

# SPA04 Series Shielded Power Inductors



## Features

- AEC-Q200 qualified
- Magnetically shielded construction
- Ideal inductors for DC-DC conversion
- Low profile with low DCR and high current

## Applications

- Power supplies
- Noise filtering and filter chokes
- DC-DC converters, etc.
- Buck, boost, forward, and resonant converters



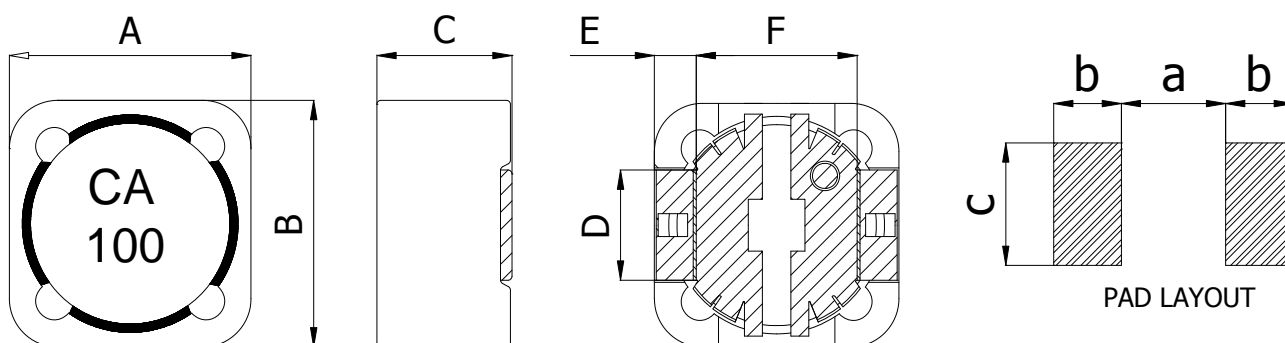
## Environmental Data

- 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

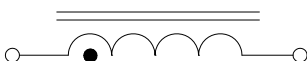
- Supplied in tape and reel packaging, 350pcs(SPA04-1508), 175pcs(SPA04-1514), per 13-inch reel

## Mechanical Dimension (Unit: mm/inches)



Type	A	B	C	D	E	F	a	b	c
			Max.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.
SPA04-1508	15.0±0.5	15.0±0.5	8.6	4.9	2.45	9.9	9.4	3.0	5.4
	0.59±0.02	0.59±0.02	0.339	0.193	0.096	0.39	0.37	0.118	0.213
SPA04-1514	15.0±0.5	15.0±0.5	14.5	4.9	2.45	9.9	9.4	3.0	5.4
	0.59±0.02	0.59±0.02	0.57	0.193	0.096	0.39	0.37	0.118	0.213

## Electrical Schematic



## Part Number Description

SPA04 - 1508 100 M

①      ②      ③      ④

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

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## Electrical Characteristic

Part Number	Inductance L0(uH)	DCR ( $\Omega$ )Typ.	DCR ( $\Omega$ )Max.	SRF (MHz)Typ.	Isat (A)Typ.	Irms (A)Typ.	Marking
SPA04-1508100M	10	0.012	0.014	17.0	14.7	7.40	CA100
SPA04-1508120M	12	0.014	0.017	14.5	14.2	6.30	CA120
SPA04-1508150M	15	0.018	0.021	13.5	12.4	6.10	CA150
SPA04-1508180M	18	0.020	0.023	12.0	11.2	5.50	CA180
SPA04-1508220M	22	0.023	0.026	10.5	10.4	5.30	CA220
SPA04-1508330M	33	0.033	0.038	8.5	8.60	4.80	CA330
SPA04-1508470M	47	0.048	0.055	7.3	7.30	3.70	CA470
SPA04-1508680M	68	0.061	0.070	6.0	6.00	3.40	CA680
SPA04-1508101K	100	0.090	0.103	4.8	4.80	2.80	CA101
SPA04-1508151K	150	0.138	0.159	3.7	3.90	2.20	CA151
SPA04-1508221K	220	0.205	0.235	3.0	3.30	1.80	CA221
SPA04-1508331K	330	0.300	0.345	2.7	2.50	1.45	CA331
SPA04-1508471K	470	0.386	0.445	2.2	2.20	1.35	CA471
SPA04-1508681K	680	0.570	0.655	1.8	1.80	1.10	CA681
SPA04-1508821K	820	0.640	0.736	1.6	1.60	1.00	CA821
SPA04-1508102K	1000	0.860	0.990	1.5	1.40	0.86	CA102

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

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## Electrical Characteristic

Part Number	Inductance L0(uH)	DCR ( $\Omega$ )Typ.	DCR ( $\Omega$ )Max.	SRF (MHz)Typ.	Isat (A)Typ.	Irms (A)Typ.	Marking
SPA04-15142R5M	2.5	0.005	0.007	34.0	30.5	7.80	CA2R5
SPA04-15144R7M	4.7	0.006	0.008	25.0	23.7	7.60	CA4R7
SPA04-1514100M	10	0.007	0.009	16.5	16.2	6.80	CA100
SPA04-1514120M	12	0.009	0.012	14.5	14.8	6.60	CA120
SPA04-1514150M	15	0.012	0.015	11.0	13.3	5.80	CA150
SPA04-1514220M	22	0.015	0.018	10.0	11.0	5.10	CA220
SPA04-1514270M	27	0.017	0.022	8.50	9.90	4.70	CA270
SPA04-1514330M	33	0.022	0.026	7.20	9.00	3.90	CA330
SPA04-1514470M	47	0.032	0.038	5.60	7.50	3.45	CA470
SPA04-1514680M	68	0.039	0.045	5.20	6.20	3.20	CA680
SPA04-1514101K	100	0.058	0.064	3.80	5.15	2.50	CA101
SPA04-1514221K	220	0.130	0.145	2.30	3.50	1.70	CA221
SPA04-1514331K	330	0.167	0.185	2.10	2.83	1.55	CA331
SPA04-1514471K	470	0.250	0.275	1.65	2.40	1.30	CA471
SPA04-1514102K	1000	0.560	0.625	1.10	1.63	0.77	CA102

- Tolerance of Inductance:K=  $\pm 10\%$ ,M=  $\pm 20\%$ ,N=  $\pm 30\%$ .
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- All test data referenced to 25°C ambient.
- Saturation current(Isat) will cause L0 to drop 30% typical.
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