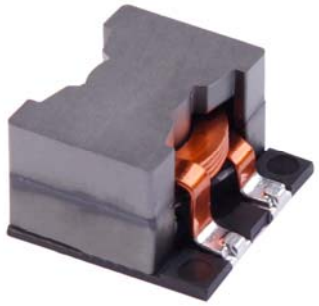
SP13 Series Shielded Power Inductors

Features

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



Applications

- Industrial electronics,etc.
- High current power supplies
- Distributed power systems DC-DC converters
- Multi-phase regulators,VRMs,EVRDs

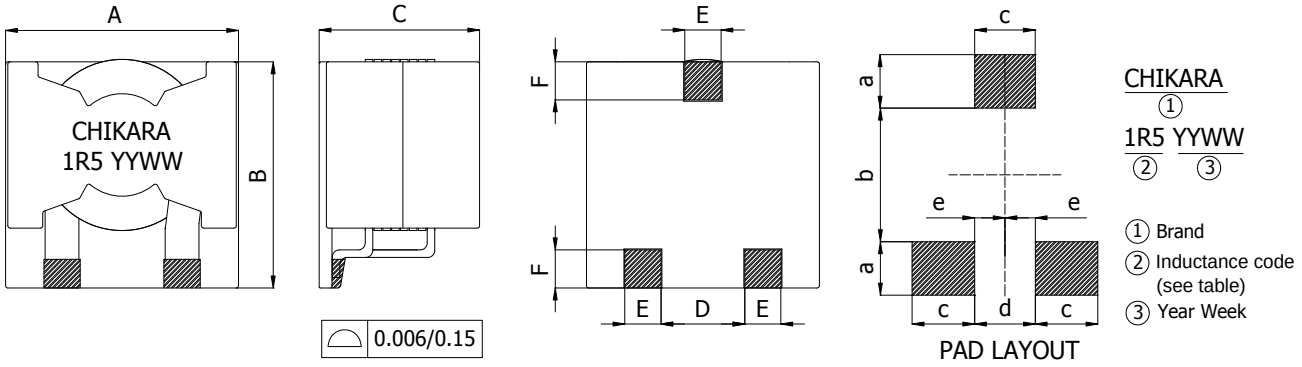
Environmental Data

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

Packaging

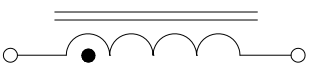
- Tray and carton box packaging, 30pcs(SP13-2816),30pcs(SP13-2820),per tray

Mechanical Dimension(Unit:mm/inches)



Type	A Max.	B Max.	C Max.	D Nom.	E Nom.	F Nom.	a Nom.	b Nom.	c Nom.	d Nom.	e Nom.
SP13-2816A	27.9	27.9	15.9	5.5	4.6	4.6	6.0	15.1	5.8	4.3	2.15
	1.10	1.10	0.626	0.217	0.181	0.181	0.24	0.595	0.228	0.17	0.085
SP13-2816B	27.9	27.9	15.9	5.5	4.6	4.6	6.0	15.1	5.8	4.3	2.15
	1.10	1.10	0.626	0.217	0.181	0.181	0.24	0.595	0.228	0.17	0.085
SP13-2820A	27.9	27.9	20.0	5.5	4.6	4.6	6.0	15.1	5.8	4.3	2.15
	1.10	1.10	0.788	0.217	0.181	0.181	0.24	0.595	0.228	0.17	0.085

Electrical Schematic



Part Number Description

SP13 - 2816 A 1R5 M
① ② ③ ④ ⑤

① Type
② Dimensions
③ Characteristic code
④ Inductance value
⑤ Tolerance code

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Electrical Characteristic

Part Number	Inductance L0(uH)	DCR (mΩ)Typ.	DCR (mΩ)Max.	Isat (A)Typ.	Irms (A)Typ.	Marking
SP13-2816A1R5M	1.5	1.50	1.65	100	30	1R5
SP13-2816A2R2M	2.2	1.50	1.65	82	30	2R2
SP13-2816A3R3M	3.3	1.50	1.65	48	30	3R3
SP13-2816A4R7M	4.7	1.50	1.65	33	30	4R7
SP13-2816A6R8M	6.8	1.50	1.65	22	30	6R8
SP13-2816A100K	10	1.50	1.65	13	30	100
SP13-2816A150K	15	1.50	1.65	7.5	30	150
SP13-2816A220K	22	1.50	1.65	4.5	30	220
SP13-2816A330K	33	1.50	1.65	2.0	30	330

Electrical Characteristic

Part Number	Inductance L0(uH)	DCR (mΩ)Typ.	DCR (mΩ)Max.	Isat (A)Typ.	Irms (A)Typ.	Marking
SP13-2816B2R2M	2.2	1.86	2.05	100	30	2R2
SP13-2816B3R3M	3.3	1.86	2.05	62	30	3R3
SP13-2816B4R7M	4.7	1.86	2.05	42	30	4R7
SP13-2816B6R8M	6.8	1.86	2.05	30	30	6R8
SP13-2816B100K	10	1.86	2.05	18	30	100
SP13-2816B150K	15	1.86	2.05	12	30	150
SP13-2816B220K	22	1.86	2.05	7.0	30	220
SP13-2816B330K	33	1.86	2.05	4.0	30	330

- Tolerance of Inductance:K= ±10%,M= ±20%,N= ±30%.
- Test frequency and voltage:500KHz,1Vrms.
- All test data referenced to 25℃ ambient.
- Saturation current(Isat) will cause L0 to drop approximately 20%.
- Heat rated current(Irms) will cause the coil temperature rise approximate Δt of 40℃.

SP13 Series Shielded Power Inductors

Electrical Characteristic

Part Number	Inductance	DCR		Isat[1]	Isat[2]	Isat[3]	Irms	Marking
	L0(uH)	(mΩ)Typ.	(mΩ)Max.	(A)Typ.	(A)Typ.	(A)Typ.	(A)Typ.	
SP13-2820A3R3M	3.3	2.5	2.75	85.0	87.0	89.0	31.0	3R3
SP13-2820A4R7M	4.7	2.5	2.75	60.5	63.0	65.0	31.0	4R7
SP13-2820A6R8M	6.8	2.5	2.75	42.0	45.0	46.0	31.0	6R8
SP13-2820A8R2M	8.2	2.5	2.75	36.0	38.5	39.4	31.0	8R2
SP13-2820A100M	10	3.2	3.52	31.0	33.0	34.1	26.8	100
SP13-2820A120M	12	3.2	3.52	28.5	31.0	32.0	26.8	120
SP13-2820A150M	15	3.5	3.85	25.5	27.5	28.1	25.5	150
SP13-2820A180M	18	4.5	4.95	22.5	24.9	25.6	22.0	180
SP13-2820A220M	22	6.2	6.82	20.5	22.3	23.0	19.0	220
SP13-2820A330M	33	8.9	9.79	17.5	19.0	19.8	15.6	330
SP13-2820A470M	47	11.5	12.7	15.0	16.8	17.4	13.7	470
SP13-2820A560M	56	15.0	16.5	13.5	14.8	15.2	12.0	560
SP13-2820A620M	62	15.0	16.5	12.5	13.4	14.0	12.0	620
SP13-2820A680M	68	15.0	16.5	11.0	12.3	12.9	12.0	680
SP13-2820A101M	100	22.0	25.3	8.9	9.5	9.8	10.0	101
SP13-2820A151M	150	31.5	36.2	7.7	8.3	8.7	7.5	151
SP13-2820A221M	220	41.1	47.3	5.5	6.0	6.3	6.5	221
SP13-2820A331M	330	56.0	64.4	4.5	5.1	5.3	5.5	331
SP13-2820A471M	470	76.5	88.0	3.9	4.3	4.5	4.5	471

- Tolerance of Inductance:K= ±10%,M= ±20%,N= ±30%.
- Test frequency and voltage:300KHz,1Vrms.
- All test data referenced to 25℃ ambient.
- Saturation current(Isat[1]) will cause L0 to drop approximately 10%.
- Saturation current(Isat[2]) will cause L0 to drop approximately 20%.
- Saturation current(Isat[3]) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximate Δt of 40℃.