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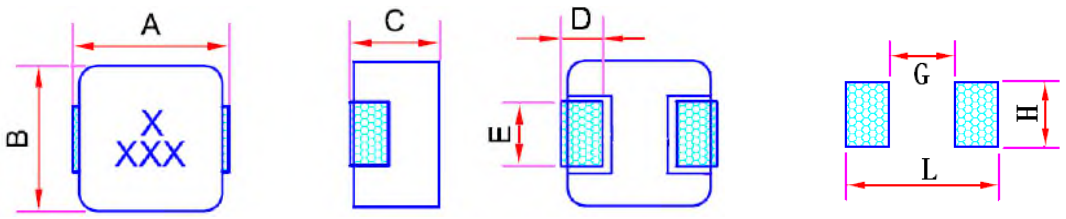
RoHS

Shielded SMT Power Inductor
SPI0603B-2213B Series

■ SHAPES AND DIMENSIONS



Unit: mm

P/N	A	B	C	D	E
SPI0603BS	7.10±0.2	6.60±0.2	2.8±0.2	1.60±0.3	By each
SPI0804B	8.60±0.3	8.1±0.25	3.8±0.2	1.80±0.3	3.2±0.5
SPI1004B	11.0±0.5	10.0±0.3	3.8±0.2	2.30±0.3	3.0±0.5
SPI1205B	13.4±0.5	12.6±0.3	4.8±0.2	2.30±0.3	3.0±0.5
SPI1265B	13.4±0.5	12.6±0.3	6.3±0.2	2.30±0.3	3.0±0.5
SPI1704B	17.3±0.5	17.0±0.3	3.8±0.2	2.10±0.3	12.0±0.3
SPI1707B	17.3±0.5	17.0±0.3	6.7±0.3	2.10±0.3	12.0±0.3
SPI2213B	23.0±0.5	22.0±0.5	12.5±0.5	5.00±0.4	18.5±0.3

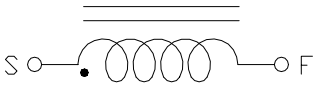
Recommend PAD Layout

G	H	L
3.7	3.5	8.0
4.6	3.8	10.6
5.4	4.5	12.4
8.0	5.0	14.5
8.0	5.0	14.5
11.7	12.2	18.0
11.7	12.2	18.0
12.2	19.6	23.8

Marking： B

XXX = Inductance

Equivalent circuit



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■ PART NUMBER CODE

SPI	0804	B	-	4R7	M	A
1	2	3		4	5	6

1. Series Name
2. Size Code
3. Type Code
4. Inductance(R=Decimal Point) Unit：μH ; 4R7 =4.7uH
5. Inductance tolerance: ”M”±20%
6. Soldering：A=Lead Free

■ ELECTRICAL CHARACTERISTICS

1. Test equipments

1.1. L : Wayne kerr 3260B LCR meter with Wayne kerr 3265B bias current source.

1.2. DCR: Milli-ohm meter.

1.3. Operating temperature range from -55℃ to 125℃ (includes self-temperature rise)

* Equivalent measurement equipment may be used.

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2. Part Number and Characteristics Table

Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.	E mm ±0.5
		Typ.	Max.			
SPI0603BS-R10MA	0.10	1.15	1.70	60.0	32.5	2.0
SPI0603BS-R15MA	0.15	1.35	2.50	52.0	26.0	2.0
SPI0603BS-R20MA	0.20	2.45	3.00	41.0	24.0	3.0
SPI0603BS-R22MA	0.22	2.45	2.80	40.0	23.0	3.0
SPI0603BS-R33MA	0.33	3.10	3.90	30.0	20.0	3.0
SPI0603BS-R47MA	0.47	4.00	4.20	26.0	17.5	3.0
SPI0603BS-R56MA	0.56	4.80	5.00	25.5	16.5	3.0
SPI0603BS-R68MA	0.68	4.95	5.50	25.0	15.5	3.0
SPI0603BS-R82MA	0.82	7.15	8.00	24.0	13.0	3.0
SPI0603BS-1R0MA	1.0	9.30	10.0	22.0	11.0	3.0
SPI0603BS-1R2MA	1.2	11.6	13.0	20.0	10.0	3.0
SPI0603BS-1R5MA	1.5	13.5	15.0	18.0	9.0	3.0
SPI0603BS-1R8MA	1.8	14.9	18.0	16.0	8.5	3.0
SPI0603BS-2R2MA	2.2	18.3	20.0	14.0	8.0	3.0
SPI0603BS-3R3MA	3.3	28.0	30.0	13.5	6.0	3.0
SPI0603BS-4R7MA	4.7	38.0	40.0	10.0	5.5	3.0
SPI0603BS-5R6MA	5.6	46.9	50.0	9.0	5.0	3.0
SPI0603BS-6R8MA	6.8	54.8	60.0	8.0	4.5	3.0
SPI0603BS-8R2MA	8.2	61.5	68.0	7.5	4.0	3.0
SPI0603BS-100MA	10.0	72.4	105.0	7.0	3.0	3.0

Note:

- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.25 Vrms.
- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

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Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI0804B-R33MA	0.33	1.43	1.90	45.0	28.0
SPI0804B-R47MA	0.47	1.77	2.20	35.0	27.0
SPI0804B-3R3MA	3.30	13.4	17.7	20.0	10.0
SPI0804B-100MA	10.0	48.2	59.9	9.5	5.2
SPI0804B-220MA	22.0	72.9	93.0	7.0	4.5
SPI0804B-330MA	33.0	119.8	144.0	5.4	3.0

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- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1004B-R56MA	0.56	1.51	1.80	55.0	25.0
SPI1004B-1R0MA	1.0	2.75	3.50	40.0	20.0
SPI1004B-1R5MA	1.5	3.85	4.20	33.0	16.0
SPI1004B-2R2MA	2.2	7.09	9.00	26.0	12.0
SPI1004B-3R3MA	3.3	10.9	12.0	23.0	10.0
SPI1004B-4R7MA	4.7	15.5	16.5	17.0	9.5
SPI1004B-6R8MA	6.8	20.5	23.3	15.0	8.0
SPI1004B-100MA	10.0	28.4	36.5	12.0	6.8
SPI1004B-220MA	22.0	60.6	66.0	7.0	5.0
SPI1004B-330MA	33.0	93.2	105.0	6.5	4.1
SPI1004B-470MA	47.0	145.0	167.0	4.5	3.0

Note:

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- Test Condition: 100KHz, 0.25 Vrms.
- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1205B-R47MA	0.47	1.14	1.50	65.0	35.0
SPI1205B-R68MA	0.68	1.33	1.70	54.0	34.0
SPI1205B-1R0MA	1.00	2.04	2.50	50.0	29.0
SPI1205B-2R2MA	2.20	4.40	5.50	32.0	20.0
SPI1205B-100MA	10.0	23.5	28.0	17.5	9.0
SPI1205B-330MA	33.0	73.9	78.0	9.0	5.2

Note:

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- Test Condition: 100KHz, 0.25 Vrms.
- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1265B-1R0MA	1.0	1.59	1.90	51.0	35.0
SPI1265B-3R3MA	3.3	4.35	5.20	40.0	20.0
SPI1265B-4R7MA	4.7	5.97	7.20	32.0	18.0
SPI1265B-470MA	47.0	74.2	90.0	9.0	4.5

Note:

- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.25 Vrms.
- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1704B-2R2MA	2.2	5.73	6.40	40.0	19.0
SPI1704B-3R3MA	3.3	7.70	9.51	31.0	18.5
SPI1704B-4R7MA	4.7	10.01	11.2	27.0	16.0
SPI1704B-6R8MA	6.8	14.70	16.0	21.0	13.2
SPI1704B-8R2MA	8.2	16.50	17.6	20.0	11.5
SPI1704B-100MA	10.0	22.70	25.6	19.5	10.5

Note:

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- Test Condition: 100KHz, 0.25 Vrms.
- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1707B-1R5MA	1.5	1.77	1.88	65.0	42.0
SPI1707B-4R7MA	4.7	3.42	4.50	41.0	30.0
SPI1707B-5R6MA	5.6	4.20	5.60	40.0	28.0
SPI1707B-6R8MA	6.8	5.40	7.50	32.0	19.0
SPI1707B-100MA	10.0	8.85	12.0	29.0	17.0
SPI1707B-150MA	15.0	17.84	19.9	25.0	12.5
SPI1707B-220MA	22.0	24.43	26.5	23.0	11.0
SPI1707B-470MA	47.0	34.77	45.0	13.0	9.0

Note:

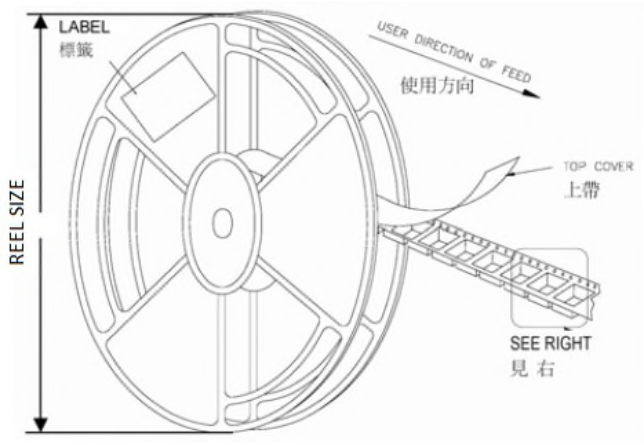
- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.25 Vrms.
- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

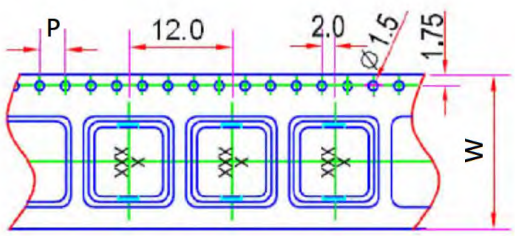
Part No.	Inductance L(uH)	DCR（mΩ）		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI2213B-100MA	10.0	3.8	4.6	44.0	35.0
SPI2213B-150MA	15.0	5.3	6.4	36.0	31.0
SPI2213B-330MA	33.0	13.4	16.0	28.0	22.0

Note:

- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.25 Vrms.
- Isat (Typ): DC current（A）that will cause L0 to drop approximately 30%.
- Irms (Typ): DC current（A）that will cause an approximate ΔT of 40℃.

■ REEL DIMENSIONS AND PACKAGING QUANTITY





Unit: mm

TYPE	W	P	REEL SIZE	PCS / REEL
SPI0603BS	16	12	330 mm (13”)	1500
SPI0804B	24	12	330 mm (13”)	1000
SPI1004B	24	16	330 mm (13”)	900
SPI1205B	24	20	330 mm (13”)	500
SPI1265B	24	20	330 mm (13”)	400
SPI1704B	32	24	330 mm (13”)	500
SPI1707B	32	24	330 mm (13”)	300
SPI2213B	44	32	330 mm (13”)	130

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