



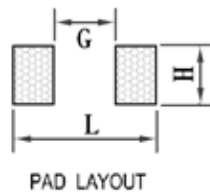
SMI SERIE

MULTILAYER FERRITE CHIP INDUCTORS.

Applications :

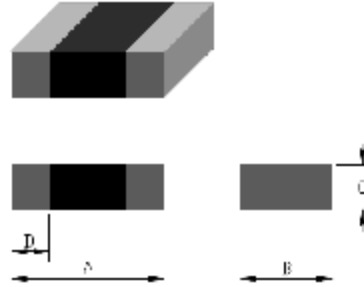
- CD-ROMs · Hard disks.
- Modems · Computers.
- Printers · Televisions.

Recommended Pattern :



TYPE	G	L	H
160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
201212	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2

Shape and Dimensions (Dimensions are in mm) :



TYPE	A	B	C	D
160808	1.6±0.15	0.80±0.15	0.80±0.15	0.30±0.20
201209	2.0±0.20	1.25±0.20	0.90±0.20	0.50±0.30
201212	2.0±0.20	1.25±0.20	1.25±0.20	0.50±0.30

Dimensions Conversion :

Code	Dimension in mm	EIA
160808	1.6X0.8X0.8	0603
201209	2.0X1.2X0.9	0805
201212	2.0X1.2X1.2	0805

Features :

I High Performance Characteristics

SMI chips exhibit low DC resistance and high Q at high frequency.

I Wide Inductance Range

SMI chip inductors cover a wide range of inductance values from 0.047 µH to 220 µH.

I High Reliability

SMI chip inductors have a monolithic inorganic material construction that effectively minimizes electromagnetic interference.

I High Soldering Heat Resistance

SMI chip inductors have high quality termination allowing both flow and reflow soldering methods to be used.

Product Identification :

SMI – 160808 – P EF – 47N K

(1) (2) (3) (4) (5) (6)

- (1) Product Code.
- (2) Dimensions (in mm).
- (3) P : For High Current.
- (4) Design Code.
- (5) Inductance.
- (6) Tolerance (K:10% · M:20% · N:30%).

Test equipments :

L&Q&SRF By Agilent 4291A RF Impedance Analyzer with HP16197A Test Fixture.

DCR By milli-ohm meter.

- Electrical specifications at 25°C.

Operating Temperature : -55°C ~ 125°C.



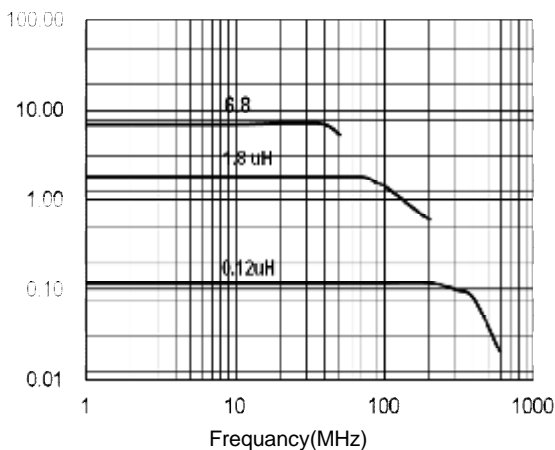
I SMI Series (General Circuit Application)

【SMI-160808 type】

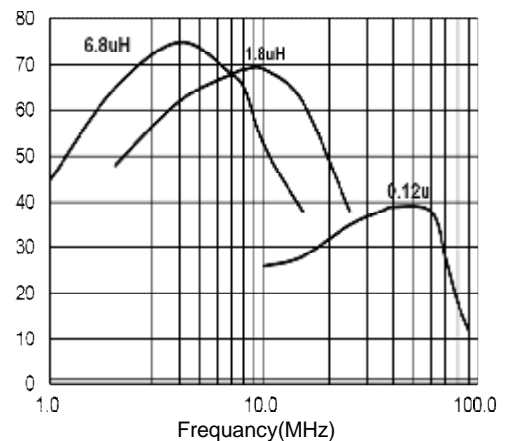
Part No.	L (uH)	Q Min.	Test Freq. (MHz)	S.R.F (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
SMI-160808E-47NM	0.047	15	50	260	0.30	50
SMI-160808E-56NM	0.056	15	50	255	0.30	50
SMI-160808E-68NM	0.068	15	50	250	0.30	50
SMI-160808E-82NM	0.082	15	50	245	0.30	50
SMI-160808E-R10K	0.10	25	25	240	0.50	50
SMI-160808E-R12K	0.12	25	25	205	0.50	50
SMI-160808E-R15K	0.15	25	25	180	0.60	50
SMI-160808E-R18K	0.18	25	25	165	0.60	50
SMI-160808E-R22K	0.22	25	25	150	0.80	50
SMI-160808E-R27K	0.27	25	25	136	0.80	50
SMI-160808E-R33K	0.33	25	25	125	0.85	35
SMI-160808E-R39K	0.39	25	25	110	1.00	35
SMI-160808E-R47K	0.47	25	25	105	1.35	35
SMI-160808E-R56K	0.56	25	25	95	1.50	35
SMI-160808E-R68K	0.68	25	25	85	1.70	35
SMI-160808E-R82K	0.82	25	25	75	2.10	35
SMI-160808E-1R0K	1.00	35	10	65	0.68	25
SMI-160808E-1R2K	1.20	35	10	60	0.80	25
SMI-160808E-1R5K	1.50	35	10	55	0.80	25
SMI-160808E-1R8K	1.80	35	10	50	0.95	25
SMI-160808E-2R2K	2.20	35	10	45	1.10	15
SMI-160808E-2R7K	2.70	35	10	40	1.30	15
SMI-160808E-3R3K	3.30	35	10	38	1.50	15
SMI-160808E-3R9K	3.90	35	10	36	1.70	15
SMI-160808E-4R7K	4.70	35	10	33	2.10	15
SMI-160808E-5R6K	5.60	35	4	22	1.50	5
SMI-160808E-6R8K	6.80	35	4	20	1.70	5
SMI-160808E-8R2K	8.20	30	4	18	2.10	5
SMI-160808E-100K	10.0	30	2	17	2.55	5

Typical electrical curves :

Inductance vs. Freq. Characteristics



Q vs. Freq. Characteristics

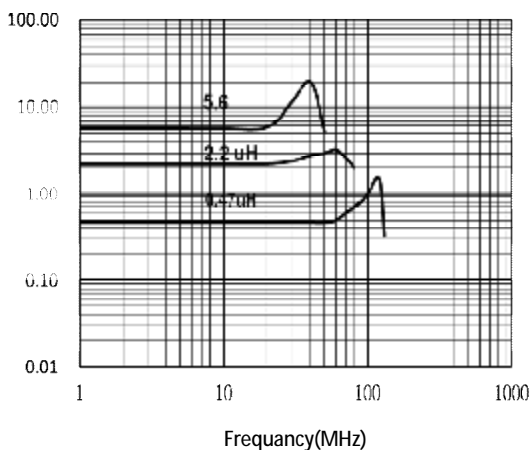



【SMI-201209 type】

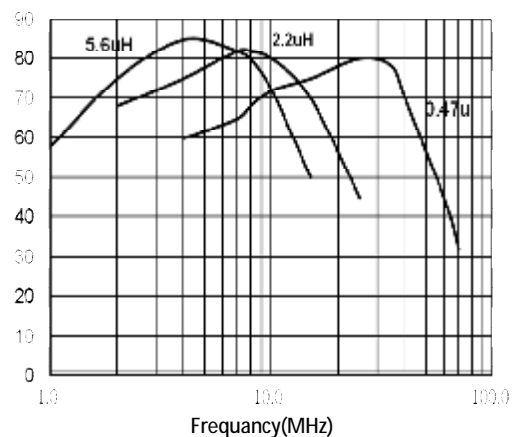
Part No.	L (uH)	Q Min.	Test Freq. (MHz)	S.R.F (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
SMI-201209E-47NM	0.047	20	50	320	0.20	300
SMI-201209E-56NM	0.056	20	50	320	0.20	300
SMI-201209E-68NM	0.068	20	50	280	0.20	300
SMI-201209E-82NM	0.082	20	50	255	0.20	300
SMI-201209E-R10K	0.10	25	25	235	0.30	250
SMI-201209E-R12K	0.12	25	25	220	0.30	250
SMI-201209E-R15K	0.15	25	25	200	0.40	250
SMI-201209E-R18K	0.18	25	25	185	0.40	250
SMI-201209E-R22K	0.22	25	25	170	0.50	250
SMI-201209E-R27K	0.27	25	25	150	0.50	250
SMI-201209E-R33K	0.33	25	25	145	0.55	250
SMI-201209E-R39K	0.39	25	25	135	0.65	250
SMI-201209E-R47K	0.47	25	25	125	0.65	250
SMI-201209E-R56K	0.56	25	25	115	0.75	150
SMI-201209E-R68K	0.68	25	25	105	0.80	150
SMI-201209E-R82K	0.82	25	25	100	1.00	150
SMI-201209E-1R0K	1.00	45	10	75	0.40	50
SMI-201209E-1R2K	1.20	45	10	65	0.50	50
SMI-201209E-1R5K	1.50	45	10	60	0.50	50
SMI-201209E-1R8K	1.80	45	10	55	0.60	50
SMI-201209E-2R2K	2.20	45	10	50	0.65	30
SMI-201212E-2R7K	2.70	45	10	45	0.75	30
SMI-201212E-3R3K	3.30	45	10	41	0.80	30
SMI-201212E-3R9K	3.90	45	10	38	0.90	30
SMI-201212E-4R7K	4.70	45	10	35	1.00	30
SMI-201212E-5R6K	5.60	45	4	32	0.90	15
SMI-201212E-6R8K	6.80	45	4	29	1.00	15
SMI-201212E-8R2K	8.20	45	4	26	1.10	15
SMI-201212E-100K	10.0	45	2	24	1.10	15

Typical electrical curves :

Inductance vs. Freq. Characteristics



Q vs. Freq. Characteristics





I SMI-PEF series (General Circuit Application- Low DCR)

【SMI-160808PEF type】

Part No.	Inductance (uH)	Test Freq. (MHz)	S.R.F (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
SMI-160808PEF-47N□	0.047	1	260	0.12	150
SMI-160808PEF-56N□	0.056	1	260	0.12	150
SMI-160808PEF-68N□	0.068	1	250	0.12	150
SMI-160808PEF-82N□	0.082	1	245	0.12	150
SMI-160808PEF-R10□	0.10	1	240	0.15	150
SMI-160808PEF-R12□	0.12	1	205	0.20	150
SMI-160808PEF-R15□	0.15	1	180	0.20	150
SMI-160808PEF-R18□	0.18	1	165	0.20	150
SMI-160808PEF-R22□	0.22	1	150	0.25	150
SMI-160808PEF-R27□	0.27	1	136	0.30	100
SMI-160808PEF-R33□	0.33	1	125	0.30	100
SMI-160808PEF-R39□	0.39	1	110	0.35	100
SMI-160808PEF-R47□	0.47	1	105	0.45	100
SMI-160808PEF-R56□	0.56	1	95	0.45	100
SMI-160808PEF-R68□	0.68	1	90	0.55	100
SMI-160808PEF-R82□	0.82	1	85	0.60	100
SMI-160808PEF-1R0□	1.0	1	75	0.30	150
SMI-160808PEF-1R2□	1.2	1	65	0.30	150
SMI-160808PEF-1R5□	1.5	1	60	0.35	120
SMI-160808PEF-1R8□	1.8	1	55	0.40	120
SMI-160808PEF-2R2□	2.2	1	50	0.50	120
SMI-160808PEF-2R7□	2.7	1	45	0.60	100
SMI-160808PEF-3R3□	3.3	1	40	0.65	80
SMI-160808PEF-3R9□	3.9	1	35	0.70	80
SMI-160808PEF-4R7□	4.7	1	33	0.75	60
SMI-160808PEF-5R6□	5.6	1	22	0.90	60
SMI-160808PEF-6R8□	6.8	1	20	0.90	60
SMI-160808PEF-8R2□	8.2	1	18	1.05	60
SMI-160808PEF-100□	10	1	17	1.15	60

NOTE: M \pm 20%,N: \pm 30%

【SMI-201209PEF type】

Part No.	Inductance (uH)	Test Freq. (MHz)	S.R.F (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
SMI-201209PEF-47N□	0.047	1	320	0.15	350
SMI-201209PEF-56N□	0.056	1	320	0.15	350
SMI-201209PEF-68N□	0.068	1	280	0.20	350
SMI-201209PEF-82N□	0.082	1	280	0.20	350
SMI-201209PEF-R10□	0.10	1	235	0.20	350
SMI-201209PEF-R12□	0.12	1	220	0.20	350
SMI-201209PEF-R15□	0.15	1	200	0.20	350
SMI-201209PEF-R18□	0.18	1	185	0.25	300
SMI-201209PEF-R22□	0.22	1	170	0.25	300

Part No.	Inductance (uH)	Test Freq. (MHz)	S.R.F (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
SMI-201209PEF-R27□	0.27	1	150	0.25	300
SMI-201209PEF-R33□	0.33	1	145	0.25	300
SMI-201209PEF-R39□	0.39	1	135	0.30	250
SMI-201209PEF-R47□	0.47	1	125	0.30	250
SMI-201209PEF-R56□	0.56	1	115	0.36	200
SMI-201209PEF-R68□	0.68	1	105	0.36	200
SMI-201209PEF-R82□	0.82	1	100	0.36	200
SMI-201209PEF-1R0□	1.0	1	75	0.26	220
SMI-201209PEF-1R2□	1.2	1	65	0.26	220
SMI-201209PEF-1R5□	1.5	1	60	0.30	180
SMI-201209PEF-1R8□	1.8	1	55	0.30	180
SMI-201209PEF-2R2□	2.2	1	50	0.36	150
SMI-201209PEF-2R7□	2.7	1	45	0.36	150
SMI-201209PEF-3R3□	3.3	1	41	0.40	120
SMI-201209PEF-3R9□	3.9	1	38	0.40	120
SMI-201209PEF-4R7□	4.7	1	35	0.40	120
SMI-201209PEF-5R6□	5.6	1	32	0.60	100
SMI-201209PEF-6R8□	6.8	1	29	0.60	100
SMI-201209PEF-8R2□	8.2	1	26	0.65	100
SMI-201209PEF-100□	10.0	1	24	0.65	100

NOTE: M±20%, N±30%

I SMI-PDF Series (General Circuit Application- High Current and low DCR)

【SMI-201209PDF type】

Part No.	Inductance (uH)	Test Freq. (MHz)	S.R.F (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
SMI-201209PDF-47N□	0.047	1	280	0.10	1100
SMI-201209PDF-56N□	0.056	1	280	0.10	1100
SMI-201209PDF-68N□	0.068	1	250	0.15	1100
SMI-201209PDF-82N□	0.082	1	250	0.15	1100
SMI-201209PDF-R10□	0.10	1	210	0.15	1100
SMI-201209PDF-R12□	0.12	1	200	0.15	1100
SMI-201209PDF-R15□	0.15	1	175	0.15	1100
SMI-201209PDF-R18□	0.18	1	160	0.15	1100
SMI-201209PDF-R22□	0.22	1	150	0.15	1100
SMI-201209PDF-R27□	0.27	1	130	0.15	1100
SMI-201209PDF-R33□	0.33	1	120	0.15	1100
SMI-201209PDF-R39□	0.39	1	110	0.30	1100
SMI-201209PDF-R47□	0.47	1	100	0.30	1100
SMI-201209PDF-R56□	0.56	1	100	0.2	800
SMI-201209PDF-R68□	0.68	1	95	0.2	800
SMI-201209PDF-R82□	0.82	1	90	0.2	800
SMI-201209PDF-1R0□	1.00	1	75	0.24	800
SMI-201209PDF-1R2□	1.20	1	65	0.24	800



Part No.	Inductance (uH)	Test Freq. (MHz)	S.R.F (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
SMI-201209PDF-1R5□	1.5	1	60	0.30	700
SMI-201209PDF-1R8□	1.8	1	55	0.36	600
SMI-201209PDF-2R2□	2.2	1	50	0.36	600
SMI-201209PDF-2R7□	2.7	1	45	0.36	600
SMI-201209PDF-3R3□	3.3	1	41	0.40	350
SMI-201209PDF-3R9□	3.9	1	38	0.40	350
SMI-201209PDF-4R7□	4.7	1	35	0.40	350
SMI-201209PDF-5R6□	5.6	1	32	0.50	250
SMI-201209PDF-6R8□	6.8	1	29	0.50	250
SMI-201209PDF-8R2□	8.2	1	26	0.56	250
SMI-201209PDF-100□	10.0	1	24	0.56	250

NOTE: M \pm 20%, N \pm 30%

* Due to the limited space, the catalogue shows the typical specifications only. For more specific details (characteristics graph, reliability, and others), kindly invite you to access 3L official website www.3lcoil.com for better known.