SP15 Series Shielded Power Inductors

Features

- High energy storage and very low resistance
- High efficiency
- Frequency range up to 5.0 MHz
- Alloy powder core material

Applications

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

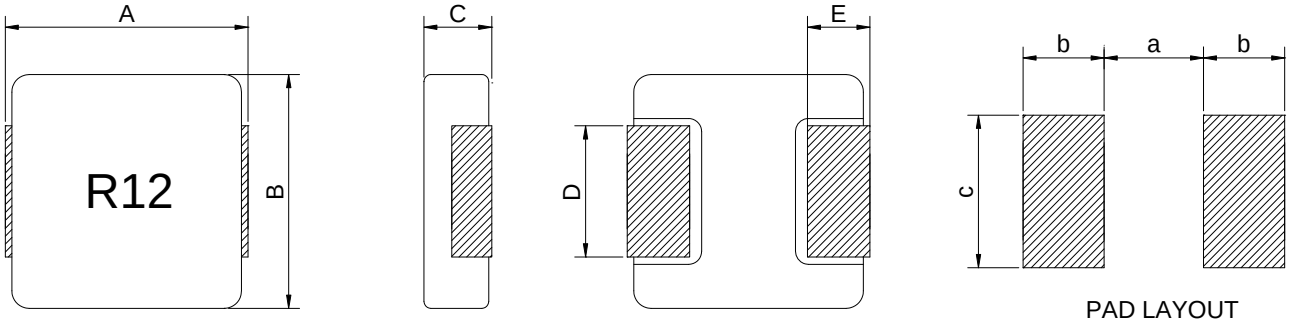
Environmental Data

- 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

- Supplied in tape and reel packaging, 4000pcs(SP15-037012),3000pcs(SP15-037020), 4000pcs(SP15-047012),3000pcs(SP15-047020), per 13-inch reel

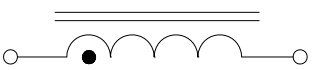
Mechanical Dimension(Unit:mm/inches)



PAD LAYOUT

Type	A	B	C	D	E	a	b	c
			Max.	Nom.	Nom.	Nom.	Nom.	Nom.
SP15-037012	3.4±0.3	3.0±0.2	1.2	1.3	0.7	1.2	1.5	1.8
	0.134±0.012	0.119±0.008	0.048	0.051	0.028	0.048	0.059	0.071
SP15-037020	3.4±0.3	3.0±0.2	2.0	1.3	0.7	1.2	1.5	1.8
	0.134±0.012	0.119±0.008	0.079	0.051	0.028	0.048	0.059	0.071
SP15-047012	4.4±0.3	4.0±0.3	1.2	2.0	0.76	1.9	1.55	2.5
	0.174±0.012	0.158±0.012	0.048	0.079	0.030	0.075	0.061	0.099
SP15-047020	4.4±0.3	4.0±0.3	2.0	2.0	0.76	1.9	1.55	2.5
	0.174±0.012	0.158±0.012	0.079	0.079	0.030	0.075	0.061	0.099

Electrical Schematic



Part Number Description

SP15 - 037012 R12 M
① ② ③ ④

① Type
② Dimensions
③ Inductance value
④ Tolerance code

CHIKARA

Version:A Revised:Dec/12/2015
www.chikaracoil.com

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Electrical Characteristic

Part Number	Inductance	DCR		Isat		Irms		Marking
	L0(uH)	(mΩ)Typ.	(mΩ))Max.	(A)Typ.	(A)Max.	(A)Typ.	(A)Max.	
SP15-037012R12M	0.12	4.3	5.5	17.0	14.0	10.0	8.0	R12
SP15-037012R33M	0.33	15.8	18.0	9.6	8.6	7.2	5.2	R33
SP15-037012R47M	0.47	22.0	25.0	8.2	7.2	6.2	4.2	R47
SP15-0370121R0M	1.00	39.2	45.0	5.4	4.2	4.0	3.0	1R0
SP15-0370122R2M	2.20	88.5	102	4.0	3.4	2.5	2.1	2R2
SP15-0370123R3M	3.30	136	155	2.4	2.0	1.8	1.4	3R3
SP15-037012100M	10.0	313	360	1.5	1.2	1.0	0.8	100

Electrical Characteristic

Part Number	Inductance	DCR		Isat		Irms		Marking
	L0(uH)	(mΩ)Typ.	(mΩ))Max.	(A)Typ.	(A)Max.	(A)Typ.	(A)Max.	
SP15-037020R22M	0.22	8.5	10.0	16.0	13.0	10.0	8.0	R22
SP15-037020R47M	0.47	18.0	21.5	11.0	9.5	8.0	6.5	R47
SP15-037020R68M	0.68	22.0	26.0	10.0	8.5	7.0	5.5	R68
SP15-0370201R0M	1.00	32.0	36.0	8.0	6.0	5.0	4.0	1R0
SP15-0370201R5M	1.50	34.0	39.0	6.0	5.0	4.2	3.2	1R5
SP15-0370202R2M	2.20	60.0	69.0	4.8	4.0	3.3	2.8	2R2
SP15-0370204R7M	4.70	142.0	158.0	3.3	2.8	2.4	2.0	4R7

Electrical Characteristic

Part Number	Inductance	DCR		Isat		Irms		Marking
	L0(uH)	(mΩ)Typ.	(mΩ))Max.	(A)Typ.	(A)Max.	(A)Typ.	(A)Max.	
SP15-047012R33M	0.33	12.0	14.5	14.0	12.0	10.0	8.0	CR33
SP15-047012R47M	0.47	16.8	20.0	13.0	10.0	8.8	7.0	CR47
SP15-047012R68M	0.68	19.0	23.0	9.0	7.0	6.0	5.0	CR68
SP15-0470121R0M	1.00	36.5	43.0	7.8	6.2	5.2	4.5	C1R0
SP15-0470121R5M	1.50	54.5	62.0	6.2	5.4	4.2	3.5	C1R5
SP15-0470122R2M	2.20	72.0	80.0	5.5	4.5	3.5	3.0	C2R2
SP15-0470123R3M	3.30	97.0	111.0	4.5	3.9	2.8	2.4	C3R3

- Tolerance of Inductance:K= ±10%,M= ±20%,N= ±30%.
- Test frequency and voltage:1MHz,1Vrms.
- All test data referenced to 25℃ 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℃.

SP15 Series Shielded Power Inductors

Electrical Characteristic

Part Number	Inductance	DCR		Isat		Irms		Marking
	L0(uH)	(mΩ)Typ.	(mΩ))Max.	(A)Typ.	(A)Max.	(A)Typ.	(A)Max.	
SP15-047020R22M	0.22	5.7	8.0	20.0	17.0	14.0	12.0	CR22
SP15-047020R33M	0.33	8.2	10.2	15.0	12.5	11.0	9.0	CR33
SP15-047020R82M	0.82	13.5	16.0	9.5	8.5	7.0	6.0	CR82
SP15-0470201R0M	1.00	16.4	21.0	9.0	7.2	6.5	5.5	C1R0
SP15-0470201R2M	1.20	20.0	25.0	8.0	6.6	5.5	4.8	C1R2
SP15-0470201R5M	1.50	22.0	28.0	7.0	6.0	4.8	4.0	C1R5
SP15-0470202R2M	2.20	31.5	38.0	5.5	4.5	4.0	3.5	C2R2
SP15-0470203R3M	3.30	47.5	55.0	4.2	3.5	3.5	3.0	C3R3
SP15-0470204R7M	4.70	58.0	70.0	3.8	3.2	3.0	2.2	C4R7
SP15-047020100M	10.0	154.0	190.0	3.5	3.0	2.2	1.8	C100
SP15-047020220M	22.0	430.0	460.0	1.8	1.5	1.2	1.0	C220

- Tolerance of Inductance:K= ±10%,M= ±20%,N= ±30%.
- Test frequency and voltage:1MHz,1Vrms.
- All test data referenced to 25℃ 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℃.