



RL-8000-1

RL-8000-2, RL-8000-3

SMD POWER INDUCTORS

DESCRIPTION

- SMD Power Inductor

ENVIRONMENTAL DATA

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

PACKAGING INFORMATION

- Packaging information: pg. 491

FEATURES & APPLICATIONS

- Surface mount inductor with high current rating
- Low resistance to keep power loss at a minimum
- Excellent for power line DC-DC conversion applications used in hard disk, notebook computers and other electronic equipment

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

MECHANICAL DIMENSIONS

U.S. Standard (mm)

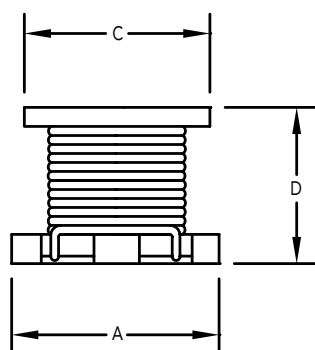
PART NUMBER	EIA	A (MAX.)	B (MAX.)	C (MAX.)	D (MAX.)	E (REF.)	F (REF.)	G (REF.)
RL-8000-1	1210	0.140 (3.56)	0.100 (2.50)	0.100 (2.50)	0.110 (2.80)	0.050 (1.30)	0.040 (0.90)	0.140 (3.56)
RL-8000-2	1812	0.190 (4.80)	0.137 (3.50)	0.150 (3.90)	0.120 (3.00)	0.060 (1.60)	0.050 (1.30)	0.170 (4.31)
RL-8000-3	2220	0.240 (6.00)	0.210 (5.30)	0.210 (5.30)	0.190 (4.90)	0.070 (1.70)	0.050 (1.30)	0.260 (6.60)

PART NUMBER	PART WEIGHT
RL-8000-1	0.16g (0.006oz)
RL-8000-2	0.17g (0.006oz)
RL-8000-3	0.18g (0.006oz)

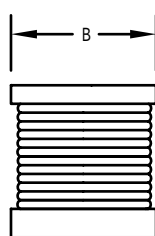
SPECIFICATIONS:

1. TEMPERATURE RISE: 40°C MAX.
2. RATED CURRENT: BASED ON TEMPERATURE RISE & L/LOA = 10% MAX.
3. RESISTANCE TO SOLDER HEAT: 260°C FOR 10 SECONDS

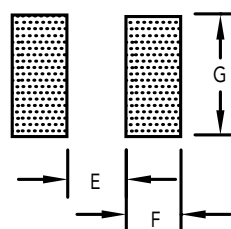
FRONT VIEW



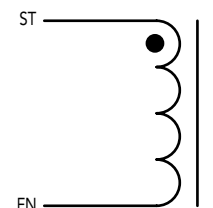
SIDE VIEW



RECOMMENDED PCB LAYOUT



SCHEMATIC



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RL-8000-1

Renco Part No. RL-8000-1	Inductance (μ H)	Q Min.	Test Frequency	DCR Max. (Ohms)	SRF (MHz) Typ.	I _{rms} (A)	I _{sat} (A)
RL-8000-1-1R0M	1.0	20.0	1.0 M	0.50	100.0	0.445	0.445
RL-8000-1-1R2M	1.2	20.0	1.0 M	0.60	100.0	0.425	0.425
RL-8000-1-1R5K	1.5	20.0	1.0 M	0.60	75.0	0.400	0.400
RL-8000-1-1R8K	1.8	20.0	1.0 M	0.70	60.0	0.390	0.390
RL-8000-1-2R2K	2.2	20.0	1.0 M	0.80	50.0	0.370	0.370
RL-8000-1-2R7K	2.7	20.0	1.0 M	0.90	43.0	0.320	0.320
RL-8000-1-3R3K	3.3	20.0	1.0 M	1.00	38.0	0.300	0.300
RL-8000-1-3R9K	3.9	20.0	1.0 M	1.10	35.0	0.290	0.290
RL-8000-1-4R7K	4.7	20.0	1.0 M	1.20	31.0	0.270	0.270
RL-8000-1-5R6K	5.6	20.0	1.0 M	1.30	28.0	0.250	0.250
RL-8000-1-6R8K	6.8	20.0	1.0 M	1.50	25.0	0.240	0.240
RL-8000-1-8R2K	8.2	20.0	1.0 M	1.60	23.0	0.225	0.225
RL-8000-1-100K	10.0	35.0	1.0 M	1.80	20.0	0.190	0.190
RL-8000-1-120K	12.0	35.0	1.0 M	2.00	18.0	0.180	0.180
RL-8000-1-150K	15.0	35.0	1.0 M	2.20	16.0	0.170	0.170
RL-8000-1-180K	18.0	35.0	1.0 M	2.50	15.0	0.165	0.165
RL-8000-1-220K	22.0	35.0	1.0 M	2.80	14.0	0.150	0.150
RL-8000-1-270K	27.0	40.0	1.0 M	3.10	13.0	0.125	0.125
RL-8000-1-330K	33.0	40.0	1.0 M	3.50	12.0	0.115	0.115
RL-8000-1-390K	39.0	40.0	1.0 M	3.90	11.0	0.110	0.110
RL-8000-1-470K	47.0	40.0	1.0 M	4.30	11.0	0.100	0.100
RL-8000-1-560K	56.0	40.0	1.0 M	4.90	10.0	0.085	0.085
RL-8000-1-680K	68.0	40.0	1.0 M	5.50	9.0	0.080	0.080
RL-8000-1-820K	82.0	40.0	796 K	6.20	8.5	0.070	0.070
RL-8000-1-101K	100.0	40.0	796 K	7.00	8.0	0.080	0.080
RL-8000-1-121K	120.0	40.0	796 K	8.00	7.5	0.075	0.075
RL-8000-1-151K	150.0	40.0	796 K	9.30	7.0	0.070	0.070
RL-8000-1-181K	180.0	40.0	796 K	10.20	6.0	0.065	0.065
RL-8000-1-221K	220.0	40.0	796 K	11.80	5.5	0.065	0.065
RL-8000-1-271K	270.0	40.0	796 K	12.50	5.0	0.065	0.065
RL-8000-1-331K	330.0	40.0	796 K	13.00	5.0	0.065	0.065
RL-8000-1-391K	390.0	50.0	796 K	22.00	5.0	0.050	0.050
RL-8000-1-471K	470.0	50.0	796 K	25.00	5.0	0.045	0.045
RL-8000-1-561K	560.0	50.0	796 K	28.00	5.0	0.040	0.040

NOTES:

1. I_{rms} - CURRENT THAT CAUSES THE TEMPERATURE TO RISE
APPROX. 40°C ABOVE AMBIENT OF 25°C
2. I_{sat} - DC CURRENT THAT WILL CAUSE INDUCTANCE TO DROP BY 10%
3. ELECTRICAL SPECIFICATIONS MEASURED AT 25°C

PART NUMBER IDENTIFICATION

RL-8000 -1 C 270 K
(1) (2) (3) (4) (5)

- (1) SERIES NAME
(2) DIMENSIONS
(3) TYPE CODE C - CERAMIC
(4) INDUCTANCE CODE
(5) TOLERANCE CODE: K - $\pm 10\%$ M - $\pm 20\%$
X - CAN BE $\pm 10\%$ OR $\pm 20\%$



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RL-8000-2

Renco Part No. RL-8000-2	Inductance (μ H)	Q Min.	Test Frequency	DCR Max. (Ohms)	SRF (MHz) Typ.	Irms (A)	Isat (A)
RL-8000-2-1R0M	1.0	20.0	1.0 M	0.20	120.0	0.500	0.500
RL-8000-2-1R2M	1.2	20.0	1.0 M	0.20	100.0	0.500	0.500
RL-8000-2-1R5M	1.5	20.0	1.0 M	0.30	85.0	0.500	0.500
RL-8000-2-1R8M	1.8	20.0	1.0 M	0.30	75.0	0.500	0.500
RL-8000-2-2R2M	2.2	20.0	1.0 M	0.30	62.0	0.500	0.500
RL-8000-2-2R7M	2.7	20.0	1.0 M	0.32	53.0	0.500	0.500
RL-8000-2-3R3M	3.3	20.0	1.0 M	0.35	47.0	0.500	0.500
RL-8000-2-3R9M	3.9	20.0	1.0 M	0.38	41.0	0.500	0.500
RL-8000-2-4R7K	4.7	30.0	1.0 M	0.40	38.0	0.500	0.500
RL-8000-2-5R6K	5.6	30.0	1.0 M	0.47	33.0	0.500	0.500
RL-8000-2-6R8K	6.8	30.0	1.0 M	0.50	31.0	0.450	0.450
RL-8000-2-8R2K	8.2	30.0	1.0 M	0.56	27.0	0.450	0.450
RL-8000-2-100K	10.0	35.0	1.0 M	0.56	23.0	0.400	0.400
RL-8000-2-120K	12.0	35.0	1.0 M	0.62	21.0	0.380	0.380
RL-8000-2-150K	15.0	35.0	1.0 M	0.73	19.0	0.360	0.360
RL-8000-2-180K	18.0	35.0	1.0 M	0.82	17.0	0.340	0.340
RL-8000-2-220K	22.0	35.0	1.0 M	0.94	15.0	0.320	0.320
RL-8000-2-270K	27.0	35.0	1.0 M	1.10	14.0	0.300	0.300
RL-8000-2-330K	33.0	35.0	1.0 M	1.20	12.0	0.270	0.270
RL-8000-2-390K	39.0	35.0	1.0 M	1.40	11.0	0.240	0.240
RL-8000-2-470K	47.0	35.0	1.0 M	1.50	10.0	0.220	0.220
RL-8000-2-560K	56.0	35.0	1.0 M	1.70	9.3	0.200	0.200
RL-8000-2-680K	68.0	35.0	1.0 M	1.90	8.4	0.180	0.180
RL-8000-2-820K	82.0	35.0	1.0 M	2.20	7.5	0.170	0.170
RL-8000-2-101K	100.0	40.0	796 K	2.50	6.8	0.160	0.160
RL-8000-2-121K	120.0	40.0	796 K	3.00	6.2	0.150	0.150
RL-8000-2-151K	150.0	40.0	796 K	3.70	5.5	0.130	0.130
RL-8000-2-181K	180.0	40.0	796 K	4.50	5.0	0.120	0.120
RL-8000-2-221K	220.0	40.0	796 K	5.40	4.5	0.110	0.110
RL-8000-2-271K	270.0	40.0	796 K	6.80	4.0	0.100	0.100
RL-8000-2-331K	330.0	40.0	796 K	8.20	3.6	0.095	0.095
RL-8000-2-391K	390.0	40.0	796 K	9.70	3.3	0.090	0.090
RL-8000-2-471K	470.0	40.0	796 K	11.80	3.0	0.080	0.080
RL-8000-2-561K	560.0	40.0	796 K	14.50	2.7	1.070	1.070
RL-8000-2-681K	680.0	40.0	796 K	17.00	2.5	0.065	0.065
RL-8000-2-821K	820.0	40.0	796 K	20.50	2.2	0.060	0.060
RL-8000-2-102K	1000.0	40.0	252 K	25.00	2.0	0.050	0.050
RL-8000-2-122K	1200.0	40.0	252 K	30.00	1.8	0.045	0.045
RL-8000-2-152K	1500.0	40.0	252 K	37.00	1.6	0.040	0.040
RL-8000-2-182K	1800.0	40.0	252 K	45.00	1.5	0.030	0.030
RL-8000-2-222K	2200.0	40.0	252 K	50.00	1.3	0.030	0.030

NOTES:

1. Irms - CURRENT THAT CAUSES THE TEMPERATURE TO RISE
APPROX. 40°C ABOVE AMBIENT OF 25°C

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RL-8000-3

Renco Part No. RL-8000-3	Inductance (μH)	Test Frequency	DCR Max. (Ohms)	SRF (MHz) Typ.	I _{rms} (mA)	I _{sat} (mA)
RL-8000-3-R12M	0.12	1.0 M	0.0098	450.0	6000.0	6000.0
RL-8000-3-R27M	0.27	1.0 M	0.0140	300.0	5300.0	5300.0
RL-8000-3-R47M	0.47	1.0 M	0.0182	200.0	4800.0	4800.0
RL-8000-3-1R0M	1.00	1.0 M	0.0270	150.0	4000.0	4000.0
RL-8000-3-1R5M	1.50	1.0 M	0.0310	110.0	3700.0	3700.0
RL-8000-3-2R2M	2.20	1.0 M	0.0410	60.0	3200.0	3200.0
RL-8000-3-3R3M	3.30	1.0 M	0.0400	40.0	2900.0	2900.0
RL-8000-3-4R7M	4.70	1.0 M	0.0574	30.0	2700.0	2700.0
RL-8000-3-6R8M	6.80	1.0 M	0.1040	25.0	2000.0	2000.0
RL-8000-3-100X	10.00	1.0 M	0.1300	20.0	1700.0	1700.0
RL-8000-3-150X	15.00	1.0 M	0.2100	17.0	1400.0	1400.0
RL-8000-3-220X	22.00	1.0 M	0.2660	15.0	1200.0	1200.0
RL-8000-3-330X	33.00	1.0 M	0.4480	12.0	900.0	900.0
RL-8000-3-470X	47.00	1.0 M	0.5600	10.0	800.0	800.0
RL-8000-3-680X	68.00	1.0 M	0.9380	7.6	640.0	640.0
RL-8000-3-101X	100.00	100 K	1.2040	6.5	560.0	560.0
RL-8000-3-151X	150.00	100 K	2.6600	5.0	420.0	420.0
RL-8000-3-221X	220.00	100 K	3.3600	4.0	320.0	320.0
RL-8000-3-331X	330.00	100 K	6.1600	3.1	270.0	270.0
RL-8000-3-471X	470.00	100 K	7.5600	2.4	240.0	240.0
RL-8000-3-681X	680.00	100 K	11.3400	1.9	190.0	190.0
RL-8000-3-102X	1000.00	10 K	14.4200	1.7	150.0	150.0
RL-8000-3-222X	2200.00	10 K	30.1000	1.2	100.0	100.0
RL-8000-3-472X	4700.00	10 K	61.0400	0.8	70.0	70.0
RL-8000-3-103X	10000.00	10 K	140.0000	0.5	50.0	50.0

NOTES:

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