

SP08 Series Unshielded Power Inductors

Features

- High energy storage and very low resistance
- Ideal inductors for DC-DC conversion
- Noise filtering and filter chokes
- Available on tape and reel for auto surface mounting

Applications

- Power supplies
- Industrial electronics, etc.
- DC-DC converters, etc.
- Buck, boost, forward, and resonant converters

Environmental Data

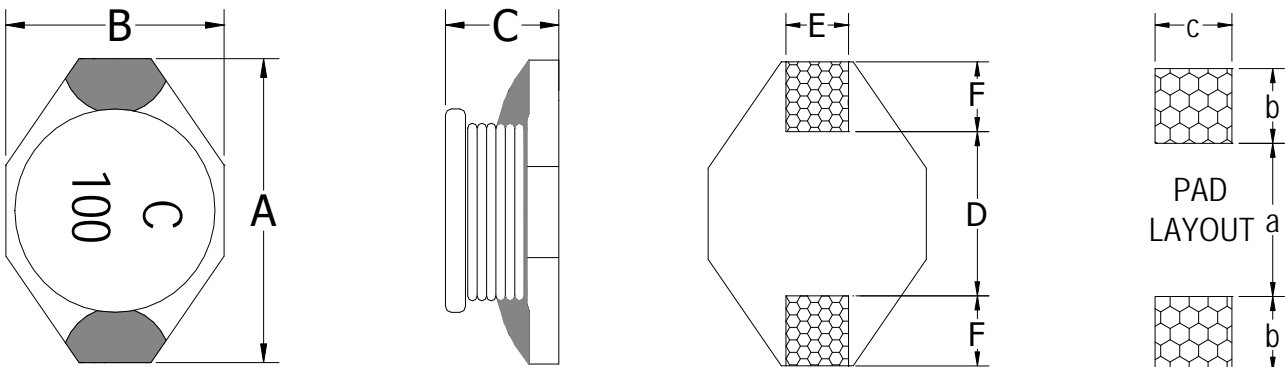
- Storage temperature range: -40°C to +125°C
- Operating temperature range: -40°C to +125°C (including coil's self-temperature rise)
- Solder reflow temperature: +260°C Max for 10 seconds Max
- Moisture sensitivity level: 1
- RoHS&HF compliance



Packaging

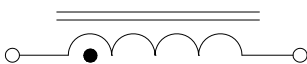
- Supplied in tape and reel packaging, 1000pcs(SP08-1304), 750pcs(SP08-1305), 250pcs(SP08-1311), 400pcs(SP08-1907), per 13-inch reel

Mechanical Dimension (Unit: mm/inches)



Type	A Max.	B Max.	C Max.	D Nom.	E Nom.	F Nom.	a Nom.	b Nom.	c Nom.
SP08-1304	12.95	9.40	3.50	7.62	2.54	2.54	2.79	7.37	2.92
	0.51	0.37	0.14	0.30	0.10	0.10	0.11	0.29	0.115
SP08-1305	12.95	9.40	5.21	7.62	2.54	2.54	2.79	7.37	2.92
	0.51	0.37	0.21	0.30	0.10	0.10	0.11	0.29	0.115
SP08-1311	12.95	9.40	11.43	7.62	2.54	2.54	2.79	7.37	2.92
	0.51	0.37	0.45	0.30	0.10	0.10	0.11	0.29	0.115
SP08-1907	18.54	15.24	7.11	12.70	2.54	2.54	2.79	12.45	2.92
	0.73	0.60	0.28	0.50	0.10	0.10	0.11	0.49	0.115

Electrical Schematic



Part Number Description

SP08 - 1304 100 M

① ② ③ ④

- ① Type
- ② Dimensions
- ③ Inductance value
- ④ Tolerance code

SP08 Series Unshielded Power Inductors

Electrical Characteristic

Part Number	Inductance L0(uH)	SRF (MHz)Typ.	DCR (Ω)Max.	Isat (A)Max.	Irms (A)Max.	Marking
SP08-1304100M	10	35.0	0.11	2.40	2.00	C100
SP08-1304150M	15	33.0	0.15	2.00	1.50	C150
SP08-1304220M	22	25.0	0.23	1.60	1.30	C220
SP08-1304330M	33	19.0	0.30	1.40	1.10	C330
SP08-1304470M	47	14.0	0.39	1.00	0.80	C470
SP08-1304680M	68	12.0	0.66	0.90	0.70	C680
SP08-1304101K	100	10.0	0.84	0.70	0.60	C101
SP08-1304151K	150	8.0	1.20	0.60	0.50	C151
SP08-1304221K	220	8.0	1.90	0.50	0.40	C221
SP08-1304331K	330	5.0	2.70	0.40	0.30	C331
SP08-1304471K	470	4.0	4.00	0.30	0.20	C471
SP08-1304681K	680	3.0	5.30	0.20	0.10	C681
SP08-1304102K	1000	2.5	8.40	0.10	0.05	C102

Electrical Characteristic

Part Number	Inductance L0(uH)	SRF (MHz)Typ.	DCR (Ω)Max.	Isat (A)Max.	Irms (A)Max.	Marking
SP08-13051R0M	1.0	100.0	0.009	9.00	6.80	C1R0
SP08-13051R5M	1.5	90.0	0.010	8.00	6.40	C1R5
SP08-13052R2M	2.2	80.0	0.012	7.00	6.10	C2R2
SP08-13053R3M	3.3	65.0	0.015	6.40	5.40	C3R3
SP08-13054R7M	4.7	45.0	0.018	5.40	4.80	C4R7
SP08-13056R8M	6.8	38.0	0.027	4.60	4.40	C6R8
SP08-1305100M	10	30.0	0.038	3.80	3.90	C100
SP08-1305150M	15	27.0	0.046	3.00	3.10	C150
SP08-1305220M	22	19.0	0.085	2.60	2.70	C220
SP08-1305330M	33	15.0	0.10	2.00	2.10	C330
SP08-1305470M	47	12.0	0.14	1.60	1.80	C470
SP08-1305680M	68	10.0	0.20	1.40	1.50	C680
SP08-1305101K	100	9.0	0.28	1.20	1.30	C101
SP08-1305151K	150	6.0	0.40	1.00	1.00	C151
SP08-1305221K	220	5.0	0.61	0.80	0.80	C221
SP08-1305331K	330	4.5	1.02	0.60	0.60	C331
SP08-1305471K	470	3.5	1.27	0.50	0.50	C471
SP08-1305681K	680	2.5	2.02	0.40	0.40	C681
SP08-1305102K	1000	2.0	3.00	0.30	0.30	C102

- Tolerance of Inductance:K= $\pm 10\%$,M= $\pm 20\%$,N= $\pm 30\%$.
- Test frequency and voltage:100KHz,1Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate Δt of 40°C.

SP08 Series Unshielded Power Inductors

Electrical Characteristic

Part Number	Inductance L0(uH)	SRF (MHz)Typ.	DCR (Ω)Max.	Isat (A) Max.	Irms (A) Max.	Marking
SP08-1311100M	10	22.0	0.04	8.00	3.50	C100
SP08-1311150M	15	18.0	0.05	7.00	3.00	C150
SP08-1311220M	22	11.0	0.07	5.50	2.50	C220
SP08-1311330M	33	9.0	0.08	4.00	2.00	C330
SP08-1311470M	47	8.0	0.11	3.80	1.60	C470
SP08-1311680M	68	7.0	0.17	3.00	1.20	C680
SP08-1311101K	100	5.0	0.22	2.50	1.20	C101
SP08-1311151K	150	4.0	0.34	2.00	0.90	C151
SP08-1311221K	220	3.5	0.44	1.60	0.70	C221
SP08-1311331K	330	2.5	0.70	1.20	0.60	C331
SP08-1311471K	470	2.0	0.95	1.00	0.30	C471
SP08-1311681K	680	2.0	1.20	1.00	0.20	C681
SP08-1311102K	1000	1.5	2.00	0.80	0.10	C102

Electrical Characteristic

Part Number	Inductance L0(uH)	SRF (MHz)Typ.	DCR (Ω)Max.	Isat (A) Max.	Irms (A) Max.	Marking
SP08-19071R0M	1.0	80.0	0.009	20.0	8.60	C1R0
SP08-19072R2M	2.2	80.0	0.014	16.0	7.10	C2R2
SP08-19073R3M	3.3	60.0	0.018	14.0	6.20	C3R3
SP08-19075R6M	5.6	40.0	0.020	12.0	5.30	C5R6
SP08-1907100M	10	30.0	0.031	10.0	4.30	C100
SP08-1907150M	15	22.0	0.036	8.00	4.00	C150
SP08-1907220M	22	20.0	0.047	7.00	3.50	C220
SP08-1907330M	33	15.0	0.066	5.50	3.00	C330
SP08-1907470M	47	9.0	0.086	4.50	2.60	C470
SP08-1907680M	68	8.0	0.13	3.50	2.30	C680
SP08-1907101K	100	7.0	0.19	3.00	1.80	C101
SP08-1907151K	150	6.0	0.25	2.60	1.50	C151
SP08-1907221K	220	5.0	0.38	2.40	1.20	C221
SP08-1907331K	330	4.0	0.56	1.90	1.00	C331
SP08-1907471K	470	3.0	0.85	1.40	0.82	C471
SP08-1907681K	680	2.5	1.10	1.20	0.72	C681
SP08-1907102K	1000	2.0	1.80	1.00	0.56	C102

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