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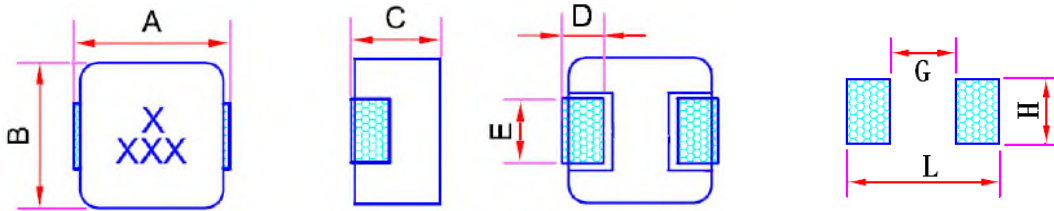
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## Shielded SMT Power Inductor SPI0603F-2213F Series

### ■ SHAPES AND DIMENSIONS



Unit: mm

P/N	A	B	C	D	E
SPI0603FS	7.10±0.2	6.60±0.2	2.8±0.2	1.60±0.3	By each
SPI0804F	8.6±0.3	8.0±0.25	3.8±0.2	1.80±0.3	By each
SPI1004F	11.0±0.5	10.0±0.3	3.8±0.2	2.30±0.3	3.0±0.5
SPI1205F	13.4±0.5	12.6±0.3	4.8±0.2	2.30±0.3	3.0±0.5
SPI1265F	13.4±0.5	12.6±0.3	6.3±0.2	2.30±0.3	3.0±0.5
SPI1704F	17.3±0.5	17.0±0.3	3.8±0.2	2.10±0.3	12.0±0.3
SPI1707F	17.3±0.5	17.0±0.3	6.7±0.3	2.10±0.3	12.0±0.3
SPI2213F	23.0±0.5	22.0±0.5	12.5±0.5	5.0±0.4	18.5±0.3

Recommend PAD Layout

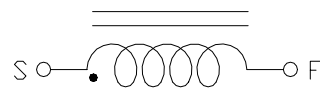
G	H	L
3.7	3.5	8.0
4.6	3.8	10.6
5.4	4.5	12.4
8.0	5.0	14.5
8.0	5.0	14.5
11.7	12.2	18.0
11.7	12.2	18.0
12.2	19.6	23.8

Marking :

F

XXX = Inductance

Equivalent circuit





## ■ PART NUMBER CODE

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

1. Series Name
2. Size Code
3. Type Code
4. Inductance(R=Decimal Point)   Unit :  $\mu\text{H}$  ; 4R7 =4.7 $\mu\text{H}$
5. Inductance tolerance: "M" $\pm 20\%$
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  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$  (includes self-temperature rise)

\* Equivalent measurement equipment may be used.



## 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.			
SPI0603FS-1R0MA	1.0	7.0	8.0	9.5	12.5	3.0
SPI0603FS-1R5MA	1.5	10.2	12.0	8.5	10.5	3.0
SPI0603FS-2R2MA	2.2	14.7	16.5	7.0	9.0	3.0
SPI0603FS-3R3MA	3.3	23.5	26.0	6.5	7.0	3.0
SPI0603FS-4R7MA	4.7	29.5	33.4	4.0	6.0	3.0
SPI0603FS-6R8MA	6.8	41.0	46.8	4.0	5.5	3.0
SPI0603FS-8R2MA	8.2	52.5	54.9	4.0	5.0	3.0
SPI0603FS-100MA	10.0	64.5	71.2	3.5	4.0	3.0
SPI0603FS-150MA	15.0	108.0	118.0	4.0	3.0	3.0
SPI0603FS-220MA	22.0	126.0	135.0	2.5	2.9	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°C .



Part No.	Inductance L(uH)	DCR (mΩ)		Isat(A) Typ.	Irms(A) Typ.	E mm ±0.5
		Typ.	Max.			
SPI0804F-R19MA	0.19	1.18	1.35	22.0	34.0	3.0
SPI0804F-R33MA	0.33	1.60	2.15	16.0	27.5	3.0
SPI0804F-R47MA	0.47	2.22	2.38	14.0	25.0	3.0
SPI0804F-R68MA	0.68	2.90	3.22	14.5	22.2	3.0
SPI0804F-R82MA	0.82	2.81	3.88	15.0	19.5	3.0
SPI0804F-1R0MA	1.0	4.03	4.63	12.0	18.2	3.2
SPI0804F-2R2MA	2.2	8.80	9.41	10.2	14.2	3.2
SPI0804F-3R3MA	3.3	12.45	14.9	9.7	10.5	3.2
SPI0804F-4R7MA	4.7	19.80	22.6	8.7	8.0	3.2
SPI0804F-5R6MA	5.6	24.53	28.6	7.6	7.4	3.2
SPI0804F-6R8MA	6.8	28.34	33.4	6.7	7.0	3.2
SPI0804F-8R2MA	8.2	39.64	45.0	6.6	5.7	3.2
SPI0804F-100MA	10	44.15	51.8	6.4	5.4	3.2
SPI0804F-150MA	15	53.50	65.3	3.7	4.9	3.2
SPI0804F-220MA	22	70.47	94.2	3.3	4.3	3.2
SPI0804F-330MA	33	114.78	144.0	3.2	3.2	3.2

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°C.



Part No.	Inductance L(uH)	DCR (mΩ)		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1004F-R19MA	0.19	0.6	0.80	46.0	40.0
SPI1004F-R22MA	0.22	0.8	0.95	44.0	33.0
SPI1004F-R27MA	0.27	0.8	0.95	44.0	33.0
SPI1004F-R36MA	0.36	1.0	1.20	30.0	32.0
SPI1004F-R47MA	0.47	1.4	1.68	30.0	30.0
SPI1004F-R56MA	0.56	1.7	1.8	22.0	32.0
SPI1004F-R68MA	0.68	2.2	2.4	22.0	27.0
SPI1004F-R82MA	0.82	2.4	2.7	22.0	25.0
SPI1004F-1R0MA	1.0	2.5	3.3	20.0	25.0
SPI1004F-1R5MA	1.5	3.5	4.3	16.0	17.0
SPI1004F-2R2MA	2.2	7.8	8.5	12.0	15.0
SPI1004F-4R7MA	4.7	13.8	16.0	7.6	9.5
SPI1004F-6R8MA	6.8	18.7	19.3	7.5	9.0
SPI1004F-8R2MA	8.2	25.5	28.0	7.3	8.0
SPI1004F-100MA	10.0	28.3	30.5	7.1	7.5
SPI1004F-150MA	15.0	38.3	45.0	6.0	6.25
SPI1004F-220MA	22.0	61.3	66.0	4.5	5.0
SPI1004F-330MA	33.0	89.0	94.5	4.0	4.4
SPI1004F-470MA	47.0	129.1	145.0	3.0	3.3

**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°C.



Part No.	Inductance L(uH)	DCR (mΩ)		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1205F-R68MA	0.68	1.52	1.70	35.0	34.0
SPI1205F-1R5MA	1.5	2.68	3.50	30.0	25.0
SPI1205F-3R3MA	3.3	8.37	9.20	22.0	15.0
SPI1205F-6R8MA	6.8	14.29	18.5	14.0	11.0

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°C .



Part No.	Inductance L(uH)	DCR ( mΩ )		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1265F-3R3MA	3.3	4.46	5.5	22.0	20.0
SPI1265F-4R7MA	4.7	6.06	7.5	21.0	18.0
SPI1265F-5R6MA	5.6	6.92	9.0	18.0	16.0

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°C.





Part No.	Inductance L(uH)	DCR ( mΩ )		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1704F-4R7MA	4.7	8.60	9.32	16.0	18.0
SPI1704F-5R6MA	5.6	11.53	12.20	15.0	15.0
SPI1704F-6R8MA	6.8	12.98	13.79	13.0	14.5
SPI1704F-100MA	10	16.90	18.92	11.0	12.0
SPI1704F-330MA	33	65.60	70.84	8.0	6.5
SPI1704F-470MA	47	89.50	108.5	5.0	5.0

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  $\Delta T$  of 40°C .



Part No.	Inductance L(uH)	DCR ( mΩ )		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI1707F-2R2MA	2.2	1.78	1.98	31.0	43.5
SPI1707F-3R3MA	3.3	2.65	2.93	27.0	35.0
SPI1707F-4R7MA	4.7	4.00	4.18	23.0	30.0
SPI1707F-6R8MA	6.8	5.56	6.15	21.0	22.5
SPI1707F-100MA	10	7.88	9.33	17.0	19.0
SPI1707F-150MA	15	13.8	14.4	14.0	14.0
SPI1707F-220MA	22	19.9	21.0	11.5	12.0
SPI1707F-330MA	33	31.0	37.0	9.0	10.7
SPI1707F-470MA	47	36.0	42.7	8.6	8.7
SPI1707F-680MA	68	70.22	75.7	7.0	6.1
SPI1707F-820MA	82	78.04	91.7	6.2	5.5

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°C .



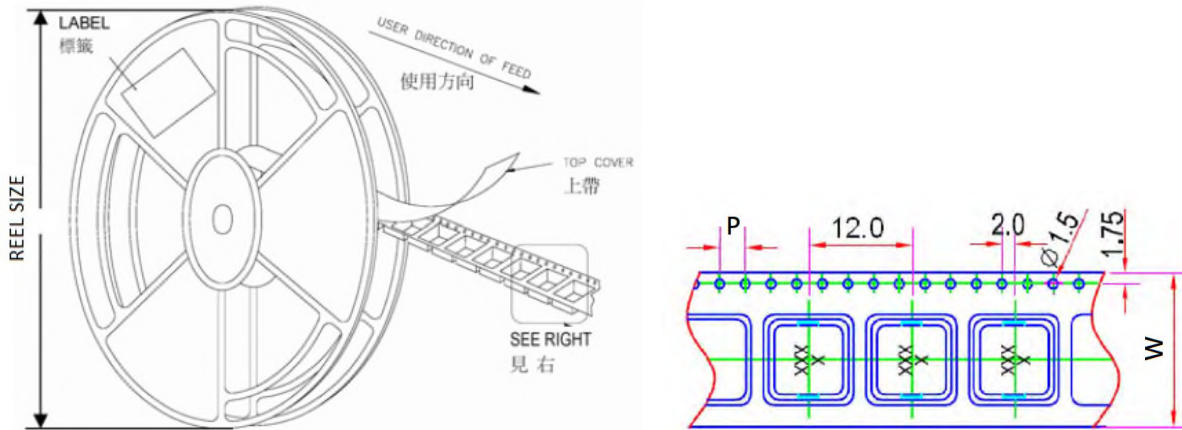
Part No.	Inductance L(uH)	DCR ( mΩ )		Isat(A) Typ.	Irms(A) Typ.
		Typ.	Max.		
SPI2213F-5R6MA	5.6	2.06	2.30	38	40.0
SPI2213F-6R8MA	6.8	2.52	3.09	36	36.0
SPI2213F-100MA	10	3.57	4.14	28	28.0
SPI2213F-150MA	15	4.89	6.11	24	23.5
SPI2213F-220MA	22	8.50	10.8	22	20.0
SPI2213F-330MA	33	13.50	15.4	17	16.0
SPI2213F-470MA	47	15.90	17.7	15	15.0
SPI2213F-820MA	82	30.57	34.2	12	10.2
SPI2213F-101MA	100	37.80	40.0	10	9.5

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°C .



## ■ REEL DIMENSIONS AND PACKAGING QUANTITY



Unit: mm

TYPE	W	P	REEL SIZE	PCS / REEL
SPI0603FS	16	12	330 mm (13")	1500
SPI0804F	24	12	330 mm (13")	1000
SPI1004F	24	16	330 mm (13")	900
SPI1205F	24	20	330 mm (13")	500
SPI1265F	24	20	330 mm (13")	400
SPI1704F	32	24	330 mm (13")	500
SPI1707F	32	24	330 mm (13")	300
SPI2213F	44	32	330 mm (13")	130