

RL-8700

SHIELDED SMD POWER INDUCTORS

DESCRIPTION

- Shielded Power Inductors

ENVIRONMENTAL DATA

- Storage temperature range: -55°C to +130°C
- Operating temperature range: -40°C to +130°C

PACKAGING INFORMATION

- Packaging information: pg. 506

FEATURES & APPLICATIONS

- Low profile and compact SMD power inductor
- Shielded construction
- Ideal for DC-DC converters used in laptop computers and other electronic equipment requiring compact and low loss inductors

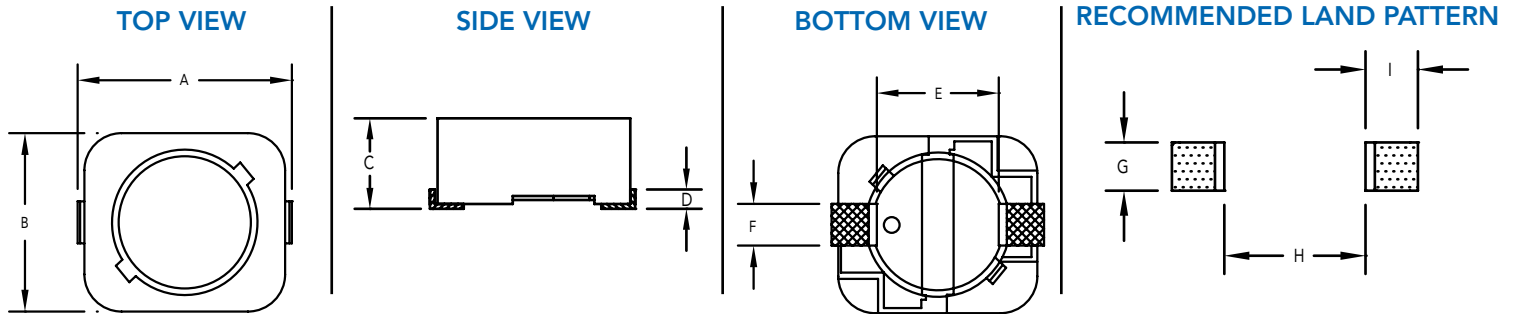
Verify operation with sample in actual circuit. Order samples at www.rencousa.com.

MECHANICAL DIMENSIONS

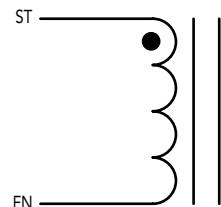
U.S. Standard (mm)

PART NUMBER	A (MAX.)	B (MAX.)	C (MAX.)	D	E	F
RL-8700-1	0.27 (6.90)	0.24 (6.20)	0.12 (3.00)	0.023 (0.60)	0.18 (4.60)	0.06 (1.50)
RL-8700-2	0.27 (6.90)	0.24 (6.20)	0.20 (5.00)	0.023 (0.60)	0.18 (4.60)	0.06 (1.50)

PART NUMBER	PART WEIGHT	G (REF.)	H (REF.)	I (REF.)
RL-8700-1	0.8g (0.03oz)	0.075 (1.90)	0.18 (4.60)	0.077 (1.40)
RL-8700-2	0.9g (0.03oz)	0.075 (1.90)	0.18 (4.60)	0.077 (1.40)



SCHEMATIC



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RL-8700

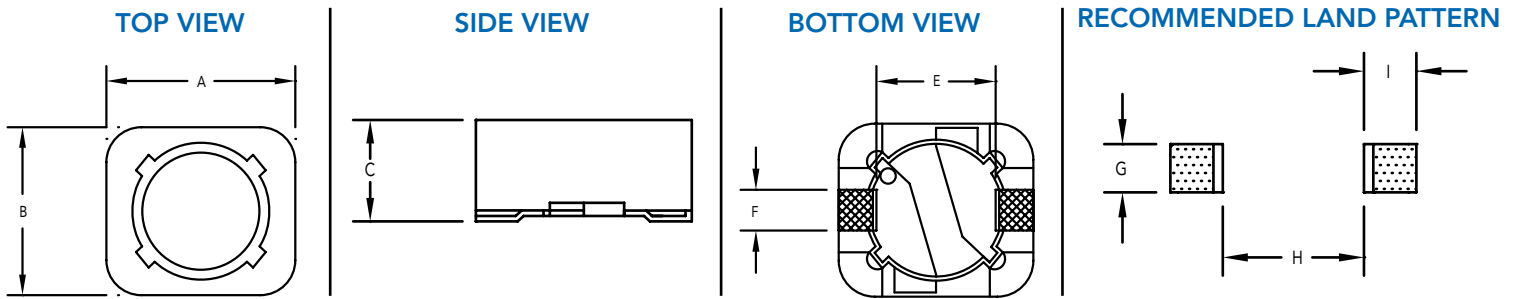
MECHANICAL DIMENSIONS

U.S. Standard (mm)

PART NUMBER	A (MAX.)	B (MAX.)	C (MAX.)	D	E (MAX.)	F (MAX.)
RL-8700-3	0.295 (7.500)	0.295 (7.500)	0.13 (3.40)	N/A	0.19 (5.00)	0.07 (1.80)
RL-8700-4	0.295 (7.500)	0.295 (7.500)	0.17 (4.50)	N/A	0.19 (5.00)	0.07 (1.80)

PART NUMBER	PART WEIGHT
RL-8700-3	1.0g (0.03oz)
RL-8700-4	1.1g (0.04oz)

G (REF.)	H (REF.)	I (REF.)
0.086 (2.20)	0.19 (4.80)	0.062 (1.60)
0.086 (2.20)	0.19 (4.80)	0.062 (1.60)



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RL-8700-1

Renco Part No. RL-8700-1	Inductance (μ H)	DCR Max. (Ohms)	I _{rms} (A) $\Delta T = 20^{\circ}C$	I _{rms} (A) $\Delta T = 40^{\circ}C$	I _{sat} 10% (A)	I _{sat} 20% (A)	SRF (MHz) Typ.
RL-8700-1-2R9N	2.9	0.062	1.95	2.80	1.80	2.20	53.00
RL-8700-1-4R0N	4.0	0.075	1.90	2.70	1.80	2.20	36.90
RL-8700-1-5R5N	5.5	0.088	1.80	2.30	1.80	2.20	28.00
RL-8700-1-100M	10.0	0.138	1.35	1.80	1.40	1.60	28.00
RL-8700-1-120M	12.0	0.150	1.32	1.70	1.30	1.50	24.60
RL-8700-1-150M	15.0	0.200	1.20	1.55	1.25	1.40	24.00
RL-8700-1-180M	18.0	0.238	1.18	1.40	1.20	1.35	18.90
RL-8700-1-220M	22.0	0.300	0.95	1.35	1.00	1.15	17.50
RL-8700-1-270M	27.0	0.363	0.90	1.32	0.95	1.10	10.00
RL-8700-1-330M	33.0	0.413	0.70	1.05	0.80	0.90	10.00
RL-8700-1-470M	47.0	0.650	0.65	0.95	0.65	0.75	10.00
RL-8700-1-560M	56.0	0.725	0.60	0.85	0.60	0.65	10.00
RL-8700-1-680M	68.0	1.050	0.55	0.75	0.58	0.62	9.60
RL-8700-1-820M	82.0	1.180	0.50	0.65	0.54	0.60	8.90
RL-8700-1-101M	100.0	1.330	0.45	0.60	0.50	0.55	7.80
RL-8700-1-121M	120.0	1.710	0.37	0.55	0.45	0.50	7.00
RL-8700-1-151M	150.0	2.040	0.35	0.53	0.40	0.45	6.30
RL-8700-1-181M	180.0	3.160	0.33	0.50	0.32	0.35	5.30
RL-8700-1-221M	220.0	3.190	0.32	0.45	0.31	0.34	5.30
RL-8700-1-271M	270.0	3.980	0.28	0.37	0.30	0.32	4.50
RL-8700-1-331M	330.0	4.590	0.25	0.35	0.27	0.30	4.20

N = +40% -20%

M = \pm 20%

NOTES:

1. I_{sat} - DC CURRENT THAT WILL CAUSE INDUCTANCE TO DROP BY PERCENTAGE SHOWN ABOVE
2. I_{rms} - CURRENT THAT CAUSES THE TEMPERATURE TO RISE BY TEMPERATURE SHOWN ABOVE
3. ELECTRICAL SPECIFICATIONS MEASURED AT 25°C
4. RESISTANCE TO SOLDER HEAT: 260°C 10 SECONDS
5. COMPLETE WINDING TO CORE ISOLATION
6. INDUCTANCE TESTED AT 10 kHz, 0.25V_{rms}



RL-8700-2

Renco Part No. RL-8700-2	Inductance (μ H)	DCR Max. (Ohms)	I _{rms} (A) $\Delta T = 20^{\circ}C$	I _{rms} (A) $\Delta T = 40^{\circ}C$	I _{sat} 10% (A)	I _{sat} 20% (A)	SRF (MHz) Typ.
RL-8700-2-100M	10.0	0.088	1.65	2.25	2.00	2.30	29.70
RL-8700-2-120M	12.0	0.113	1.35	1.95	1.90	2.10	26.00
RL-8700-2-150M	15.0	0.138	1.30	1.85	1.75	1.90	20.00
RL-8700-2-180M	18.0	0.150	1.25	1.75	1.65	1.85	15.70
RL-8700-2-220M	22.0	0.188	1.20	1.70	1.55	1.75	15.70
RL-8700-2-270M	27.0	0.238	1.10	1.50	1.35	1.50	12.30
RL-8700-2-330M	33.0	0.250	0.95	1.40	1.25	1.35	11.70
RL-8700-2-470M	47.0	0.375	0.90	1.30	1.00	1.15	10.50
RL-8700-2-560M	56.0	0.425	0.75	1.15	0.88	1.00	9.20
RL-8700-2-680M	68.0	0.575	0.70	0.95	0.80	0.90	7.80
RL-8700-2-820M	82.0	0.633	0.65	0.90	0.75	0.85	6.50
RL-8700-2-101M	100.0	0.738	0.62	0.85	0.65	0.75	5.60
RL-8700-2-121M	120.0	1.100	0.50	0.65	0.60	0.70	5.20
RL-8700-2-151M	150.0	1.200	0.45	0.63	0.55	0.65	5.00
RL-8700-2-181M	180.0	1.400	0.40	0.60	0.52	0.60	3.90
RL-8700-2-221M	220.0	2.160	0.37	0.55	0.51	0.55	3.90
RL-8700-2-271M	270.0	2.370	0.35	0.50	0.45	0.50	3.30
RL-8700-2-331M	330.0	2.670	0.33	0.45	0.41	0.45	3.30
RL-8700-2-391M	390.0	2.940	0.30	0.40	0.37	0.41	2.70
RL-8700-2-471M	470.0	3.680	0.27	0.37	0.34	0.37	2.70
RL-8700-2-561M	560.0	4.210	0.26	0.39	0.32	0.35	2.50
RL-8700-2-681M	680.0	5.880	0.25	0.35	0.30	0.32	2.20
RL-8700-2-821M	820.0	7.850	0.22	0.34	0.26	0.29	1.50
RL-8700-2-102M	1000.0	8.580	0.20	0.31	0.22	0.24	1.50

M = $\pm 20\%$

NOTES:

1. I_{sat} - DC CURRENT THAT WILL CAUSE INDUCTANCE TO DROP BY PERCENTAGE SHOWN ABOVE
2. I_{rms} - CURRENT THAT CAUSES THE TEMPERATURE TO RISE BY TEMPERATURE SHOWN ABOVE
3. ELECTRICAL SPECIFICATIONS MEASURED AT 25°C
4. RESISTANCE TO SOLDER HEAT: 260°C 10 SECONDS
5. COMPLETE WINDING TO CORE ISOLATION
6. INDUCTANCE TESTED AT 10 kHz, 0.25V_{rms}



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RL-8700-3

Renco Part No. RL-8700-3	Inductance (μ H)	DCR Max. (Ohms)	I _{rms} (A) $\Delta T = 20^{\circ}C$	I _{rms} (A) $\Delta T = 40^{\circ}C$	I _{sat} 10% (A)	I _{sat} 20% (A)	SRF (MHz) Typ.
RL-8700-3-100M	10.0	0.075	1.95	2.35	2.00	2.30	24.00
RL-8700-3-120M	12.0	0.088	1.85	2.30	1.65	1.95	23.00
RL-8700-3-150M	15.0	0.100	1.65	2.25	1.60	1.85	21.00
RL-8700-3-180M	18.0	0.150	1.48	2.15	1.50	1.70	19.00
RL-8700-3-220M	22.0	0.163	1.33	1.85	1.40	1.55	17.00
RL-8700-3-270M	27.0	0.200	1.27	1.70	1.15	1.35	15.40
RL-8700-3-330M	33.0	0.225	1.20	1.65	0.95	1.15	13.30
RL-8700-3-470M	47.0	0.375	0.90	1.30	0.85	1.08	21.10
RL-8700-3-560M	56.0	0.425	0.85	1.20	0.80	1.04	11.00
RL-8700-3-680M	68.0	0.475	0.75	1.05	0.78	1.00	10.10
RL-8700-3-820M	82.0	0.600	0.70	1.00	0.75	0.90	8.40
RL-8700-3-101M	100.0	0.700	0.65	0.95	0.70	0.80	7.20
RL-8700-3-121M	120.0	0.763	0.60	0.85	0.65	0.75	6.90
RL-8700-3-151M	150.0	1.250	0.55	0.75	0.55	0.60	6.00
RL-8700-3-181M	180.0	1.410	0.50	0.70	0.50	0.55	5.50
RL-8700-3-221M	220.0	1.530	0.45	0.65	0.45	0.54	4.90
RL-8700-3-271M	270.0	2.150	0.40	0.55	0.40	0.50	4.30
RL-8700-3-331M	330.0	2.490	0.35	0.45	0.35	0.48	3.90
RL-8700-3-391M	390.0	2.730	0.30	0.40	0.32	0.46	3.60
RL-8700-3-471M	470.0	4.400	0.25	0.35	0.31	0.44	3.50
RL-8700-3-561M	560.0	4.900	0.23	0.34	0.29	0.33	3.10
RL-8700-3-681M	680.0	5.730	0.22	0.32	0.26	0.30	2.90
RL-8700-3-821M	820.0	6.560	0.21	0.30	0.24	0.27	2.50
RL-8700-3-102M	1000.0	7.590	0.20	0.27	0.22	0.26	2.40

M = $\pm 20\%$

NOTES:

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2. I_{rms} - CURRENT THAT CAUSES THE TEMPERATURE TO RISE BY TEMPERATURE SHOWN ABOVE
3. ELECTRICAL SPECIFICATIONS MEASURED AT 25°C
4. RESISTANCE TO SOLDER HEAT: 260°C 10 SECONDS
5. COMPLETE WINDING TO CORE ISOLATION
6. INDUCTANCE TESTED AT 10 kHz, 0.25V_{rms}



RL-8700-4

Renco Part No. RL-8700-4	Inductance (μ H)	DCR Max. (Ohms)	I _{rms} (A) $\Delta T = 20^{\circ}C$	I _{rms} (A) $\Delta T = 40^{\circ}C$	I _{sat} 10% (A)	I _{sat} 20% (A)	SRF (MHz) Typ.
RL-8700-4-3R3M	3.3	0.025	3.40	4.95	4.40	5.30	43.00
RL-8700-4-100M	10.0	0.050	2.55	3.15	2.15	2.65	22.80
RL-8700-4-120M	12.0	0.088	2.40	3.00	1.55	1.85	19.00
RL-8700-4-150M	15.0	0.092	1.80	2.50	1.50	1.80	19.00
RL-8700-4-180M	18.0	0.100	1.75	2.35	1.45	1.75	17.00
RL-8700-4-220M	22.0	0.113	1.70	2.30	1.30	1.65	16.00
RL-8700-4-270M	27.0	0.150	1.55	2.15	1.25	1.55	14.20
RL-8700-4-330M	33.0	0.163	1.35	1.85	1.08	1.35	12.10
RL-8700-4-470M	47.0	0.263	1.00	1.45	1.05	1.25	9.20
RL-8700-4-560M	56.0	0.363	0.90	1.30	0.95	1.20	8.90
RL-8700-4-680M	68.0	0.375	0.85	1.20	0.90	1.15	8.20
RL-8700-4-820M	82.0	0.488	0.70	1.05	0.87	1.10	7.20
RL-8700-4-101M	100.0	0.625	0.65	0.95	0.85	1.08	6.90
RL-8700-4-121M	120.0	0.675	0.63	0.93	0.75	0.90	6.10
RL-8700-4-151M	150.0	0.838	0.62	0.90	0.65	0.85	4.70
RL-8700-4-181M	180.0	0.925	0.60	0.80	0.55	0.70	4.50
RL-8700-4-221M	220.0	1.080	0.55	0.75	0.50	0.65	4.10
RL-8700-4-271M	270.0	1.790	0.50	0.65	0.45	0.55	3.60
RL-8700-4-331M	330.0	2.030	0.45	0.55	0.40	0.50	3.30
RL-8700-4-391M	390.0	2.790	0.40	0.50	0.38	0.45	2.90
RL-8700-4-471M	470.0	3.100	0.35	0.45	0.37	0.40	2.60
RL-8700-4-561M	560.0	3.480	0.30	0.40	0.35	0.38	2.40
RL-8700-4-681M	680.0	3.810	0.27	0.37	0.32	0.35	2.30
RL-8700-4-821M	820.0	4.700	0.25	0.35	0.30	0.34	2.20
RL-8700-4-102M	1000.0	4.880	0.23	0.32	0.28	0.32	1.90

M = $\pm 20\%$

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