

ATC MOL Series Multilayer Chip Inductors

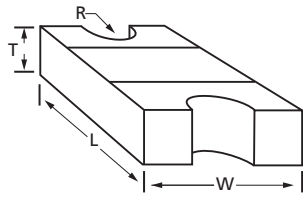
Features:

- EIA 0402
- 0.8 nH to 32 nH
- Multilayer Organic Construction
- Tight Tolerances to ± 0.05 nH
- High Q
- High Current to 0.875 mA
- High Self Resonant Frequency
- Available in Tape and Reel
- RoHS Compliant Terminations

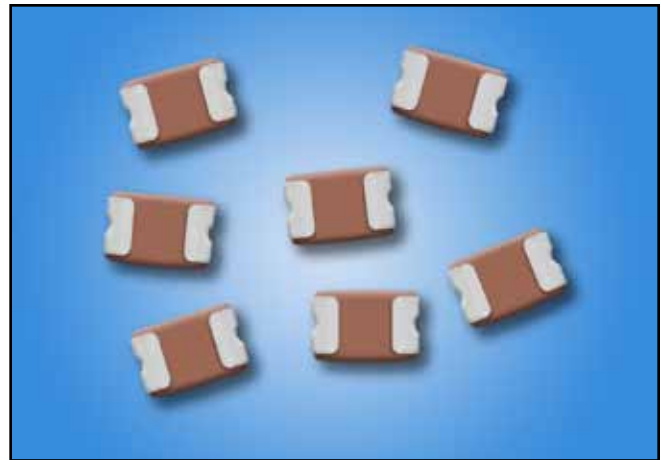
ATC, the industry leader, offers the MOL Multilayer Chip Inductor Series. The MOL Series is manufactured with the highest grade multilayer organic-based materials and is constructed in a low profile 0402 SMT package. This Series was designed to provide a low cost, high performance RF surface mount inductor solution. The MOL Series is ideal for critical RF and microwave applications that require stable and repeatable performance. It maintains high stable Q over a wide range of frequencies. The MOL Series provides tolerances as tight as ± 0.05 nH for precise tuning. It is ideal for high current, high power applications. These inductors also exhibit a thermal coefficient of expansion that closely matches the most commonly used soft boards.

The MOL Series is manufactured in a tightly controlled process that utilizes innovative multilayer organic manufacturing technology to ensure the highest achievable quality. These devices are ideal for RF and microwave applications where cost and performance are major factors. Typical applications include Wireless LANs, Avionics Modules, Satellite Communications, GPS, and Collision Avoidance Systems.

Dimensions



L	W	T	R
0.040 \pm 0.004 (1.00 \pm 0.10)	0.023 \pm 0.003 (0.58 \pm 0.075)	0.014 \pm 0.004 (0.35 \pm 0.10)	0.005 \pm 0.002 (0.125 \pm 0.050)
inches (mm)			



Advantages:

- Low Profile
- Excellent Solderability
- Excellent Repeatability
- High Reliability

Applications:

- Wireless Communications
- Wireless LANs
- Avionics Modules
- Satellite Communications
- GPS
- Collision Avoidance

Operating Temperature

-55°C to +125°C

Quality Inspection

Finished parts are 100% tested for electrical parameters and visual characteristics.

- **Moisture Sensitivity Level MSL-1:** J-STD-020C
- **High Temperature:**
Operating Life (HTOL) JESD22-A108-C.
Storage JESD22-A103 – 150°C 1000 hours Condition B.
- **Low Temperature:**
Storage JESD22-A119 – 40°C 1000 hours.
- **Temperature Cycle:** JESD22-A104-C
-40°C to 125°C; 1000 cycles; Dwell= 15 minutes
Test Condition G.
10°C/minute minimum ramp rate; Soak Mode 4.
- **Physical Dimensions:** JESD22-B100
Horizontal and vertical package measurements only.
- **Solderability:** JESD22-B102-D
Precondition: 150°C for 16 hours.



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ATC # 001-1140
Rev. A; 8/14

ATC MOL SERIES MULTILAYER CHIP INDUCTORS

Electrical Specifications

450 MHz Test Frequency			900 MHz Test Frequency		1900 MHz Test Frequency		2400 MHz Test Frequency		SRF (GHz) min.	RDC (mΩ) max.	IDC (mA) max.
Inductance (nH)	Tolerance Code	Q (MHz)	Inductance (nH)	Q (MHz)	Inductance (nH)	Q (MHz)	Inductance (nH)	Q (MHz)			
0.8	B, C, D	30	0.8	42	0.8	55	0.8	61	>20	100	875
0.9	B, C, D	26	0.9	36	0.9	47	0.9	52	>20	100	835
1	B, C, D	25	1.0	34	1.0	45	1.0	50	>20	100	800
1.1	B, C, D	24	1.1	33	1.1	43	1.1	48	20	100	782
1.2	B, C, D	24	1.2	33	1.2	44	1.2	48	20	110	751
1.3	B, C, D	25	1.3	34	1.3	44	1.3	49	19	130	725
1.5	B, C, D	25	1.5	35	1.5	45	1.5	50	19	150	679
1.6	B, C, D	25	1.6	35	1.6	45	1.6	49	18	150	660
1.8	B, C, D	25	1.8	35	1.8	45	1.8	49	18	160	626
2	B, C, D	26	2.0	35	2.0	45	2.1	49	17	180	596
2.2	B, C, D	27	2.2	36	2.2	46	2.2	50	16	200	571
2.4	B, C, D	27	2.4	37	2.4	47	2.4	50	15	200	549
2.7	B, C, D	27	2.7	36	2.7	46	2.7	48	14	250	521
3	B, C, D	27	3.0	36	3.0	44	3.1	46	12	300	497
3.3	B, C, D	27	3.3	36	3.3	44	3.4	46	11	340	476
3.6	B, C, D	27	3.6	37	3.7	45	3.8	46	10	350	457
3.9	B, C, D	28	3.9	38	4.0	46	4.1	47	10	400	441
4.7	B, C, D	29	4.7	39	4.9	45	5.1	44	9	480	405
5.6	B, C, D	30	5.7	40	6.0	44	6.3	42	8	500	375
6.8	G, H, J	30	6.9	39	7.5	41	8.0	37	7	600	343
8.2	G, H, J	29	8.4	37	9.4	37	10.4	31	6	800	315
10	G, H, J	30	10.3	38	12.0	35	13.9	27	5	1000	290
12	G, H, J	32	12.5	40	15.7	31	19.8	19	4	1100	265
15	G, H, J	32	15.9	38	22.3	24	33.0	9	4	1200	240
18	G, H, J	28	19.4	32	31.1	15	60.0	0.3	3	1500	210
22	G, H, J	30	24.0	34	44.7	11	N/A	N/A	3	1900	202
27	G, H, J	29	30.5	30	N/A	N/A	N/A	N/A	3	2100	184
30	G, H, J	28	34.0	27	N/A	N/A	N/A	N/A	2	2200	180
32	G, H, J	28	37.7	27	N/A	N/A	N/A	N/A	2	2200	175

ATC Part Number Code

ATC MOL L 2R2 D T T

Series _____

Case Size: 0402 _____


Inductance value in nH. _____
1st and 2nd digits are significant digits. 3rd digit is multiplier. R is decimal point.

Tolerance: See table below.

Tolerance Code Table						
Code	B	C	D	G	H	J
Tol.	±0.1 nH	±0.2 nH	±0.5 nH	±2%	±3%	±5%

Packaging: T - Tape & Reel
5,000 piece; 7 inch reel

Termination Code:
T = Tin over Nickel Barrier



The above part number refers to a MOL Series (case size L) 2.2 nF inductor,
D tolerance (±0.5 nH), with T termination(Tin over nickel barrier), tape and reel packaging.

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ATC # 001-1140 Rev. A; 8/14



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