

# SP09 Series Shielded Power Inductors

## Features

- Magnetically shielded construction
- Ideal inductors for DC-DC conversion
- Low profile with low DCR and high current
- Available on tape and reel for auto surface mounting

## Applications

- Power supplies
- Noise filtering and filter chokes
- DC-DC converters, etc.
- Other various electronic appliances

## Environmental Data

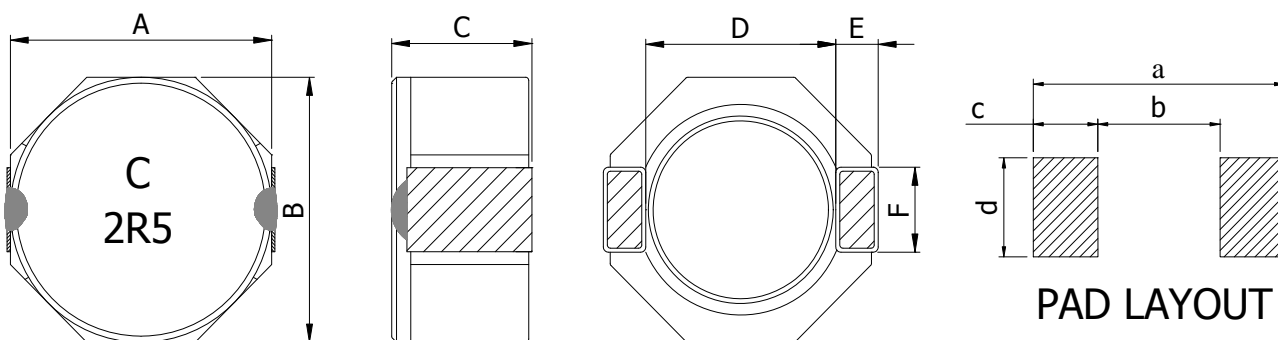
- Storage temperature range: -40°C to +125°C
- Operating temperature range: -40°C to +125°C (including coil's self-temperature rise)
- Solder reflow temperature: +260°C Max for 10 seconds Max
- Moisture sensitivity level: 1
- RoHS&HF compliance

## Packaging

- Supplied in tape and reel packaging,  
1500pcs(SP09-8028), 1200pcs(SP09-8038),  
1000pcs(SP09-8043), 800pcs(SP09-8058), per 13-inch reel

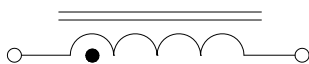


## Mechanical Dimension (Unit: mm/inches)



Type	A	B	C	D	E	F	a	b	c	d
			Max.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.
SP09-8028	8.0±0.3	8.0±0.3	3.1	6.3	1.2	2.5	10.1	6.1	2.0	2.8
	0.315±0.012	0.315±0.012	0.122	0.248	0.047	0.099	0.398	0.240	0.079	0.110
SP09-8038	8.0±0.3	8.0±0.3	4.0	6.3	1.2	2.5	10.1	6.1	2.0	2.8
	0.315±0.012	0.315±0.012	0.157	0.248	0.047	0.099	0.398	0.240	0.079	0.110
SP09-8043	8.0±0.3	8.0±0.3	4.5	6.3	1.2	2.5	10.1	6.1	2.0	2.8
	0.315±0.012	0.315±0.012	0.177	0.248	0.047	0.099	0.398	0.240	0.079	0.110
SP09-8058	8.0±0.3	8.0±0.3	6.0	6.3	1.2	2.5	10.1	6.1	2.0	2.8
	0.315±0.012	0.315±0.012	0.236	0.248	0.047	0.099	0.398	0.240	0.079	0.110

## Electrical Schematic



## Part Number Description

**SP09 - 8028 2R5 N**

①      ②      ③      ④

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

# SP09 Series Shielded Power Inductors

## Electrical Characteristic

Part Number	Inductance L0(uH)	DCR (mΩ)Typ.	DCR (mΩ)Max.	Isat (A)Max.	Irms (A)Max.	Marking
SP09-80282R5N	2.5	17.0	22.0	5.00	4.80	C2R5
SP09-80283R3N	3.3	22.0	28.0	4.50	4.20	C3R3
SP09-80284R7N	4.7	26.0	33.8	3.80	3.70	C4R7
SP09-80287R3N	7.3	40.0	52.0	3.00	3.20	C7R3
SP09-8028100M	10	55.0	71.0	2.70	2.35	C100
SP09-8028150M	15	70.0	91.0	2.20	1.85	C150
SP09-8028220M	22	105	135	1.80	1.45	C220
SP09-8028330M	33	160	208	1.50	1.30	C330
SP09-8028470M	47	210	273	1.25	1.00	C470
SP09-8028680M	68	310	403	1.00	0.90	C680
SP09-8028101M	100	410	533	0.90	0.75	C101
SP09-8028151M	150	630	820	0.75	0.65	C151
SP09-8028181M	180	680	880	0.65	0.55	C181
SP09-8028221M	220	870	1120	0.55	0.50	C221

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Part Number	Inductance L0(uH)	DCR (mΩ)Typ.	DCR (mΩ)Max.	Isat (A)Max.	Irms (A)Max.	Marking
SP09-80381R8N	1.8	12.0	15.6	7.00	6.80	C1R8
SP09-80382R5N	2.5	14.0	17.5	6.50	6.00	C2R5
SP09-80383R5N	3.5	17.0	24.0	5.00	5.20	C3R5
SP09-80384R7N	4.7	22.0	29.0	4.60	4.40	C4R7
SP09-80386R0N	6.0	24.0	32.0	4.20	4.00	C6R0
SP09-8038100M	10	43.0	48.0	3.00	3.20	C100
SP09-8038150M	15	61.0	67.0	2.75	2.50	C150
SP09-8038220M	22	86.0	105	2.30	2.00	C220
SP09-8038330M	33	128	157	1.75	1.60	C330
SP09-8038470M	47	163	189	1.52	1.42	C470
SP09-8038680M	68	232	290	1.30	1.08	C680
SP09-8038101M	100	355	410	1.05	0.88	C101

- Tolerance of Inductance:K= ±10%,M= ±20%,N= ±30%.
- Test frequency and voltage:100KHz,0.1Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat) will cause L0 to drop approximately 35%.
- Heat rated current(Irms) will cause the coil temperature rise approximate Δt of 40°C.

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## Electrical Characteristic

Part Number	Inductance L0(uH)	DCR (mΩ)Typ.	DCR (mΩ)Max.	Isat (A)Max.	Irms (A)Max.	Marking
SP09-80431R2N	1.2	9.0	12.2	8.0	6.2	C1R2
SP09-80432R0N	2.0	11	14.0	7.0	5.5	C2R0
SP09-80433R3N	3.3	13	17.0	6.2	5.0	C3R3
SP09-80433R9N	3.9	15	19.0	5.9	4.5	C3R9
SP09-80434R7N	4.7	17	22.0	5.6	4.1	C4R7
SP09-80436R8N	6.8	23	30.0	4.4	3.9	C6R8
SP09-8043100M	10	29	36.0	4.0	3.2	C100
SP09-8043150M	15	42	53.0	2.9	2.3	C150
SP09-8043220M	22	60	75.0	2.6	1.8	C220
SP09-8043330M	33	100	125	2.2	1.4	C330
SP09-8043470M	47	140	180	1.8	1.3	C470
SP09-8043680M	68	190	240	1.5	1.0	C680
SP09-8043101M	100	290	360	1.3	0.8	C101

## Electrical Characteristic

Part Number	Inductance L0(uH)	DCR (mΩ)Typ.	DCR (mΩ)Max.	Isat (A)Max.	Irms (A)Max.	Marking
SP09-80582R8N	2.8	12.0	15.0	4.7	6.9	C2R8
SP09-80583R9N	3.9	13.0	16.3	4.1	6.3	C3R9
SP09-80585R0N	5.0	14.0	17.5	3.8	6.0	C5R0
SP09-80586R2N	6.2	16.0	20.0	3.3	5.5	C6R2
SP09-8058100M	10	22.0	25.6	2.6	4.5	C100
SP09-8058150M	15	27.0	36.3	2.3	3.6	C150
SP09-8058220M	22	39.0	45.3	1.7	3.3	C220
SP09-8058330M	33	52.0	65.3	1.5	2.7	C330
SP09-8058470M	47	75.0	90.5	1.2	2.2	C470
SP09-8058680M	68	104	130	1.0	1.7	C680
SP09-8058101M	100	140	175	0.8	1.4	C101

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