.20	5
MLN3209J-270KF	27	30	1	14	1.20	5
MLN3209J-330KF	33	30	1	13	1.30	5
MLN3209J-390KF	39	30	1	13	1.30	5

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

3211-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN3211J-470KF	47	30	1	12	1.60	5
MLN3211J-560KF	56	30	1	12	1.80	5
MLN3211J-680KF	68	30	1	11	2.00	5
MLN3211J-820KF	82	30	1	11	2.40	5
MLN3211J-101KF	100	30	1	8	3.00	5
MLN3211J-121KF	120	30	1	8	3.20	5

3213-Series

ELECTRICAL SPECIFICATION @ 25°C						
Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN3213U-1R0KF	1.0	40	10	70	0.20	500
MLN3213U-1R2KF	1.2	40	10	70	0.20	500
MLN3213U-1R5KF	1.5	40	10	70	0.30	500
MLN3213U-1R8KF	1.8	40	10	70	0.30	500
MLN3213U-2R2KF	2.2	40	10	50	0.30	500
MLN3213U-2R7KF	2.7	40	10	50	0.30	500
MLN3213U-3R3KF	3.3	40	10	50	0.40	500
MLN3213U-3R9KF	3.9	40	10	30	0.40	500
MLN3213U-4R7KF	4.7	40	10	30	0.50	500
MLN3213U-5R6KF	5.6	35	4	30	0.60	450
MLN3213X-6R8KF	6.8	35	4	20	0.60	450
MLN3213X-8R2KF	8.2	35	4	20	0.70	400
MLN3213X-100KF	10	35	2	20	0.70	300
MLN3213X-120KF	12	35	2	20	0.70	300
MLN3213J-150KF	15	35	1	20	0.70	200
MLN3213J-180KF	18	35	1	10	0.70	200
MLN3213J-220KF	22	35	1	10	0.75	150
MLN3213J-270KF	27	35	1	10	0.80	150
MLN3213J-330KF	33	35	1	10	1.10	100
MLN3213J-390KF	39	35	1	10	1.30	100
MLN3213J-470KF	47	35	1	10	1.50	50
MLN3213J-560KF	56	35	1	5	1.60	50
MLN3213J-680KF	68	35	1	5	1.80	30
MLN3213J-820KF	82	35	1	5	2.00	30
MLN3213J-101KF	100	35	1	5	2.00	20
MLN3213J-121KF	120	35	1	5	2.20	20
MLN3213J-151KF	150	35	1	5	2.40	20

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

4516-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN4516U-1R0KF	1.0	40	10	80	0.25	500
MLN4516U-1R2KF	1.2	40	10	75	0.30	500
MLN4516U-1R5KF	1.5	40	10	60	0.30	500
MLN4516U-1R8KF	1.8	40	10	55	0.35	450
MLN4516U-2R2KF	2.2	40	10	50	0.35	400
MLN4516U-2R7KF	2.7	40	10	45	0.40	400
MLN4516U-3R3KF	3.3	40	10	40	0.45	400
MLN4516U-3R9KF	3.9	40	10	35	0.45	400
MLN4516U-4R7KF	4.7	40	10	30	0.50	300
MLN4516U-5R6KF	5.6	40	4	20	0.50	300
MLN4516U-6R8KF	6.8	35	4	20	0.60	300
MLN4516X-8R2KF	8.2	35	4	15	0.70	250
MLN4516X-100KF	10	35	2	15	0.70	250

4515-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN4515U-1R0KF	1.0	35	10	50	0.55	650
MLN4515U-1R2KF	1.2	35	10	50	0.55	650
MLN4515U-1R5KF	1.5	35	10	45	0.55	600
MLN4515U-1R8KF	1.8	35	10	45	0.65	600
MLN4515U-2R2KF	2.2	35	10	40	0.65	500
MLN4515U-2R7KF	2.7	35	10	40	0.70	500
MLN4515U-3R3KF	3.3	35	10	35	0.75	500
MLN4515U-3R9KF	3.9	35	10	35	0.80	500
MLN4515U-4R7KF	4.7	30	10	25	0.90	500
MLN4515U-5R6KF	5.6	30	4	20	0.90	500
MLN4515U-6R8KF	6.8	30	4	18	1.00	500
MLN4515X-8R2KF	8.2	30	4	17	1.00	450
MLN4515X-100KF	10	30	2	16	1.00	450
MLN4515X-120KF	12	35	2	15	1.00	450
MLN4515J-150KF	15	35	1	14	1.00	400
MLN4515J-180KF	18	35	1	13	1.00	400
MLN4515J-220KF	22	35	1	12	1.30	300

Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

4515-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Q Min	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLN4515J-270KF	27	35	1	10	1.30	300
MLN4515J-330KF	33	40	1	10	1.50	250
MLN4515J-390KF	39	40	1	10	1.50	250
MLN4515J-470KF	47	40	1	8	1.65	250
MLN4515J-560KF	56	40	1	8	1.80	250
MLN4515J-680KF	68	40	1	6	2.00	200
MLN4515J-820KF	82	40	1	6	2.30	200
MLN4515J-101KF	100	40	1	6	2.30	150
MLN4515J-121KF	120	40	1	6	2.50	150
MLN4515J-151KF	150	40	1	5	3.00	150
MLN4515J-181KF	180	40	1	5	3.00	150
MLN4515J-221KF	220	40	1	5	3.50	100
MLN4515J-271KF	270	40	1	5	4.00	50
MLN4515J-331KF	330	40	1	3	5.00	50

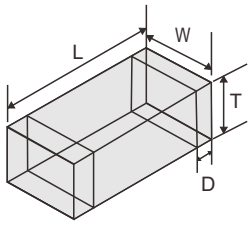
Notes:

1. Ordering Information: MLN1005J-180MFT.

MLN1005 = Product Type. J = Material Code (U & V & J & X).
180 = Inductance value in uH (i.e. 180 = 18uH; 47N = 0.047uH; 3R9 =3.9uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

MECHANICAL DIMENSIONS



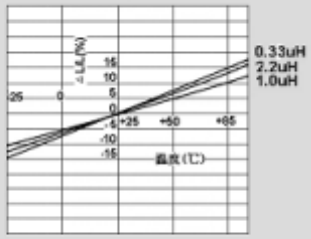
Part Number	L	W	T	D
1005 (0402)	.040±.006 1.00±0.15	.020±.006 0.50±0.15	.020±.006 0.50±0.15	.010±.004 0.25±0.10
1608 (0603)	.063±.008 1.60±0.20	.031±.008 0.80±0.20	.031±.008 0.80±0.20	.010±.008 0.30±0.20
2009 (0805)	.079±.008 2.00±0.20	.047±.008 1.20±0.20	.035±.008 0.90±0.20	.020±.012 0.50±0.30
2012 (0805)	.079±.008 2.00±0.20	.047±.008 1.20±0.20	.047±.008 1.20±0.20	.020±.012 0.50±0.30
3211 (1206)	.126±.008 3.20±0.20	.063±.008 1.60±0.20	.043±.008 1.10±0.20	.020±.012 0.50±0.30
3209 (1206)	.126±.008 3.20±0.20	.063±.008 1.60±0.20	.035±.008 0.90±0.20	.020±.012 0.50±0.30
3213 (1210)	.126±.008 3.20±0.20	.063±.008 1.60±0.20	.051±.008 1.30±0.20	.020±.012 0.50±0.30
4516 (1806)	.186±.008 4.50±0.20	.063±.008 1.60±0.20	.063±.008 1.60±0.20	.020±.012 0.50±0.30
4515 (1812)	.186±.008 4.50±0.20	.126±.008 3.20±0.20	.060±.008 1.50±0.20	.020±.012 0.50±0.30

Notes:

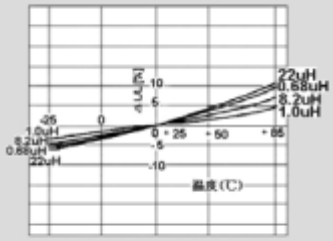
3. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
4. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

TYPICAL IMPEDANCE CURVES

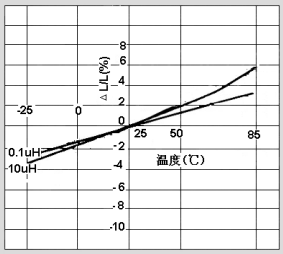
MLN1005



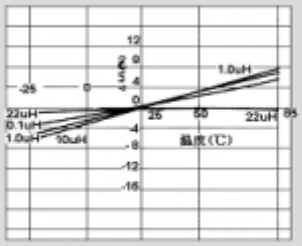
MLN1608



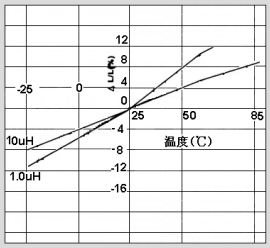
MLN2009



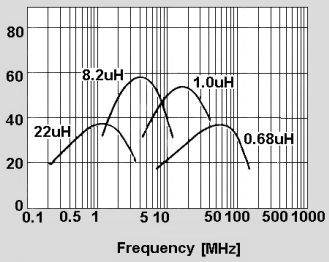
MLN3209



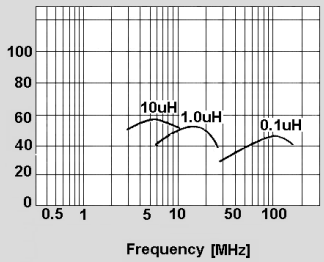
MLN3213



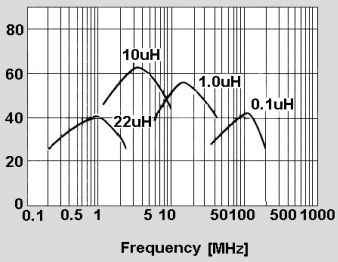
MLN1608



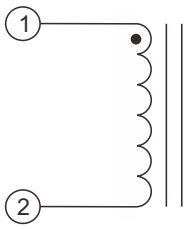
MLN2009



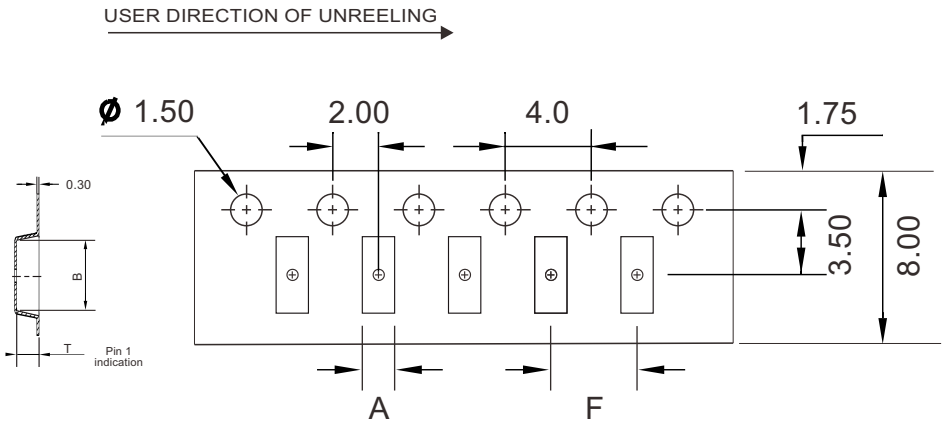
MLN3209



SCHEMATICS



PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
1005	0.65	1.15	2.00	0.62	10000	50000	0.002
1608	1.10	1.90	4.00	1.10	4000	40000	0.005
2009	1.50	2.30	4.00	1.10	4000	40000	0.01
2012	1.90	3.50	4.00	1.50	4000	40000	0.01
3211	1.90	3.50	4.00	1.40	4000	40000	0.024
3209	1.90	3.50	4.00	1.10	4000	40000	0.022
3213	2.80	3.50	4.00	1.50	3000	30000	0.053
4516	1.90	4.80	4.00	1.80	5000	20000	0.059
4515	3.50	4.80	4.00	1.70	3000	12000	0.111

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatian, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com

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E & E Magnetic Products Limited

Multilayer Chip Inductor

Large Rated Current Chip Inductor

RoHS COMPLIANT

- Very large rated current and low direct-current resistance.
- No cross coupling between inductors due to low magnetic shield and high reliability.
- No lead, ideal for high density SMT installation, with no directionality.
- Superior solderability and resistance to soldering heat, ideal for wave or reflow soldering.
- VCD/DVD, digital cameras, personal computers etc
- Operating temperature Type1608 & 2012: -40°C to +85 C

1608-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL1608VE-47NKF	0.047	1	260	0.12	150
MLL1608VE-56NKF	0.056	1	260	0.12	150
MLL1608VE-68NKF	0.068	1	250	0.12	150
MLL1608VE-82NKF	0.082	1	245	0.12	150
MLL1608VE-R10KF	0.10	1	240	0.15	150
MLL1608VE-R12KF	0.12	1	205	0.20	150
MLL1608VE-R15KF	0.15	1	180	0.20	150
MLL1608VE-R18KF	0.18	1	165	0.20	150
MLL1608VE-R22KF	0.22	1	150	0.25	150
MLL1608VE-R27KF	0.27	1	136	0.30	100
MLL1608VE-R33KF	0.33	1	125	0.30	100
MLL1608VE-R39KF	0.39	1	110	0.35	100
MLL1608VE-R47KF	0.47	1	105	0.45	100
MLL1608VE-R56KF	0.56	1	95	0.45	100
MLL1608VE-R68KF	0.68	1	90	0.55	100
MLL1608VE-R82KF	0.82	1	85	0.60	100
MLL1608UE-1R0KF	1.0	1	75	0.30	150
MLL1608UE-1R2KF	1.2	1	65	0.30	150
MLL1608UE-1R5KF	1.5	1	60	0.35	120
MLL1608UE-1R8KF	1.8	1	55	0.40	120
MLL1608UE-2R2KF	2.2	1	50	0.50	120
MLL1608UE-2R7KF	2.7	1	45	0.60	100
MLL1608UE-3R3KF	3.3	1	40	0.65	100
MLL1608UE-3R9KF	3.9	1	35	0.70	80

Notes:

1. Ordering Information: MLL1608UE-3R9MFT.

MLL1608 = Product Type. UE = Material Code (U & V & J & X+D & E).
3R9 = Inductance value in uH (i.e. 3R9 = 3.9uH; 47N = 0.047uH; 100 =10uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

1005-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL1608XE-4R7KF	4.7	1	33	0.75	80
MLL1608JE-5R6MF	5.6	1	22	0.90	60
MLL1608JE-6R8MF	6.8	1	20	0.90	60
MLL1608JE-8R2MF	8.2	1	18	1.05	60
MLL1608JE-100MF	10	1	17	1.15	60
MLL1608JE-120MF	12	1	15	1.25	60

2009-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL2009VD-47NKF	0.047	1	280	0.10	1100
MLL2009VD-56NKF	0.056	1	280	0.10	1100
MLL2009VD-68NKF	0.068	1	250	0.15	1100
MLL2009VD-82NKF	0.082	1	250	0.15	1100
MLL2009VD-R10KF	0.10	1	210	0.15	1100
MLL2009VD-R12KF	0.12	1	200	0.15	1100
MLL2009VD-R15KF	0.15	1	175	0.15	1100
MLL2009VD-R18KF	0.18	1	160	0.15	1100
MLL2009VD-R22KF	0.22	1	150	0.15	1100
MLL2009VD-R27KF	0.27	1	130	0.15	1100
MLL2009VD-R33KF	0.33	1	120	0.15	1100
MLL2009VD-R39KF	0.39	1	110	0.15	1100
MLL2009VD-R47KF	0.47	1	100	0.15	1100
MLL2009VD-R56KF	0.56	1	100	0.20	800
MLL2009VD-R68KF	0.68	1	95	0.20	800
MLL2009VD-R82KF	0.82	1	90	0.20	800
MLL2009UD-1R0KF	1.0	1	75	0.24	800
MLL2009UD-1R2KF	1.2	1	65	0.24	800
MLL2009UD-1R5KF	1.5	1	60	0.30	700
MLL2009UD-1R8KF	1.8	1	55	0.36	600
MLL2009UD-2R2KF	2.2	1	50	0.36	600
MLL2009UD-2R7KF	2.7	1	45	0.36	600
MLL2009UD-3R3KF	3.3	1	41	0.40	350
MLL2009UD-3R9KF	3.9	1	38	0.40	350

Notes:

1. Ordering Information: MLL1608UE-3R9MFT.

MLL1608 = Product Type. UE = Material Code (U & V & J & X+D & E).
3R9 = Inductance value in uH (i.e. 3R9 = 3.9uH; 47N = 0.047uH; 100 =10uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL2009UD-4R7KF	4.7	1	35	0.40	350
MLL2009UD-5R6KF	5.6	1	32	0.50	250
MLL2009XD-6R8KF	6.8	1	29	0.50	250
MLL2009XD-8R2KF	8.2	1	26	0.56	250
MLL2009XD-100KF	10	1	24	0.56	250
MLL2009XD-120KF	12	1	22	0.56	250
MLL2009JD-150KF	15	1	19	0.65	100
MLL2009JD-180KF	18	1	18	0.65	100
MLL2009VE-47NKF	0.047	1	320	0.15	350
MLL2009VE-56NKF	0.056	1	320	0.15	350
MLL2009VE-68NKF	0.068	1	280	0.20	350
MLL2009VE-82NKF	0.082	1	280	0.20	350
MLL2009VE-R10KF	0.10	1	235	0.20	350
MLL2009VE-R12KF	0.12	1	220	0.20	350
MLL2009VE-R15KF	0.15	1	200	0.20	350
MLL2009VE-R18KF	0.18	1	185	0.25	300
MLL2009VE-R22KF	0.22	1	170	0.25	300
MLL2009VE-R27KF	0.27	1	150	0.25	300
MLL2009VE-R33KF	0.33	1	145	0.25	300
MLL2009VE-R39KF	0.39	1	135	0.30	250
MLL2009VE-R47KF	0.47	1	125	0.30	250
MLL2009VE-R56KF	0.56	1	115	0.36	200
MLL2009VE-R68KF	0.68	1	105	0.36	200
MLL2009VE-R82KF	0.82	1	100	0.36	200
MLL2009UE-1R0KF	1.0	1	75	0.26	220
MLL2009UE-1R2KF	1.2	1	65	0.26	220
MLL2009UE-1R5KF	1.5	1	60	0.30	180
MLL2009UE-1R8KF	1.8	1	55	0.30	180
MLL2009UE-2R2KF	2.2	1	50	0.36	150
MLL2009UE-2R7KF	2.7	1	45	0.36	150
MLL2009UE-3R3KF	3.3	1	41	0.40	120
MLL2009UE-3R9KF	3.9	1	38	0.40	120
MLL2009UE-4R7KF	4.7	1	35	0.40	120
MLL2009XE-5R6KF	5.6	1	32	0.60	100
MLL2009XE-6R8KF	6.8	1	29	0.60	100
MLL2009XE-8R2KF	8.2	1	26	0.65	100

Notes:

1. Ordering Information: MLL1608UE-3R9MFT.

MLL1608 = Product Type. UE = Material Code (U & V & J & X+D & E).
3R9 = Inductance value in uH (i.e. 3R9 = 3.9uH; 47N = 0.047uH; 100 =10uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2009-Series

ELECTRICAL SPECIFICATION @ 25°C					
Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL2009XE-100KF	10	1	24	0.65	100
MLL2009XE-120KF	12	1	22	0.65	100
MLL2009JE-150KF	15	1	19	0.75	50
MLL2009JE-180KF	18	1	18	0.75	50
MLL2009JE-220KF	22	1	16	0.75	50

2509-Series

ELECTRICAL SPECIFICATION @ 25°C					
Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL2509UD-1R0KF	1.0	1	70	0.12	1500
MLL2509UD-1R2KF	1.2	1	50	0.15	1500
MLL2509UD-1R5KF	1.5	1	50	0.15	1500
MLL2509UD-1R8KF	1.8	1	40	0.18	1000
MLL2509UD-2R2KF	2.2	1	40	0.18	1000
MLL2509UD-2R7KF	2.7	1	30	0.22	1000
MLL2509UD-3R3KF	3.3	1	30	0.22	1000
MLL2509UD-3R9KF	3.9	1	25	0.26	1000
MLL2509UD-4R7KF	4.7	1	25	0.26	1000

2510-Series

ELECTRICAL SPECIFICATION @ 25°C					
Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL2510XE-R33KF	0.33	1	120	0.056	2400
MLL2510XE-R47KF	0.47	1	100	0.078	2400
MLL2510XE-1R0KF	1.0	1	90	0.15	2000
MLL2510XE-1R2KF	1.2	1	90	0.15	2000
MLL2510XE-1R5KF	1.5	1	80	0.18	1700
MLL2510XE-1R8KF	1.8	1	70	0.22	1200
MLL2510XE-2R2KF	2.2	1	70	0.22	1200
MLL2510XE-2R7KF	2.7	1	60	0.24	960
MLL2510XE-3R3KF	3.3	1	60	0.26	960
MLL2510XE-3R9KF	3.9	1	50	0.28	700
MLL2510XE-4R7KF	4.7	1	40	0.30	650

Notes:

1. Ordering Information: MLL1608UE-3R9MFT.

MLL1608 = Product Type. UE = Material Code (U & V & J & X+D & E).
3R9 = Inductance value in uH (i.e. 3R9 = 3.9uH; 47N = 0.047uH; 100 =10uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

3209-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL3206UD-1R0KF	1.0	1	60	0.15	1200
MLL3206UD-1R2KF	1.2	1	65	0.15	1200
MLL3209UD-1R5KF	1.5	1	60	0.17	1000
MLL3209UD-1R8KF	1.8	1	55	0.24	900
MLL3209UD-2R2KF	2.2	1	50	0.24	900
MLL3209UD-2R7KF	2.7	1	45	0.30	800
MLL3209UD-3R3KF	3.3	1	41	0.30	800
MLL3209UD-3R9KF	3.9	1	38	0.38	700
MLL3209UD-4R7KF	4.7	1	35	0.38	700
MLL3209UD-5R6KF	5.6	1	32	0.45	500
MLL3209XD-6R8KF	6.8	1	29	0.45	500
MLL3209XD-8R2KF	8.2	1	26	0.55	300
MLL3209XD-100KF	10	1	24	0.55	300
MLL3209XD-120KF	12	1	22	0.55	300
MLL3209JD-150KF	15	1	19	0.65	100
MLL3209JD-180KF	18	1	18	0.65	100

3209-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL3206VE-47NKF	0.047	1	320	0.15	450
MLL3206VE-56NKF	0.056	1	320	0.15	450
MLL3209VE-68NKF	0.068	1	280	0.20	450
MLL3209VE-82NKF	0.082	1	280	0.20	450
MLL3209VE-R10KF	0.10	1	235	0.20	350
MLL3209VE-R12KF	0.12	1	220	0.20	350
MLL3209VE-R15KF	0.15	1	200	0.20	350
MLL3209VE-R18KF	0.18	1	185	0.20	350
MLL3209VE-R22KF	0.22	1	170	0.20	350
MLL3209VE-R27KF	0.27	1	150	0.20	350
MLL3209VE-R33KF	0.33	1	145	0.20	350
MLL3209VE-R39KF	0.39	1	135	0.30	220
MLL3209VE-R47KF	0.47	1	125	0.30	220
MLL3209VE-R56KF	0.56	1	115	0.30	220
MLL3209VE-R68KF	0.68	1	105	0.30	220

Notes:

1. Ordering Information: MLL1608UE-3R9MFT.

MLL1608 = Product Type. UE = Material Code (U & V & J & X+D & E).
3R9 = Inductance value in uH (i.e. 3R9 = 3.9uH; 47N = 0.047uH; 100 =10uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Inductance (uH	Test Fre. (MHZ)	SRF (MHz)Min	DCR ( )Max	Ir(mA) Max
MLL3206VE-R82KF	0.82	1	100	0.30	220
MLL3206UE-1R0KF	1.0	1	75	0.20	250
MLL3209UE-1R2KF	1.2	1	65	0.20	250
MLL3209UE-1R5KF	1.5	1	60	0.25	250
MLL3209UE-1R8KF	1.8	1	55	0.25	250
MLL3209UE-2R2KF	2.2	1	50	0.30	200
MLL3209UE-2R7KF	2.7	1	45	0.30	200
MLL3209UE-3R3KF	3.3	1	41	0.30	200
MLL3209UE-3R9KF	3.9	1	38	0.35	150
MLL3209UE-4R7KF	4.7	1	35	0.35	150
MLL3209UE-5R6KF	5.6	1	32	0.50	100
MLL3209XE-6R8KF	6.8	1	29	0.50	100
MLL3209XE-8R2KF	8.2	1	26	0.50	100
MLL3209XE-100KF	10	1	24	0.50	100
MLL3209XE-120KF	12	1	22	0.60	50
MLL3209JE-150KF	15	1	19	0.80	50
MLL3209JE-180KF	18	1	18	0.80	50
MLL3209JE-220KF	22	1	16	1.00	50

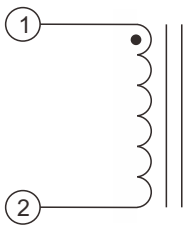
Notes:

1. Ordering Information: MLL1608UE-3R9MFT.

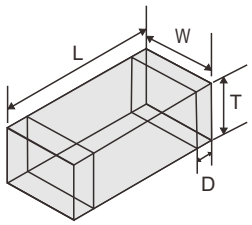
MLL1608 = Product Type. UE = Material Code (U & V & J & X+D & E).
3R9 = Inductance value in uH (i.e. 3R9 = 3.9uH; 47N = 0.047uH; 100 =10uH).
M = Tolerance of Inductance (K = ± 10%, M = ± 20%, N = ± 30%).
F = Internal Control Code. T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

SCHEMATICS



MECHANICAL DIMENSIONS

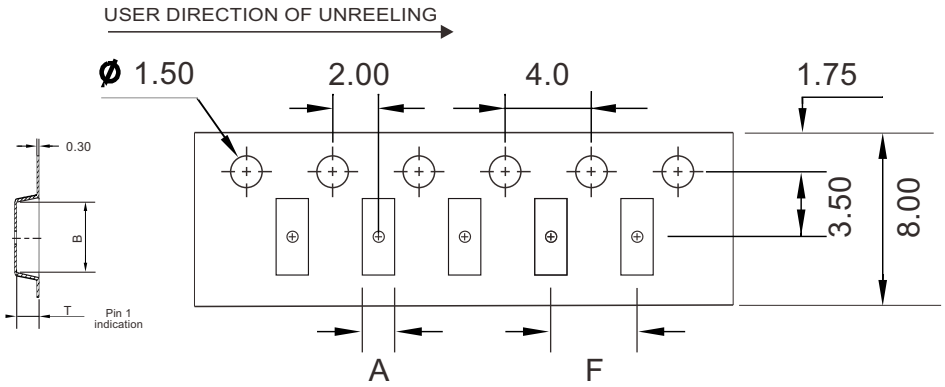


Part Number	L	W	T	D
1608 (0603)	.063±.008 / 1.60±0.20	.031±.008 / 0.80±0.20	.031±.008 / 0.80±0.20	.010±.008 / 0.30±0.20
2009 (0805)	.079±.008 / 2.00±0.20	.047±.008 / 1.20±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
2509 (1008)	.098±.008 / 2.50±0.20	.079±.008 / 2.00±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
2510 (1008)	.098±.008 / 2.50±0.20	.079±.008 / 2.00±0.20	.039±.008 / 1.00±0.20	.020±.012 / 0.50±0.30
3209 (1206)	.126±.008 / 3.20±0.20	.063±.008 / 1.60±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30

Notes:

3. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
4. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
1608	1.10	1.90	4.00	1.10	4000	40000	0.005
2009	1.50	2.30	4.00	1.10	4000	40000	0.01
2509	2.30	2.80	4.00	1.10	3000	30000	0.0246
2510	2.30	2.80	4.00	1.30	3000	30000	0.0246
3209	1.90	3.50	4.00	1.40	4000	40000	0.022

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatian, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com

Elec & Eltek依利安達
E & E Magnetic Products Limited

Chip Bead

General Chip Beads

RoHS COMPLIANT

- Under the same size, the multilayer chip beads produce higher impedance than plug-in beads.
- These EGCB series have substantial EMI . RFI suppression by simply mounting them onto PCB.
- Suitable EIA standard in shape and dimension of chip beads; Can be mounted automatically by SMT eauipments.
- Redialed noise suppression on digital product clock lines, signal lines and suppression noise on circuit.
- Operating temperature Type 1005 & 1608 & 2012: -40°C to +85 C

1005-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB1005-070F	0~11	100	0.10	300
EGCB1005-190F	12~25	100	0.10	300
EGCB1005-260F	26	100	0.15	300
EGCB1005-310F	31	100	0.20	300
EGCB1005-360F	36	100	0.20	300
EGCB1005-600F	60	100	0.35	200
EGCB1005-101F	100	100	0.50	150
EGCB1005-121F	120	100	0.50	150
EGCB1005-151F	150	100	0.55	150
EGCB1005-201F	200	100	0.70	100
EGCB1005-301F	300	100	0.80	100
EGCB1005-501F	500	100	1.10	100
EGCB1005-601F	600	100	1.30	100
EGCB1005-801F	800	100	1.40	50
EGCB1005-102F	1000	100	1.60	25
EGCB1005-122F	1200	100	1.80	25

Notes:

1. Ordering Information: EGCB1005-121FT.

EGCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

1608-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB1608-070F	0~11	100	0.10	800
EGCB1608-150F	9~21	100	0.10	800
EGCB1608-310F	31	100	0.10	500
EGCB1608-700F	70	100	0.20	300
EGCB1608-800F	80	100	0.20	300
EGCB1608-101F	100	100	0.20	300
EGCB1608-121F	120	100	0.20	300
EGCB1608-151F	150	100	0.30	300
EGCB1608-181F	180	100	0.30	300
EGCB1608-221F	220	100	0.30	300
EGCB1608-301F	300	100	0.35	200
EGCB1608-501F	500	100	0.50	200
EGCB1608-601F	600	100	0.50	200
EGCB1608-801F	800	100	0.60	200
EGCB1608-102F	1000	100	0.60	200
EGCB1608-122F	1200	100	0.85	100
EGCB1608-152F	1500	100	0.85	50
EGCB1608-182F	1800	100	1.10	50
EGCB1608-202F	2000	100	1.10	50

2009-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB2009-050F	0~15	100	0.08	900
EGCB2009-110F	7~15	100	0.10	900
EGCB2009-260F	26	100	0.10	900
EGCB2009-310F	31	100	0.10	900
EGCB2009-500F	50	100	0.15	900
EGCB2009-600F	60	100	0.15	900
EGCB2009-800F	80	100	0.18	500
EGCB2009-101F	100	100	0.18	500
EGCB2009-121F	120	100	0.20	500

Notes:

1. Ordering Information: EGCB1005-121FT.

EGCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2009-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB2009-151F	150	100	0.20	400
EGCB2009-181F	180	100	0.20	400
EGCB2009-221F	220	100	0.20	400
EGCB2009-301F	300	100	0.25	400
EGCB2009-501F	500	100	0.35	300
EGCB2009-601F	600	100	0.35	300
EGCB2009-801F	800	100	0.40	300
EGCB2009-102F	1000	100	0.40	300
EGCB2009-122F	1200	100	0.60	100
EGCB2009-152F	1500	100	0.70	100
EGCB2009-202F	2000	100	0.90	50

3209-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB3209-050F	0~15	100	0.10	1000
EGCB3209-110F	7~15	100	0.10	1000
EGCB3209-260F	26	100	0.10	1000
EGCB3209-310F	31	100	0.10	1000
EGCB3209-600F	60	100	0.15	1000
EGCB3209-800F	80	100	0.15	1000
EGCB3209-121F	120	100	0.15	1000
EGCB3209-151F	150	100	0.20	800
EGCB3209-181F	180	100	0.20	800
EGCB3209-221F	220	100	0.20	800
EGCB3209-301F	300	100	0.20	800
EGCB3209-501F	500	100	0.30	600
EGCB3209-601F	600	100	0.30	600
EGCB3209-801F	800	100	0.35	400
EGCB3209-102F	1000	100	0.35	400
EGCB3209-122F	1200	100	0.60	100

Notes:

1. Ordering Information: EGCB1005-121FT.

EGCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

3213-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB3213-190F	12~25	100	0.10	1000
EGCB3213-260F	26	100	0.10	1000
EGCB3213-310F	31	100	0.10	1000
EGCB3213-600F	60	100	0.15	1000
EGCB3213-800F	80	100	0.20	400
EGCB3213-101F	100	100	0.20	400
EGCB3213-121F	120	100	0.20	400
EGCB3213-151F	150	100	0.30	400
EGCB3213-181F	180	100	0.40	400
EGCB3213-221F	220	100	0.40	400
EGCB3213-301F	300	100	0.40	400
EGCB3213-501F	500	100	0.40	300
EGCB3213-601F	600	100	0.40	300
EGCB3213-801F	800	100	0.40	300
EGCB3213-102F	1000	100	0.40	300

4516-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB4516-190F	12~25	100	0.10	1000
EGCB4516-260F	26	100	0.10	1000
EGCB4516-310F	31	100	0.15	1000
EGCB4516-600F	60	100	0.20	1000
EGCB4516-700F	70	100	0.25	1000
EGCB4516-800F	80	100	0.30	1000
EGCB4516-900F	90	100	0.35	1000
EGCB4516-121F	120	100	0.40	500
EGCB4516-151F	150	100	0.40	500
EGCB4516-221F	220	100	0.45	500
EGCB4516-301F	300	100	0.45	500
EGCB4516-501F	500	100	0.50	200
EGCB4516-601F	600	100	0.50	200
EGCB4516-801F	800	100	0.55	200

Notes:

1. Ordering Information: EGCB1005-121FT.

EGCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

4515-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EGCB4515-190F	12~25	100	0.10	1000
EGCB4515-380F	38	100	0.15	1000
EGCB4515-700F	70	100	0.20	1000
EGCB4515-800F	80	100	0.20	1000
EGCB4515-101F	100	100	0.20	500
EGCB4515-121F	120	100	0.25	500
EGCB4515-151F	150	100	0.25	500
EGCB4515-221F	220	100	0.30	300
EGCB4515-301F	300	100	0.30	300
EGCB4515-601F	600	100	0.40	200
EGCB4515-801F	800	100	0.45	200
EGCB4515-102F	1000	100	0.50	200

Notes:

1. Ordering Information: EGCB1005-121FT.

   EGCB1005 = Product Type.

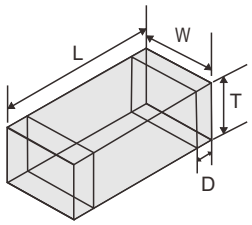
   121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).

   F = Internal Control Code.

   T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

MECHANICAL DIMENSIONS

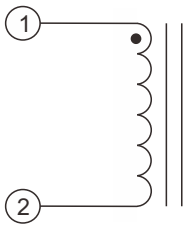


Part Number	L	W	T	D
1005 (0402)	.040±.006 / 1.00±0.15	.020±.006 / 0.50±0.15	.020±.006 / 0.50±0.15	.010±.004 / 0.25±0.10
1608 (0603)	.063±.008 / 1.60±0.20	.031±.008 / 0.80±0.20	.031±.008 / 0.80±0.20	.010±.008 / 0.30±0.20
2009 (0805)	.079±.008 / 2.00±0.20	.047±.008 / 1.20±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
3209 (1206)	.126±.008 / 3.20±0.20	.063±.008 / 1.60±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
3213 (1210)	.126±.008 / 3.20±0.20	.098±.008 / 2.50±0.20	.051±.008 / 1.30±0.20	.020±.012 / 0.50±0.30
4516 (1806)	.186±.008 / 4.50±0.20	.063±.008 / 1.60±0.20	.063±.008 / 1.60±0.20	.020±.012 / 0.50±0.30
4515 (1812)	.180±.008 / 4.50±0.20	.126±.008 / 3.20±0.20	.060±.008 / 1.50±0.20	.020±.012 / 0.50±0.30

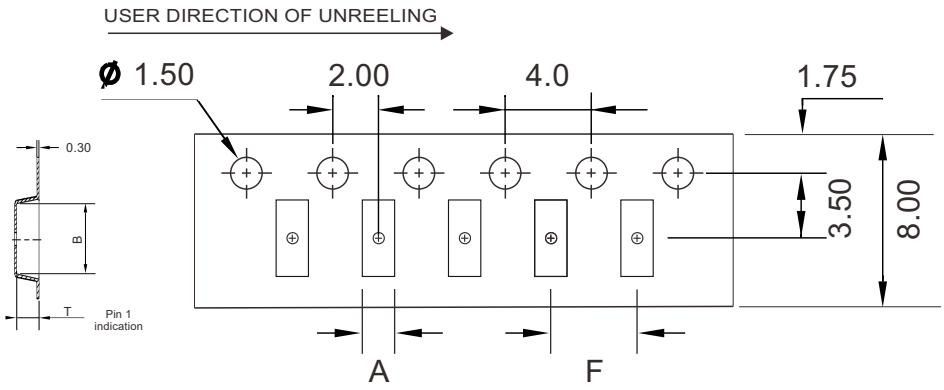
Notes:

3. All dimensions are specified in inches / mm with higher precedence in inches.
4. Unless otherwise specified, all tolerances are ± .010 / 0.25.

SCHEMATICS



PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
1005	0.65	1.15	2.00	0.62	10000	100000	0.002
1608	1.10	1.90	4.00	1.10	4000	40000	0.005
2009	1.50	2.30	4.00	1.10	4000	40000	0.01
3209	1.90	3.50	4.00	1.10	4000	40000	0.022
3213	2.80	3.50	4.00	1.60	3000	30000	0.053
4516	1.90	4.80	4.00	1.90	5000	20000	0.059
4515	3.50	4.80	4.00	1.80	3000	12000	0.111

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatian, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com

Elec & Eltek依利安達
E & E Magnetic Products Limited

Chip Bead

Peak Chip Beads

RoHS COMPLIANT

- Excellent solderability and high heat resistance for either reflow or wave soldering.
- No lead, ideal for SMT.
- Monotilithic inorganic material construction for high reliability.
- Computers a nd peripherals, Communication equipments, digital TV sets, VTRS.
- Operating temperature: -40°C to +85 C

1005-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EPCB1005-070F	0~11	100	0.10	300
EPCB1005-190F	12~25	100	0.10	300
EPCB1005-260F	26	100	0.20	300
EPCB1005-310F	31	100	0.20	300
EPCB1005-600F	60	100	0.35	200
EPCB1005-101F	100	100	0.50	150
EPCB1005-121F	120	100	0.50	150
EPCB1005-151F	150	100	0.55	150
EPCB1005-221F	220	100	0.70	150
EPCB1005-301F	300	100	0.80	100
EPCB1005-501F	500	100	1.10	100
EPCB1005-601F	600	100	1.30	100
EPCB1005-801F	800	100	1.40	50

Notes:

1. Ordering Information: EPCB1005-121FT.

EPCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

1608-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EPCB1608-070F	0~11	100	0.10	600
EPCB1608-110F	7~15	100	0.20	500
EPCB1608-260F	26	100	0.25	400
EPCB1608-310F	31	100	0.25	400
EPCB1608-500F	50	100	0.30	300
EPCB1608-700F	70	100	0.30	300
EPCB1608-800F	80	100	0.30	300
EPCB1608-101F	100	100	0.35	200
EPCB1608-121F	120	100	0.35	200
EPCB1608-151F	150	100	0.35	200
EPCB1608-181F	180	100	0.40	200
EPCB1608-221F	220	100	0.40	200
EPCB1608-301F	300	100	0.50	200
EPCB1608-501F	500	100	0.60	200
EPCB1608-601F	600	100	0.60	200
EPCB1608-801F	800	100	0.70	200
EPCB1608-102F	1000	100	0.70	200
EPCB1608-122F	1200	100	1.00	100

2009-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EPCB2009-110F	7~15	100	0.15	600
EPCB2009-190F	12~25	100	0.15	600
EPCB2009-260F	26	100	0.20	400
EPCB2009-310F	31	100	0.20	400
EPCB2009-500F	50	100	0.25	400
EPCB2009-600F	60	100	0.25	400
EPCB2009-800F	80	100	0.25	400
EPCB2009-121F	120	100	0.25	600
EPCB2009-151F	150	100	0.25	600

Notes:

1. Ordering Information: EPCB1005-121FT.

EPCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2009-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EPCB2009-181F	180	100	0.30	600
EPCB2009-221F	220	100	0.30	600
EPCB2009-301F	300	100	0.30	600
EPCB2009-501F	500	100	0.35	400
EPCB2009-601F	600	100	0.40	400
EPCB2009-801F	800	100	0.45	300
EPCB2009-102F	1000	100	0.45	300
EPCB2009-122F	1200	100	0.60	100
EPCB2009-152F	1500	100	0.70	50

3209-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
EPCB3209-190F	12~25	100	0.10	500
EPCB3209-260F	26	100	0.10	500
EPCB3209-310F	31	100	0.10	500
EPCB3209-700F	70	100	0.20	400
EPCB3209-800F	80	100	0.20	400
EPCB3209-101F	100	100	0.20	400
EPCB3209-121F	120	100	0.20	400
EPCB3209-151F	150	100	0.20	400
EPCB3209-221F	220	100	0.20	400
EPCB3209-301F	300	100	0.25	400
EPCB3209-501F	500	100	0.30	300
EPCB3209-601F	600	100	0.30	300
EPCB3209-801F	800	100	0.40	300
EPCB3209-102F	1000	100	0.40	300
EPCB3209-122F	1200	100	0.60	100
EPCB3209-202F	2000	50	1.00	50

Notes:

1. Ordering Information: EPCB1005-121FT.

   EPCB1005 = Product Type.

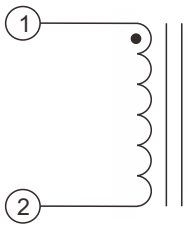
   121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).

   F = Internal Control Code.

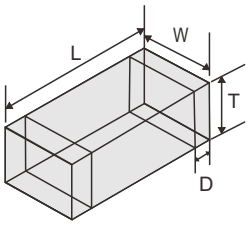
   T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

SCHEMATICS



MECHANICAL DIMENSIONS

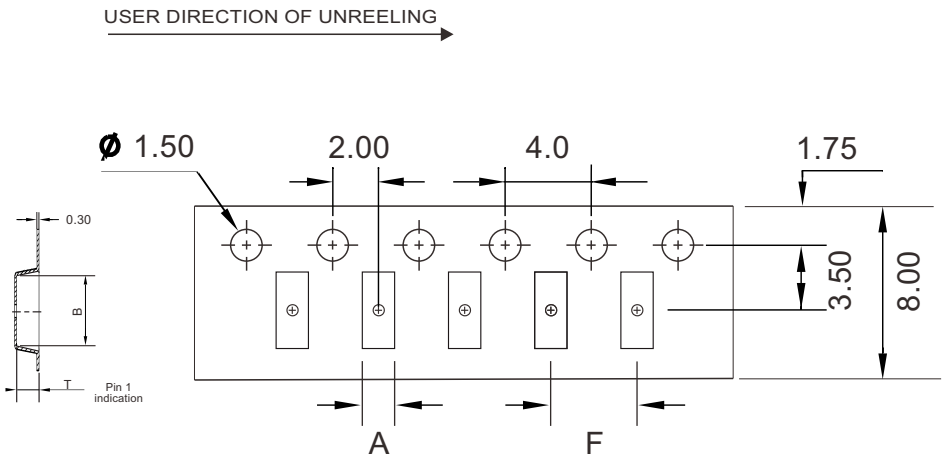


Part Number	L	W	T	D
1005 (0402)	.040±.006 / 1.00±0.15	.020±.006 / 0.50±0.15	.020±.006 / 0.50±0.15	.010±.004 / 0.25±0.10
1608 (0603)	.063±.008 / 1.60±0.20	.031±.008 / 0.80±0.20	.031±.008 / 0.80±0.20	.010±.008 / 0.30±0.20
2009 (0805)	.079±.008 / 2.00±0.20	.047±.008 / 1.20±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
3209 (1206)	.126±.008 / 3.20±0.20	.063±.008 / 1.60±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30

Notes:

3. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
4. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
1005	0.65	1.15	2.00	0.62	10000	100000	0.002
1608	1.10	1.90	4.00	1.10	4000	40000	0.005
2009	1.50	2.30	4.00	1.10	4000	40000	0.01
3209	1.90	3.50	4.00	1.10	4000	40000	0.022

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatian, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com

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E & E Magnetic Products Limited

Chip Bead

High Resistance Chip Beads

RoHS COMPLIANT

- ERCB series beads exhibit high resistance at low frequency, which makes it stop the reduction of the wave-form effectively.
- Applied in portable computer and digital cameras.
- Operating temperature: -40°C to +85 C

1005-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
ERCB1005-310F	31	100	0.20	300
ERCB1005-600F	60	100	0.35	200
ERCB1005-800F	80	100	0.40	200
ERCB1005-121F	120	100	0.50	150
ERCB1005-181F	180	100	0.60	150
ERCB1005-301F	300	100	0.80	100
ERCB1005-501F	500	100	1.10	100
ERCB1005-601F	600	100	1.30	100

1608-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
ERCB1608-800F	80	100	0.15	500
ERCB1608-121F	120	100	0.18	500
ERCB1608-181F	180	100	0.30	350
ERCB1608-221F	220	100	0.30	350
ERCB1608-301F	300	100	0.40	300
ERCB1608-601F	600	100	0.50	250
ERCB1608-801F	800	100	0.65	200
ERCB1608-102F	1000	100	0.65	200

Notes:

1. Ordering Information: ERCB1005-121FT.

ERCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

2009-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
ERCB2009-800F	80	100	0.15	400
ERCB2009-121F	120	100	0.15	400
ERCB2009-151F	150	100	0.20	400
ERCB2009-221F	220	100	0.20	400
ERCB2009-301F	300	100	0.25	400
ERCB2009-501F	500	100	0.30	200
ERCB2009-601F	600	100	0.30	200
ERCB2009-801F	800	100	0.50	180
ERCB2009-102F	1000	100	0.50	180

3209-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(mA) Max
ERCB3209-260F	26	100	0.10	1000
ERCB3209-121F	120	100	0.15	1000
ERCB3209-301F	300	100	0.25	300
ERCB3209-501F	500	100	0.30	200
ERCB3209-601F	600	100	0.35	200
ERCB3209-801F	800	100	0.50	200

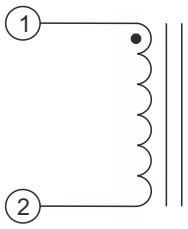
Notes:

1. Ordering Information: ERCB1005-121FT.

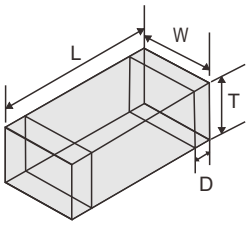
   ERCB1005 = Product Type.
   121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
   F = Internal Control Code.
   T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

SCHEMATICS



MECHANICAL DIMENSIONS

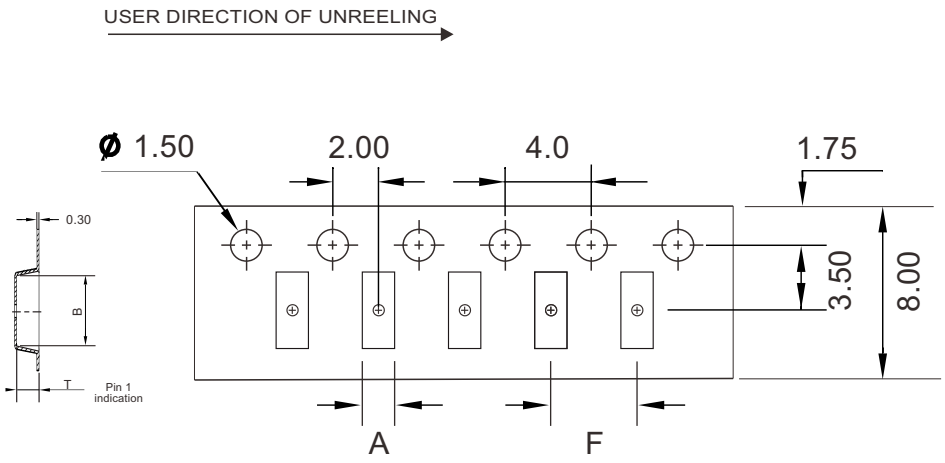


Part Number	L	W	T	D
1005 (0402)	.040±.006 / 1.00±0.15	.020±.006 / 0.50±0.15	.020±.006 / 0.50±0.15	.010±.004 / 0.25±0.10
1608 (0603)	.063±.008 / 1.60±0.20	.031±.008 / 0.80±0.20	.031±.008 / 0.80±0.20	.010±.008 / 0.30±0.20
2009 (0805)	.079±.008 / 2.00±0.20	.047±.008 / 1.20±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
3209 (1206)	.126±.008 / 3.20±0.20	.063±.008 / 1.60±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30

Notes:

3. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
4. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
1005	0.65	1.15	2.00	0.62	10000	100000	0.002
1608	1.10	1.90	4.00	1.10	4000	40000	0.005
2009	1.50	2.30	4.00	1.10	4000	40000	0.01
3209	1.90	3.50	4.00	1.10	4000	40000	0.022

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatian, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
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Website: http://www.eleceltek.com / www.eemagnetic.com

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E & E Magnetic Products Limited

Chip Bead

Large Ir Chip Beads

RoHS COMPLIANT

- A unique terminal electrode structure ensures permissible current 6.0A (max).
- High impedance and EMI suppression effective over a wide frequency range.
- Suitable reflow and wave soldering.
- Digital videos, communication equipment, OA equipment and others.
- Operating temperature : -40°C to +85 C

1005-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB1005-070F	0~11	100	0.04	0.80
ELCB1005-190F	12~25	100	0.06	0.70
ELCB1005-260F	26	100	0.06	0.70
ELCB1005-310F	31	100	0.08	0.70
ELCB1005-600F	60	100	0.15	0.60
ELCB1005-101F	100	100	0.20	0.45
ELCB1005-121F	120	100	0.25	0.45
ELCB1005-151F	150	100	0.25	0.45
ELCB1005-201F	200	100	0.40	0.30
ELCB1005-301F	300	100	0.50	0.30
ELCB1005-501F	500	100	0.65	0.20
ELCB1005-601F	600	100	0.70	0.20
ELCB1005-801F	800	100	0.90	0.20

Notes:

1. Ordering Information: ELCB1005-121FT.

ELCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

1608-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB1608-110F	7~15	100	0.08	1.0
ELCB1608-190F	12~25	100	0.08	1.0
ELCB1608-260F	26	100	0.08	1.0
ELCB1608-310F	31	100	0.08	1.0
ELCB1608-800F	80	100	0.15	1.0
ELCB1608-101F	100	100	0.15	1.0
ELCB1608-121F	120	100	0.15	1.0
ELCB1608-151F	150	100	0.20	1.0
ELCB1608-181F	180	100	0.20	1.0
ELCB1608-221F	220	100	0.20	1.0
ELCB1608-301F	300	100	0.25	1.0
ELCB1608-501F	500	100	0.30	1.0
ELCB1608-601F	600	100	0.30	1.0
ELCB1608-801F	800	100	0.55	0.5
ELCB1608-102F	1000	100	0.55	0.5
ELCB1608-122F	1200	100	0.65	0.5
ELCB1608-152F	1500	100	0.75	0.4
ELCB1608-182F	1800	100	0.75	0.4
ELCB1608-202F	2000	100	0.90	0.4

2009-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB2009-050F	0~15	100	0.03	3
ELCB2009-110F	7~15	100	0.03	3
ELCB2009-260F	26	100	0.05	3
ELCB2009-310F	31	100	0.05	3
ELCB2009-500F	50	100	0.06	3
ELCB2009-600F	60	100	0.06	3
ELCB2009-800F	80	100	0.08	2.5
ELCB2009-121F	120	100	0.10	2
ELCB2009-151F	150	100	0.10	2

Notes:

1. Ordering Information: ELCB1005-121FT.

ELCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2009-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB2009-181F	180	100	0.15	2
ELCB2009-221F	220	100	0.15	2
ELCB2009-301F	300	100	0.20	2
ELCB2009-501F	500	100	0.25	1.5
ELCB2009-601F	600	100	0.25	1.5
ELCB2009-801F	800	100	0.30	0.8
ELCB2009-102F	1000	100	0.30	0.8
ELCB2009-122F	1200	100	0.45	0.5
ELCB2009-202F	2000	100	0.50	0.3

3209-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB3209-050F	0~15	100	0.04	4
ELCB3209-090F	5~13	100	0.05	4
ELCB3209-110F	7~15	100	0.05	4
ELCB3209-190F	12~25	100	0.05	3
ELCB3209-260F	26	100	0.05	3
ELCB3209-310F	31	100	0.07	3
ELCB3209-600F	60	100	0.07	3
ELCB3209-800F	80	100	0.07	3
ELCB3209-101F	100	100	0.07	3
ELCB3209-121F	120	100	0.07	3
ELCB3209-151F	150	100	0.12	2.5
ELCB3209-181F	180	100	0.12	2.5
ELCB3209-221F	220	100	0.12	2.5
ELCB3209-301F	300	100	0.15	2
ELCB3209-391F	390	100	0.17	1.5
ELCB3209-501F	500	100	0.20	1.5
ELCB3209-601F	600	100	0.20	1.5
ELCB3209-801F	800	100	0.25	1.5
ELCB3209-102F	1000	100	0.25	1.5
ELCB3209-122F	1200	100	0.35	1

Notes:

1. Ordering Information: ELCB1005-121FT.

ELCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

3213-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB3213-190F	12~25	100	0.05	5
ELCB3213-260F	26	100	0.05	5
ELCB3213-310F	31	100	0.05	5
ELCB3213-600F	60	100	0.06	4
ELCB3213-800F	80	100	0.08	3
ELCB3213-121F	120	100	0.10	3
ELCB3213-151F	150	100	0.10	3
ELCB3213-181F	180	100	0.15	3
ELCB3213-221F	220	100	0.15	3
ELCB3213-301F	300	100	0.15	3
ELCB3213-501F	500	100	0.15	2
ELCB3213-601F	600	100	0.20	2
ELCB3213-801F	800	100	0.25	2
ELCB3213-102F	1000	100	0.30	2

4516-Series

ELECTRICAL SPECIFICATION @ 25°C				
Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB4516-260F	26	100	0.05	3
ELCB4516-310F	31	100	0.05	3
ELCB4516-800F	80	100	0.08	3
ELCB4516-900F	90	100	0.10	3
ELCB4516-121F	120	100	0.10	3
ELCB4516-151F	150	100	0.10	3
ELCB4516-221F	220	100	0.15	2
ELCB4516-301F	300	100	0.20	2
ELCB4516-501F	500	100	0.25	1
ELCB4516-601F	600	100	0.30	1
ELCB4516-801F	800	100	0.30	1

Notes:

1. Ordering Information: ELCB1005-121FT.

ELCB1005 = Product Type.
121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).
F = Internal Control Code.
T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

4515-Series

ELECTRICAL SPECIFICATION @ 25°C

Part Number [1]	Impedance (Ω)	Test Fre. (MHZ)	DCR ( )Max	Ir(A) Max
ELCB4515-190F	12~25	100	0.05	5
ELCB4515-260F	26	100	0.05	5
ELCB4515-380F	38	100	0.06	5
ELCB4515-700F	70	100	0.06	4
ELCB4515-800F	80	100	0.08	4
ELCB4515-101F	100	100	0.08	4
ELCB4515-121F	120	100	0.08	4
ELCB4515-151F	150	100	0.10	3
ELCB4515-221F	220	100	0.15	2
ELCB4515-301F	300	100	0.15	2
ELCB4515-501F	500	100	0.20	1
ELCB4515-601F	600	100	0.25	1
ELCB4515-801F	800	100	0.30	1
ELCB4515-102F	1000	100	0.35	0.8

Notes:

1. Ordering Information: ELCB1005-121FT.

   ELCB1005 = Product Type.

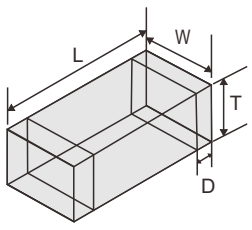
   121 = Impedance value in Ω, and Tolerance of Impedance is ± 25% (i.e. 110 = 11Ω; 121 = 120Ω; 221 =220Ω; 102 =1000Ω).

   F = Internal Control Code.

   T = Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

2. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

MECHANICAL DIMENSIONS

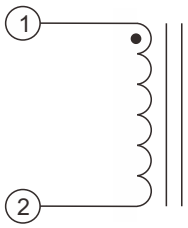


Part Number	L	W	T	D
1005 (0402)	.040±.006 / 1.00±0.15	.020±.006 / 0.50±0.15	.020±.006 / 0.50±0.15	.010±.004 / 0.25±0.10
1608 (0603)	.063±.008 / 1.60±0.20	.031±.008 / 0.80±0.20	.031±.008 / 0.80±0.20	.010±.008 / 0.30±0.20
2009 (0805)	.079±.008 / 2.00±0.20	.047±.008 / 1.20±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
3209 (1206)	.126±.008 / 3.20±0.20	.063±.008 / 1.60±0.20	.035±.008 / 0.90±0.20	.020±.012 / 0.50±0.30
3213 (1210)	.126±.008 / 3.20±0.20	.098±.008 / 2.50±0.20	.051±.008 / 1.30±0.20	.020±.012 / 0.50±0.30
4516 (1806)	.186±.008 / 4.50±0.20	.063±.008 / 1.60±0.20	.063±.008 / 1.60±0.20	.020±.012 / 0.50±0.30
4515 (1812)	.180±.008 / 4.50±0.20	.126±.008 / 3.20±0.20	.060±.008 / 1.50±0.20	.020±.012 / 0.50±0.30

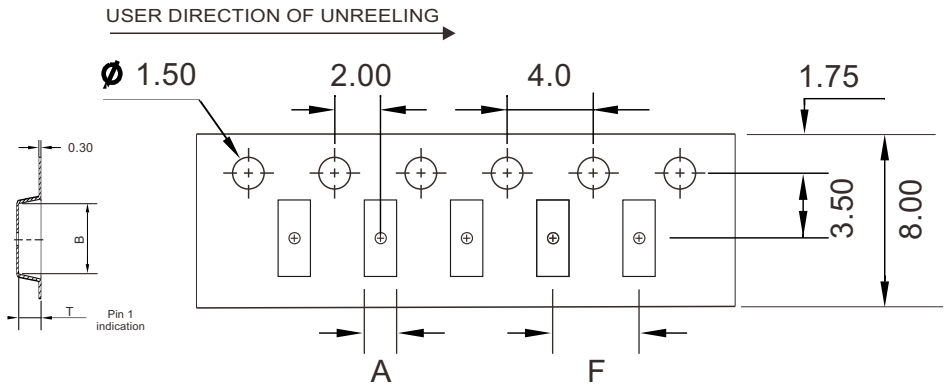
Notes:

3. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
4. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

SCHEMATICS



PACKAGING



TYPE	A (± 0.1)	B (± 0.1)	F (± 0.05)	T (Max)	Per Reel	Per Box	Weight
1005	0.65	1.15	2.00	0.62	10000	100000	0.002
1608	1.10	1.90	4.00	1.10	4000	40000	0.005
2009	1.50	2.30	4.00	1.10	4000	40000	0.01
3209	1.90	3.50	4.00	1.10	4000	40000	0.022
3213	2.80	3.50	4.00	1.60	3000	30000	0.053
4516	1.90	4.80	4.00	1.90	5000	20000	0.059
4515	3.50	4.80	4.00	1.80	3000	12000	0.111

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatian, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com

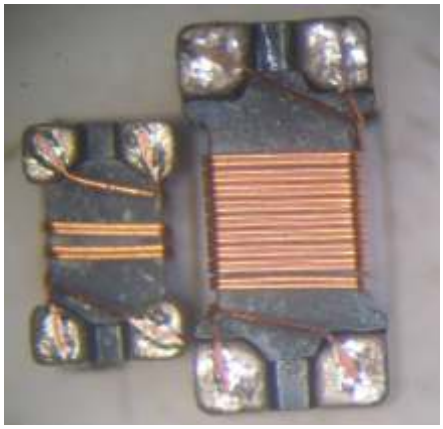
Elec & Eltek依利安達
E & E Magnetic Products Limited

Wire Wound Chip Common Mode Filter

SMT - 4 Terminal

RoHS COMPLIANT

- Minature size, suitable for SMT
- With large coupling coefficient, little impact on high-speed differential signal
- Prevention of common mode noise at high frequency
- 67 ~ 2200 are optional for different noise level and signal frequency
- USB lines of PC, peripheral equipments
- LVDS lines of note PC, LCD
- USB lines of small digital AV equipment, etc



0805-Series

ELECTRICAL SPECIFICATION @ 25°C					
Part Number [1]	Common Mode [2] Impedance (	DCR ( ) Max	Irated (A) Max	VDC (V) Max	IR (M) [3] Min
EWCMI0805S-670F	67±25%	0.25	400	50	10
EWCMI0805S-900F	90±25%	0.35	330	50	10
EWCMI0805S-121F	120±25%	0.30	370	50	10
EWCMI0805S-181F	180±25%	0.35	330	50	10
EWCMI0805S-261F	260±25%	0.40	300	50	10
EWCMI0805S-301F	300±25%	0.42	290	50	10
EWCMI0805S-371F	370±25%	0.45	280	50	10
EWCMI0805S-601F	600±25%	0.60	220	50	10

1206-Series

ELECTRICAL SPECIFICATION @ 25°C					
Part Number [1]	Common Mode [2] Impedance (	DCR ( ) Max	Irated (A) Max	VDC (V) Max	IR (M) [3] Min
EWCMI1206S-900F	90±25%	0.30	370	50	10
EWCMI1206S-161F	160±25%	0.40	340	50	10
EWCMI1206S-261F	260±25%	0.50	310	50	10
EWCMI1206S-601F	600±25%	0.80	260	50	10
EWCMI1206S-801F	800±25%	0.90	240	50	10
EWCMI1206S-102F	1000±25%	1.00	230	50	10
EWCMI1206S-222F	2200±25%	1.20	200	50	10

Notes:

1. Ordering Information: EWCMI1206S-601FT.

EWCMI1206	=	Product Type.	S	=	Magnetically Shielded Code .
601	=	Impedance value in	(i.e. 601 = 600	; 102 = 1000	; 900 =90).
F	=	Internal Control Code.	T	=	Packaging Code (T = Tape & Reel Packaging in 13 inch Reel).

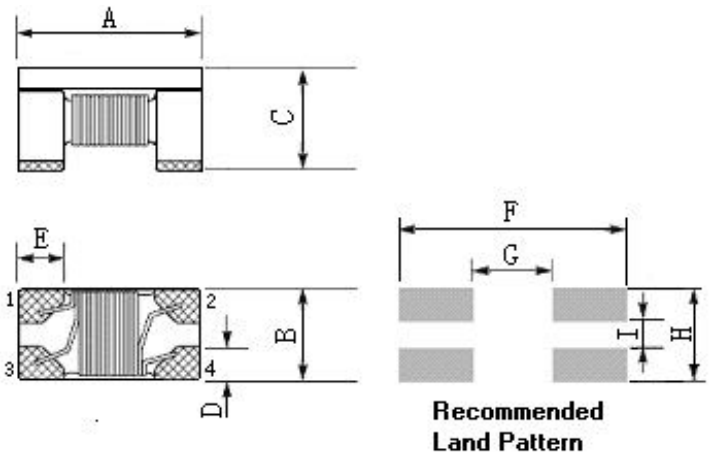
2. Common Mode Impedance is measured at 100MHz.
3. IR is measured at 50Voltage, 60S.
4. The part temperature (ambient temperature + temperature rise) should not exceed the upper limit of the operating temperature under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

FLAT G, 5/F, Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fotan, Shatin, N.T. Hong Kong
• Tel: (852) 2954 3027 • Fax: (852) 2954 3304

Wire Wound Chip Common Mode Filter

SMT - 4 Terminal

MECHANICAL DIMENSIONS



Part Number	A	B	C	D	E	F	G	H	I
ECMC0805S	.079±.008 2.00±0.20	.047±.008 1.20±0.20	.047±.008 1.20±0.20	.018 0.45	.018 0.45	.102 2.60	.031 0.80	.047 1.20	.016 0.40
ECMC1206S	.126±.008 3.20±0.20	.063±.008 1.60±0.20	.071±.008 1.80±0.20	.024 0.60	.028 0.70	.146 3.70	.063 1.60	.063 1.60	.016 0.40

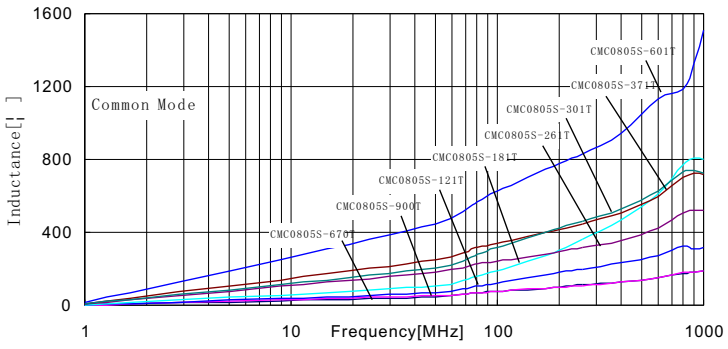
Notes:

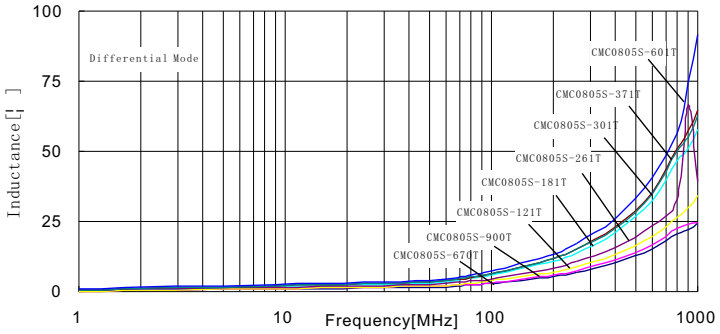
5. All dimensions are specified in $\frac{\text{inches}}{\text{mm}}$ with higher precedence in inches.
6. Unless otherwise specified, all tolerances are $\pm\frac{.010}{0.25}$.

Dimension	0805	1206
Weight	0.01295g	0.0337g
Per Reel	3000	2000
Per Box	15000	10000

TYPICAL IMPEDANCE CURVES

CMC0805S TYPE



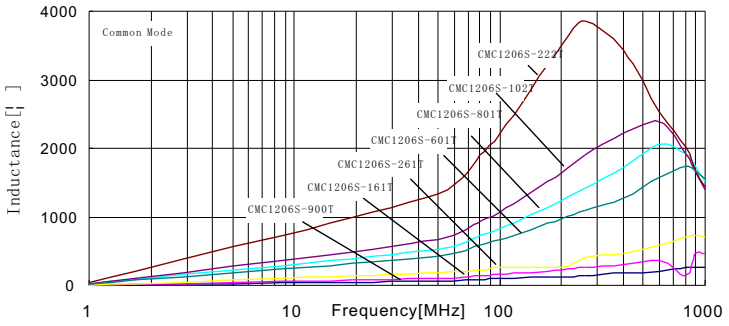


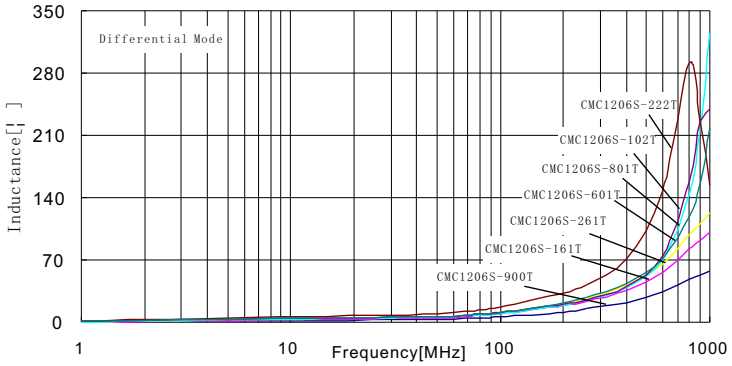
Wire Wound Chip Common Mode Filter

SMT - 4 Terminal

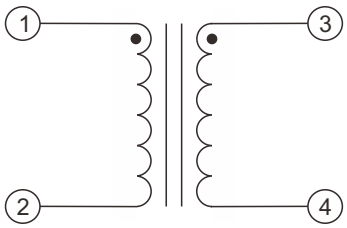
TYPICAL IMPEDANCE CURVES

CMC1206S TYPE

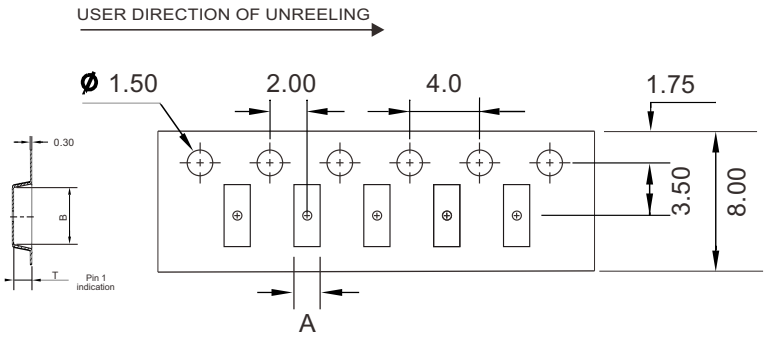




SCHEMATICS



PACKAGING



TYPE	A	B	T
0805	1.50	2.25	1.40
1206	1.90	3.55	2.10

FOR MORE INFORMATION, PLEASE CONTACT

HEADQUARTER
FLAT G, 5/F, Valiant Industrial Centre,
2-12 Au Pui Wan Street, Fotan, Shatin, N.T.
Hong Kong
Tel: (852) 2954 3027 Fax: (852) 2954 3304
Email: eempl@eleceltek.com
Website: http://www.eleceltek.com / www.eemagnetic.com