TDK Inductors — MLK, MLF, GLC, GLF, MLG and MLZ Series

MLK Series: Supports operating frequency bands of up to 12GHz with nominal inductance values from 1 ~ 100nH. Provides high Q characteristics. Advanced monolithic structure is formed using a lamination and firing process with high-frequency ceramic and conductive materials. Because the part is non-polarized, it can be used in bulk cassette loaders. **Operating Temperature:** -25°C ~ 85°C **MLF Series - Magnetic Shielded Inductor:** TDK's MLF multi-layer chip inductor combines high performance with the most compact design available today. MLF inductor's multi-layer technology utilizes ferrite paste and electric conductor paste layered in a monolithic structure. Sintering of ferrite and electric conductors forms a perfect closed magnetic circuit and a magnetic shield. Magnetic shielding is ideally suited for high density circuit application in disk drives, personal computers, measuring equipment, and telephone equipment. **Operating Temperature:** -25°C ~ 85°C **GLF Series: Features:** • Delivers low Rdc with high Idc • Construction supports bulk mounting **Applications:** Perfect coil for step-up circuits, step-down circuits and decoupling circuits for each set power supply circuit • Portable audio visual devices • Mobile communication devices • Information devices *(GLF1608)* • Amusement devices *(GLF1608)* **Operating Temperature:** -40°C ~ 105°C **GLCR and GLFR Series: Features:** • Delivers low Rdc with high Idc • Able to withstand high temperature reflows (260°C during peak) used in lead free soldering **Applications:** • Portable audio visual devices • Mobile communication devices • Information devices **Operating Temperature:** -40°C ~ 105°C **MLG Series:** Supports operating frequency bands of up to 10GHz with nominal inductance values from 0.6 ~ 390nH. Provides high Q characteristics. Advanced monolithic structure is formed using a lamination and firing process with high-frequency ceramic and conductive materials. **Operating Temperature:** *(MLG1005S, MLG0603S and MLG0603Q)* -55°C ~ 125°C; *(MLG1608)* -25°C ~ 85°C **MLZ Series:** This is a multi-layered inductor primarily designed for choking power lines. With one of the best resistance performance in the industry, this product delivers a significantly lower DC resistance value compared to our previous products. This reduces the loss at the power supply and contributes to power conservation. **Applications**: Choke coil to use for DVC, DSC, MD, power supply circuit such as various module. **Operating Temperature:** -55°C ~ 125°C

Dimensions in mm

Fig. 1

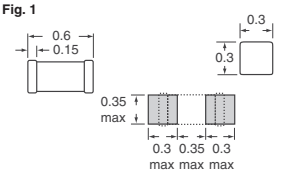

Fig. 2

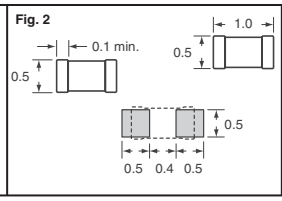

Fig. 3

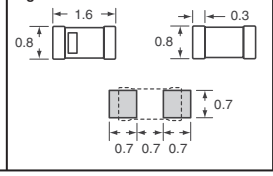

Fig. 4

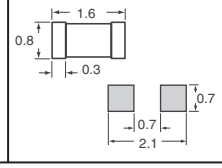

Fig. 5

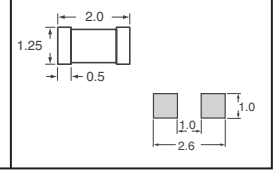

Fig. 1 — MLK0603 (0201)

Inductance (nH)	Inductance Tolerance	Test Freq. (MHz)	DC Res. Max. (Ω)	Rated Current Max. (mA)	SRF Min. (GHz)	Digi-Key Part No.	Cut Tape Pricing 1	10	100	Tape and Reel† Pricing 15,000	TDK Part No.
1.0	±0.3nH	100	0.20	300	12.0	445-1570-1-ND	.13	1.07	8.54	37.03/M	MLK0603L1N0S
1.2	±0.3nH	100	0.22	300	11.0	445-1571-1-ND	.13	1.07	8.54	37.03/M	MLK0603L1N2S
1.5	±0.3nH	100	0.24	300	10.0	445-1572-1-ND	.13	1.07	8.54	37.03/M	MLK0603L1N5S
1.8	±0.3nH	100	0.27	300	10.0	445-1573-1-ND	.13	1.07	8.54	37.03/M	MLK0603L1N8S
2.2	±0.3nH	100	0.30	300	9.0	445-1574-1-ND	.13	1.07	8.54	37.03/M	MLK0603L2N2S
2.7	±0.3nH	100	0.35	300	8.5	445-1575-1-ND	.13	1.07	8.54	37.03/M	MLK0603L2N7S
3.3	±0.3nH	100	0.40	200	8.0	445-1576-1-ND	.13	1.07	8.54	37.03/M	MLK0603L3N3S
3.9	±0.3nH	100	0.45	200	8.0	445-1577-1-ND	.13	1.07	8.54	37.03/M	MLK0603L3N9S
4.7	±0.3nH	100	0.50	200	7.5	445-1578-1-ND	.13	1.07	8.54	37.03/M	MLK0603L4N7S
5.6	±0.3nH	100	0.60	200	6.5	445-1579-1-ND	.13	1.07	8.54	37.03/M	MLK0603L5N6S
6.8	±5%	100	0.65	200	6.0	445-1580-1-ND	.13	1.07	8.54	37.03/M	MLK0603L6N8J
8.2	±5%	100	0.70	200	6.0	445-1581-1-ND	.13	1.07	8.54	37.03/M	MLK0603L8N2J
10	±5%	100	0.80	200	5.5	445-1582-1-ND	.13	1.07	8.54	37.03/M	MLK0603L10NJ
12	±5%	100	1.00	150	5.0	445-1583-1-ND	.13	1.07	8.54	37.03/M	MLK0603L12NJ
15	±5%	100	1.10	150	4.5	445-1584-1-ND	.13	1.07	8.54	37.03/M	MLK0603L15NJ
18	±5%	100	1.30	100	4.0	445-1585-1-ND	.13	1.07	8.54	37.03/M	MLK0603L18NJ
22	±5%	100	1.60	100	3.5	445-1586-1-ND	.13	1.07	8.54	37.03/M	MLK0603L22NJ

Fig. 2 — MLK1005 (0402)

Inductance (nH)	Inductance Tolerance	Test Freq. (MHz)	DC Res. Max. (Ω)	Rated Current Max. (mA)	SRF Min. (GHz)	Digi-Key Part No.	Cut Tape Pricing 1	10	100	Tape and Reel† Pricing 10,000	TDK Part No.
1.2	±0.3nH	100	0.12	500	11	445-1456-1-ND	.11	.89	7.06	30.88/M	MLK1005S1N2S
1.5	±0.3nH	100	0.15	500	9.5	445-1457-1-ND	.11	.89	7.06	30.88/M	MLK1005S1N5S
1.8	±0.3nH	100	0.17	500	8.5	445-1458-1-ND	.11	.89	7.06	30.88/M	MLK1005S1N8S
2.2	±0.3nH	100	0.18	500	8	445-1459-1-ND	.11	.89	7.06	30.88/M	MLK1005S2N2S
2.7	±0.3nH	100	0.20	500	7.5	445-1460-1-ND	.11	.89	7.06	30.88/M	MLK1005S2N7S
3.3	±0.3nH	100	0.22	500	7	445-1461-1-ND	.11	.89	7.06	30.88/M	MLK1005S3N3S
3.9	±0.3nH	100	0.25	400	6.5	445-1462-1-ND	.11	.89	7.06	30.88/M	MLK1005S3N9S
4.7	±0.3nH	100	0.28	400	6	445-1463-1-ND	.11	.89	7.06	30.88/M	MLK1005S4N7S
5.6	±0.5nH	100	0.30	400	5.7	445-1464-1-ND	.11	.89	7.06	30.88/M	MLK1005S5N6D
6.8	±0.5nH	100	0.35	400	5.5	445-1465-1-ND	.11	.89	7.06	30.88/M	MLK1005S6N8D
8.2	±0.5nH	100	0.38	350	5	445-1466-1-ND	.11	.89	7.06	30.88/M	MLK1005S8N2D
10	±5%	100	0.42	350	4.7	445-1467-1-ND	.11	.89	7.06	30.88/M	MLK1005S10NJ
12	±5%	100	0.47	350	4.3	445-1468-1-ND	.11	.89	7.06	30.88/M	MLK1005S12NJ
15	±5%	100	0.50	300	4	445-1469-1-ND	.11	.89	7.06	30.88/M	MLK1005S15NJ
18	±5%	100	0.60	250	3.7	445-1470-1-ND	.11	.89	7.06	30.88/M	MLK1005S18NJ
22	±5%	100	0.70	200	3.5	445-1471-1-ND	.11	.89	7.06	30.88/M	MLK1005S22NJ
27	±5%	100	0.80	200	3	445-1472-1-ND	.11	.89	7.06	30.88/M	MLK1005S27NJ
33	±5%	100	0.90	200	2.5	445-1473-1-ND	.11	.89	7.06	30.88/M	MLK1005S33NJ
47	±5%	100	1.20	200	1.8	445-1475-1-ND	.11	.89	7.06	30.88/M	MLK1005S47NJ
56	±5%	100	1.30	200	1.5	445-1476-1-ND	.11	.89	7.06	30.88/M	MLK1005S56NJ
68	±5%	100	1.50	150	1.4	445-1477-1-ND	.11	.89	7.06	30.88/M	MLK1005S68NJ
82	±5%	100	1.80	150	1.3	445-1478-1-ND	.11	.89	7.06	30.88/M	MLK1005S82NJ
100	±5%	100	2.20	100	1.1	445-1479-1-ND	.11	.89	7.06	30.88/M	MLK1005SR10J

Fig. 2 — MLF1005 (0402)

Inductance (µH)	Inductance Tolerance	Test Freq. (MHz)	DC Res. Max. (Ω)	Rated Current Max. (mA)	SRF Min. (MHz)	Digi-Key Part No.	Cut Tape Pricing 1	10	100	Tape and Reel† Pricing 10,000	TDK Part No.
0.1	±10%	25	0.60	25	0.45	445-3502-1-ND	.44	3.63	29.04	127.05/M	MLF1005DR10KT
0.12	±10%	25	0.70	25	0.40	445-3503-1-ND	.44	3.63	29.04	127.05/M	MLF1005DR12KT
0.15	±10%	25	0.80	25	0.35	445-3504-1-ND	.44	3.63	29.04	127.05/M	MLF1005DR15KT
0.18	±10%	25	0.90	25	0.32	445-3505-1-ND	.44	3.63	29.04	127.05/M	MLF1005DR18KT
0.22	±10%	25	1.10	25	0.29	445-3506-1-ND	.44	3.63	29.04	127.05/M	MLF1005DR22KT
0.27	±10%	25	1.30	25	0.26	445-3507-1-ND	.44	3.63	29.04	127.05/M	MLF1005DR27KT
0.33	±10%	25	1.50	25	0.23	445-3508-1-ND	.44	3.63	29.04	127.05/M	MLF1005DR33KT
0.39	±10%	10	0.60	10	0.21	445-3509-1-ND	.44	3.63	29.04	127.05/M	MLF1005AR39KT
0.47	±10%	10	0.65	10	0.19	445-3510-1-ND	.44	3.63	29.04	127.05/M	MLF1005AR47KT
0.56	±10%	10	0.70	10	0.17	445-3511-1-ND	.44	3.63	29.04	127.05/M	MLF1005AR56KT
0.68	±10%	10	0.80	10	0.15	445-3512-1-ND	.44	3.63	29.04	127.05/M	MLF1005AR68KT
0.82	±10%	10	0.90	10	0.13	445-3513-1-ND	.44	3.63	29.04	127.05/M	MLF1005AR82KT
1.0	±10%	10	1.00	10	0.12	445-3514-1-ND	.44	3.63	29.04	127.05/M	MLF1005A1R0KT
1.2	±10%	10	1.10	10	0.11	445-3515-1-ND	.44	3.63	29.04	127.05/M	MLF1005A1R2KT
1.5	±10%	10	1.30	10	0.10	445-3516-1-ND	.44	3.63	29.04	127.05/M	MLF1005A1R5KT
1.8	±10%	10	1.55	10	0.09	445-3517-1-ND	.44	3.63	29.04	127.05/M	MLF1005A1R8KT
2.2	±10%	10	1.80	10	0.08	445-3518-1-ND	.44	3.63	29.04	127.05/M	MLF1005A2R2KT

Fig. 4 — MLF1608 (0603)

Inductance (µH)	Inductance Tolerance	Test Freq. (MHz)	DC Res. Max. (Ω)	Rated Current Max. (mA)	SRF Min. (MHz)	Digi-Key Part No.	Cut Tape Pricing 1	10	100	Tape and Reel† Pricing 4,000	TDK Part No.
0.047	±20%	50	0.20	200	600	445-1000-1-ND	.30	2.47	19.75	86.40/M	MLF1608D47NM
0.068	±20%	50	0.30	200	550	445-1001-1-ND	.30	2.47	19.75	86.40/M	MLF1608D68NM
0.082	±20%	50	0.30	200	500	445-1002-1-ND	.30	2.47	19.75	86.40/M	MLF1608D82NM
0.1	±10%	25	0.35	200	450	445-1003-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR10K
0.12	±10%	25	0.40	200	400	445-1004-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR12K
0.15	±10%	25	0.45	200	350	445-1005-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR15K
0.18	±10%	25	0.50	150	320	445-1006-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR18K
0.22	±10%	25	0.55	150	290	445-1007-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR22K
0.27	±10%	25	0.60	150	260	445-1008-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR27K
0.33	±10%	25	0.75	100	230	445-1009-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR33K
0.39	±10%	25	0.85	100	210	445-1010-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR39K
0.47	±10%	25	0.95	100	190	445-1011-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR47K
0.56	±10%	25	1.05	100	170	445-1012-1-ND	.30	2.47	19.75	86.40/M	MLF1608DR56K
0.68	±10%	25	1.25	70	150	445-1013-1-ND	.30	2.50	20.01	87.54/M	MLF1608DR68K
1.2	±10%	10	0.65	50	110	445-1014-1-ND	.30	2.47	19.75	86.40/M	MLF1608A1R2K
1.5	±10%	10	0.70	50	100	445-1015-1-ND	.30	2.47	19.75	86.40/M	MLF1608A1R5K
1.8	±10%	10	0.85	50	90	445-1016-1-ND	.30	2.47	19.75	86.40/M	MLF1608A1R8K
2.2	±10%	10	1.00	30	80	445-1017-1-ND	.30	2.47	19.75	86.40/M	MLF1608A2R2K
2.7	±10%	10	1.15	30	70	445-1018-1-ND	.30	2.47	19.75	86.40/M	MLF1608A2R7K
3.3	±10%	10	1.30	30	65	445-1019-1-ND	.30	2.47	19.75	86.40/M	MLF1608A3R3K
4.7	±10%	10	1.60	30	55	445-1021-1-ND	.30	2.47	19.75	86.40/M	MLF1608A4R7K
5.6	±10%	4	1.10	15	45	445-1022-1-ND	.30	2.47	19.75	86.40/M	MLF1608E5R6K
6.8	±10%	4	1.30	15	40	445-1023-1-ND	.30	2.47	19.75	86.40/M	MLF1608E6R8K
8.2	±10%	4	1.50	10	35	445-1024-1-ND	.30	2.47	19.75	86.40/M	MLF1608E8R2K
10	±10%	2	1.70	10	30	445-1025-1-ND	.30	2.47	19.75	86.40/M	MLF1608E100K
15	±10%	1	1.50	2	22	445-1027-1-ND	.30	2.47	19.75	86.40/M	MLF1608C150K
18	±10%	1	1.60	2	20	445-1028-1-ND	.30	2.47	19.75	86.40/M	MLF1608C180K
22	±10%	1	1.70	2	18	445-1029-1-ND	.30	2.47	19.75	86.40/M	MLF1608C220K
27	±10%	1	1.80	2	15	445-1030-1-ND	.30	2.47	19.75	86.40/M	MLF1608C270K
33	±10%	1	2.20	2	10	445-1031-1-ND	.30	2.47	19.75	86.40/M	MLF1608C330K

Fig. 5 — MLF2012 (0805)

Inductance (µH)	Inductance Tolerance	Test Freq. (MHz)	DC Res. Max. (Ω)	Rated Current Max. (mA)	SRF Min. (MHz)	Digi-Key Part No.	Cut Tape Pricing 1	10	100	Tape and Reel† Pricing 2,000	TDK Part No.
0.047	±20%	50	0.10	300	550	445-1032-1-ND	.30	2.47	19.75	86.40/M	MLF2012D47NM
0.082	±20%	50	0.15	300	450	445-1034-1-ND	.30	2.47	19.75	86.40/M	MLF2012D82NM
0.1	±10%	25	0.15	300	400	445-1035-1-ND	.30	2.47	19.75	86.40/M	MLF2012D10K
0.12	±10%	25	0.20	300	360	445-1036-1-ND	.30	2.47	19.75	86.40/M	MLF2012D12K
0.15	±10%	25	0.20	300	320	445-1037-1-ND	.30	2.47	19.75	86.40/M	MLF2012D15K
0.22	±10%	25	0.30	250	250	445-1039-1-ND	.30	2.47	19.75	86.40/M	MLF2012D22K
0.27	±10%	25	0.35	250	220	445-1040-1-ND	.30	2.47	19.75	86.40/M	MLF2012D27K
0.33	±10%	25	0.40	250	200	445-1041-1-ND	.30	2.47	19.75	86.40/M	MLF2012D33K
0.47	±10%	25	0.50	200	160	445-1043-1-ND	.28	2.38	19.05	83.35/M	MLF2012D47K
0.56	±10%	25	0.55	150	150	445-1044-1-ND	.30	2.47	19.75	86.40/M	MLF2012D56K
0.68	±10%	25	0.60	150	140	445-1045-1-ND	.28	2.38	19.05	83.35/M	MLF2012D68K
0.82	±10%	25	0.65	150	130	445-1046-1-ND	.30	2.47	19.75	86.40/M	MLF2012D82K
1	±10%	10	0.30	80	120	445-1047-1-ND	.28	2.38	19.05	83.35/M	MLF2012A1R0K
1.2	±10%	10	0.35	80	110	445-1048-1-ND	.30	2.47	19.75	86.40/M	MLF2012A1R2K
1.8	±10%	10	0.45	80	90	445-1050-1-ND	.30	2.47	19.75	86.40/M	MLF2012A1R8K
2.2	±10%	10	0.50	50	80	445-1051-1-ND	.30	2.47	19.75	86.40/M	MLF2012A2R2K
2.7	±10%	10	0.55	50	70	445-1052-1-ND	.30	2.47	19.75	86.40/M	MLF2012A2R7K
3.3	±10%	10	0.60	50	60	445-1053-1-ND	.30	2.47	19.75	86.40/M	MLF2012A3R3K
4.7	±10%	10	0.70	30	50	445-1055-1-ND	.28	2.38	19.05	83.35/M	MLF2012A4R7K
5.6	±10%	4	0.60	15	45	445-1056-1-ND	.30	2.47	19.75	86.40/M	MLF2012E5R6K
6.8	±10%	4	0.65	15	40	445-1057-1-ND	.30	2.47	19.75	86.40/M	MLF2012E6R8K
10	±10%	2	0.80	15	30	445-1059-1-ND	.28	2.38	19.05	83.35/M	MLF2012E100K
12	±10%	2	0.90	15	25	445-1060-1-ND	.30	2.47	19.75	86.40/M	MLF2012E120K
15	±10%	1	0.70	5	22	445-1061-1-ND	.30	2.47	19.75	86.40/M	MLF2012C150K
18	±10%	1	0.80	5	20	445-1062-1-ND	.30	2.47	19.75	86.40/M	MLF2012C180K

† For Tape and Reel part number, change 1-ND to 2-ND.

(Continued)