

◆ **FEATURES**

SMI-P chip inductors are 3L line of high current ferrite chip inductors. Minimized design that is suitable for portable electronic equipments requiring low profile.

**I High Performance Characteristics**

SMI-P chips exhibit low DC resistance and high current.

**I Wide Inductance Range**

SMI-P chip inductors cover a wide range of inductance values from 0.47  $\mu$ H to 4.7  $\mu$ H.

**I High Reliability**

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

**I High Soldering Heat Resistance**

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

◆ **APPLICATIONS**

SMI chip inductors can be used in a variety of electronics including:

- I Mobile phones
- I MP3 Player
- I Bluetooth
- I DSC
- I LCD / DVR
- I Portable digital equipment

◆ **PRODUCT IDENTIFICATION**

**SMI** – **252010** **P** **E** – **1R0** **M**  
(1) (2) (3) (4) (5) (6)

(1).Product Code

(2).Dimensions( in mm)

(3).P : For high current

(4).E : Design Code

(5).Inductance Code

(6).Tolerance Code

Code	Tolerance
M	$\pm 20\%$
N	$\pm 30\%$

◆ **OPERATING TEMPERATURE: -55 ~ 125°C**

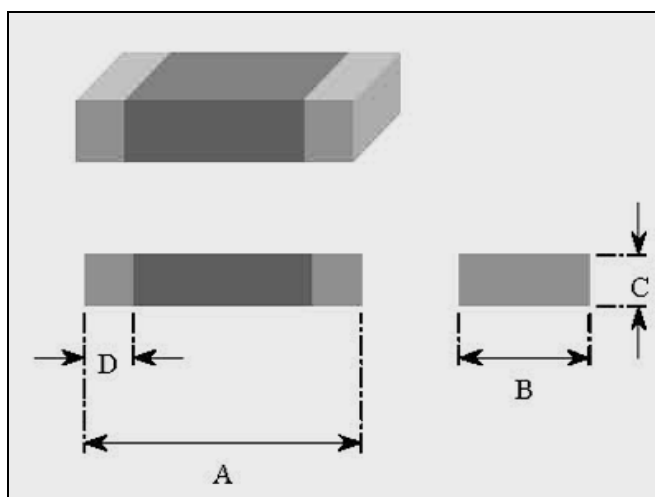
◆ **TEST EQUIPMENTS AND TEST SETUP**

**L&Q&SRF** by Agilent E4991A RF Impedance

Analyzer with HP16197A Test Fixture.

**DCR** by milli-ohm meter.

◆ **PRODUCT DIMENSIONS**



PRODUCT NO.	A	B	C	D
SMI-201210PE	2.0 $\pm$ 0.20	1.25 $\pm$ 0.20	1.0MAX	0.5 $\pm$ 0.30
SMI-201610PE	2.0 $\pm$ 0.20	1.6 $\pm$ 0.20	1.0MAX	0.5 $\pm$ 0.30
SMI-252010PE	2.5 $\pm$ 0.20	2.0 $\pm$ 0.20	1.0MAX	0.5 $\pm$ 0.30

NOTE:Dimensions in mm

◆ **PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	DCR ( $\Omega$ ) $\pm 30\%$	Rated Current (mA) Max. $\Delta T/T_o: 40^\circ\text{C}$
SMI-201210PE-R47M	0.47	3	0.09	1300
SMI-201210PE-1R0M	1.0	3	0.12	1200
SMI-201210PE-1R5M	1.5	3	0.15	1100
SMI-201210PE-2R2M	2.2	3	0.19	1100
SMI-201210PE-3R3M	3.3	3	0.24	800
SMI-201210PE-4R7M	4.7	3	0.26	700
SMI-201610PE-1R2M	1.0	3	0.09	1300
SMI-201610PE-2R2M	2.2	3	0.13	1000
SMI-201610PE-3R3M	3.3	3	0.17	850
SMI-201610PE-4R7M	4.7	3	0.21	800
SMI-252010PE-R47M	0.47	3	0.04	1800
SMI-252010PE-1R0M	1.0	3	0.06	1500
SMI-252010PE-1R5M	1.5	3	0.07	1400
SMI-252010PE-2R2M	2.2	3	0.10	1200
SMI-252010PE-3R3M	3.3	3	0.12	1100
SMI-252010PE-4R7M	4.7	3	0.14	1000

◆ **FEATURES**

SMI-P chip inductors are 3L line of high current ferrite chip inductors.

Minimized design that is suitable for

portable electronic equipments

requiring low profile.

● **High Performance Characteristics**

SMI-P chips exhibit low DC resistance and high current.

● **Wide Inductance Range**

SMI-P chip inductors cover a wide range of inductance values from 0.047  $\mu$ H to 27  $\mu$ H.

● **High Reliability**

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

● **High Soldering Heat Resistance**

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

◆ **APPLICATIONS**

SMI chip inductors can be used in a variety of electronics including:

- Mobile phones
- DSC/DVC
- MP3 Player
- Digital camera
- DC-DC converter

◆ **PRODUCT IDENTIFICATION**

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

SMI – 201209 P DF – 1R0 M

(1).Product Code

(2).Dimensions( in mm)

(3). P : For high current

(4).DF: Design Code

(5).Inductance Code

(6).Tolerance Code

Code	Tolerance
M	$\pm 20\%$
N	$\pm 30\%$

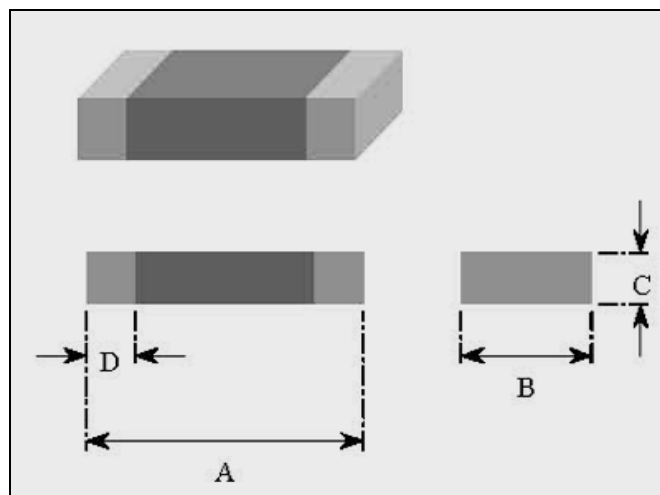
◆ **OPERATING TEMPERATURE: -40~125°C**

◆ **TEST EQUIPMENTS AND TEST SETUP**

**L&SRF** by Agilent E4991A RF Impedance Analyzer with HP16197A Test Fixture.

**DCR** by milli-ohm meter.

◆ **PRODUCT DIMENSIONS**



PRODUCT NO.	A	B	C	D
SMI-160808P	1.6 $\pm$ 0.20	0.8 $\pm$ 0.20	0.8 $\pm$ 0.20	0.3 $\pm$ 0.20
SMI-201209P	2.0 $\pm$ 0.20	1.2 $\pm$ 0.20	0.9 $\pm$ 0.20	0.5 $\pm$ 0.30
SMI-321609P	3.2 $\pm$ 0.20	1.6 $\pm$ 0.20	0.9 $\pm$ 0.20	0.5 $\pm$ 0.30

NOTE:Dimensions in mm(inch)

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance (μH)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	R <sub>DC</sub> (Ω) Max.	I <sub>DC</sub> (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	0.26	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	100
SMI-160808PEF-3R9□	3.9	1	35	0.70	80
SMI-160808PEF-4R7□	4.7	1	33	0.75	80
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
SMI-160808PEF-120□	12	2	15	1.25	60

Tolerance of Inductance : M:±20% ; N:±30%

□ Please specify the inductance tolerance code (M or N).

### ◆ PRODUCT SPECIFICATIONS

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	R <sub>DC</sub> ( $\Omega$ ) Max.	I <sub>DC</sub> (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
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	1	24	0.65	100
SMI-201209PEF-120□	12	1	22	0.65	100
SMI-201209PEF-150□	15	1	19	0.75	50

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	R <sub>DC</sub> ( $\Omega$ ) Max.	I <sub>DC</sub> (mA) Max.
SMI-201209PEF-180 <input type="checkbox"/>	18	1	18	0.75	50
SMI-201209PEF-220 <input type="checkbox"/>	22	1	16	0.75	50
SMI-201209PEF-270 <input type="checkbox"/>	27	1	16	0.75	50

Tolerance of Inductance : M:  $\pm 20\%$  ; N:  $\pm 30\%$

Please specify the inductance tolerance code (M or N)

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	R <sub>DC</sub> ( $\Omega$ ) Max.	I <sub>DC</sub> (mA) Max.
SMI-321609PEF-47N□	0.047	1	320	0.15	450
SMI-321609PEF-56N□	0.056	1	320	0.15	450
SMI-321609PEF-68N□	0.068	1	280	0.20	450
SMI-321609PEF-82N□	0.082	1	280	0.20	450
SMI-321609PEF-R10□	0.10	1	235	0.20	350
SMI-321609PEF-R12□	0.12	1	220	0.20	350
SMI-321609PEF-R15□	0.15	1	200	0.20	350
SMI-321609PEF-R18□	0.18	1	185	0.20	350
SMI-321609PEF-R22□	0.22	1	170	0.20	350
SMI-321609PEF-R27□	0.27	1	150	0.20	350
SMI-321609PEF-R33□	0.33	1	145	0.20	350
SMI-321609PEF-R39□	0.39	1	135	0.30	220
SMI-321609PEF-R47□	0.47	1	125	0.30	220
SMI-321609PEF-R56□	0.56	1	115	0.30	220
SMI-321609PEF-R68□	0.68	1	105	0.30	220
SMI-321609PEF-R82□	0.82	1	100	0.30	220
SMI-321609PEF-1R0□	1.0	1	75	0.20	250
SMI-321609PEF-1R2□	1.2	1	65	0.20	250
SMI-321609PEF-1R5□	1.5	1	60	0.25	250
SMI-321609PEF-1R8□	1.8	1	55	0.25	250
SMI-321609PEF-2R2□	2.2	1	50	0.30	200
SMI-321609PEF-2R7□	2.7	1	45	0.30	200
SMI-321609PEF-3R3□	3.3	1	41	0.30	200
SMI-321609PEF-3R9□	3.9	1	38	0.35	150
SMI-321609PEF-4R7□	4.7	1	35	0.35	150
SMI-321609PEF-5R6□	5.6	1	32	0.50	100
SMI-321609PEF-6R8□	6.8	1	29	0.50	100
SMI-321609PEF-8R2□	8.2	1	26	0.50	100
SMI-321609PEF-100□	10	1	24	0.50	100
SMI-321609PEF-120□	12	1	22	0.60	100
SMI-321609PEF-150□	15	1	19	0.80	50

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	DCR ( $\Omega$ ) Max.	I <sub>dc</sub> (mA) Max.
SMI-321609PEF-180 <input type="checkbox"/>	18	1	18	0.80	50
SMI-321609PEF-220 <input type="checkbox"/>	22	1	16	1.00	50
SMI-321609PEF-270 <input type="checkbox"/>	27	1	14	1.00	50

Please specify the inductance tolerance code (M or N)

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	R <sub>DC</sub> ( $\Omega$ ) Max.	I <sub>DC</sub> (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	300
SMI-201209PDF-R22□	0.22	1	150	0.15	300
SMI-201209PDF-R27□	0.27	1	130	0.15	300
SMI-201209PDF-R33□	0.33	1	120	0.15	300
SMI-201209PDF-R39□	0.39	1	110	0.30	250
SMI-201209PDF-R47□	0.47	1	100	0.30	250
SMI-201209PDF-R56□	0.56	1	100	0.20	800
SMI-201209PDF-R68□	0.68	1	95	0.20	800
SMI-201209PDF-R82□	0.82	1	90	0.20	800
SMI-201209PDF-1R0□	1.0	1	75	0.24	800
SMI-201209PDF-1R2□	1.2	1	65	0.24	800
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	1	24	0.56	250
SMI-201209PDF-120□	12	1	22	0.56	250
SMI-201209PDF-150□	15	1	19	0.65	100

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	R <sub>DC</sub> ( $\Omega$ ) Max.	I <sub>DC</sub> (mA) Max.
<b>SMI-201209PDF-180</b> <input type="checkbox"/>	<b>18</b>	<b>1</b>	<b>18</b>	<b>0.65</b>	<b>100</b>
<b>SMI-201209PDF-220</b> <input type="checkbox"/>	<b>22</b>	<b>1</b>	<b>16</b>	<b>0.65</b>	<b>100</b>
<b>SMI-201209PDF-270</b> <input type="checkbox"/>	<b>27</b>	<b>1</b>	<b>16</b>	<b>0.65</b>	<b>100</b>

Tolerance of Inductance : M:  $\pm 20\%$  ; N:  $\pm 30\%$

 Please specify the inductance tolerance code (M or N)

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	R <sub>DC</sub> ( $\Omega$ ) Max.	I <sub>DC</sub> (mA) Max.
SMI-321609PDF-47N□	0.047	1	250	0.01	1800
SMI-321609PDF-56N□	0.056	1	250	0.01	1800
SMI-321609PDF-68N□	0.068	1	230	0.06	1800
SMI-321609PDF-82N□	0.082	1	230	0.06	1800
SMI-321609PDF-R10□	0.10	1	215	0.06	1500
SMI-321609PDF-R12□	0.12	1	190	0.06	1500
SMI-321609PDF-R15□	0.15	1	165	0.06	1500
SMI-321609PDF-R18□	0.18	1	150	0.06	1500
SMI-321609PDF-R22□	0.22	1	130	0.06	1500
SMI-321609PDF-R27□	0.27	1	110	0.06	1500
SMI-321609PDF-R33□	0.33	1	100	0.06	1500
SMI-321609PDF-R39□	0.39	1	90	0.09	1400
SMI-321609PDF-R47□	0.47	1	80	0.09	1400
SMI-321609PDF-R56□	0.56	1	75	0.10	1100
SMI-321609PDF-R68□	0.68	1	65	0.10	1100
SMI-321609PDF-R82□	0.82	1	60	0.10	1100
SMI-321609PDF-1R0□	1.0	1	60	0.15	1200
SMI-321609PDF-1R2□	1.2	1	65	0.15	1200
SMI-321609PDF-1R5□	1.5	1	60	0.17	1000
SMI-321609PDF-1R8□	1.8	1	55	0.24	900
SMI-321609PDF-2R2□	2.2	1	50	0.24	900
SMI-321609PDF-2R7□	2.7	1	45	0.30	800
SMI-321609PDF-3R3□	3.3	1	41	0.30	800
SMI-321609PDF-3R9□	3.9	1	38	0.38	700
SMI-321609PDF-4R7□	4.7	1	35	0.38	700
SMI-321609PDF-5R6□	5.6	1	32	0.45	500
SMI-321609PDF-6R8□	6.8	1	29	0.45	500
SMI-321609PDF-8R2□	8.2	1	26	0.55	300
SMI-321609PDF-100□	10	1	24	0.55	300
SMI-321609PDF-120□	12	1	22	0.55	300
SMI-321609PDF-150□	15	1	19	0.65	100

**◆ PRODUCT SPECIFICATIONS**

Part Number	Inductance ( $\mu$ H)	TEST FREQ. (MHz)	S.R.F. (MHz) Min.	DCR ( $\Omega$ ) Max.	I <sub>dc</sub> (mA) Max.
SMI-321609PDF-180 <input type="checkbox"/>	18	1	18	0.65	100
SMI-321609PDF-220 <input type="checkbox"/>	22	1	16	0.85	100
SMI-321609PDF-270 <input type="checkbox"/>	27	1	14	0.85	100

Please specify the inductance tolerance code (M or N)