



Wire Wound SMD Power Inductor (SWPA Series)

• Dimension

SWPA

Series	A	B	C	D	E	F	G
SWPA3012S	3.0	2.6	3.0	2.6	1.4 max.	1.82	1.0
SWPA3015S	3.0	2.6	3.0	2.6	1.7 max.	1.82	1.0
SWPA4012S	4.0	3.7	4.0	3.2	1.4 max.	2.9	0.95
SWPA4020S	4.0	3.7	4.0	3.2	2.2 max.	2.9	0.95
SWPA4030S	4.0	3.7	4.0	3.2	3.0 max.	2.9	0.95
SWPA6020S	6.0	5.5	6.0	4.9	2.2 max.	4.0	1.55
SWPA6045S	6.0	5.5	6.0	4.9	4.5 max.	4.0	1.55
SWPA8040S	8.0	7.5	8.0	6.3	4.0 max.	5.6	2.5

Tolerance: ±0.3mm

• Features

- Magnetic-resin shielded construction reduces buzz noise to ultra low levels
- Metallization on ferrite core results in excellent shock resistance and damage-free durability
- Closed magnetic circuit design reduces leakage flux and electromagnetic interference (EMI)
- 30% higher current rating than conventional inductors of similar size
- Operating temperature:
SWPA Series: -25°C to +120°C

• Applications

- Next-generation mobile devices
- Audiovisual equipment i.e. flat-screen TVs, Blu-ray disc recorders
- Computers
- Portable gaming devices, personal navigation systems, personal multimedia devices
- Automotive systems
- Telecom base stations

• Part Number Identification

SWPA **3012** **S** **1R0** **N** **I**
 (1) (2) (3) (4) (5) (6)

(1)

Product ID	
SWPA	Wire wound SMD power inductor

(2)

Dimensions (L x W, mm)	
3012	3.0 x 1.2
3015	3.0 x 1.5
4012	4.0 x 1.2
4020	4.0 x 2.0
4030	4.0 x 3.0
6020	6.0 x 2.0
6045	6.0 x 4.5
8040	8.0 x 4.0

(3)

Feature

(4)

Nominal Inductance	
Example	Nominal Value
R12	120nH
1R0	1.0μH
101	100μH

(5)

Tolerance of Inductance	
N	±30%
M	±20%

(6)

Packing Type	
B	Bulk packing
T	Tape & reel packing



● SWPA3012S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance (±30%)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA3012SR82N	0.82	0.030	2.05	2.47
SWPA3012S1R5N	1.5	0.045	1.62	2.01
SWPA3012S2R4N	2.4	0.068	1.30	1.64
SWPA3012S3R6N	3.6	0.100	1.05	1.36
SWPA3012S4R7N	4.7	0.120	0.90	1.24
SWPA3012S6R8N	6.8	0.190	0.75	0.98
SWPA3012S100M	10	0.265	0.60	0.83
SWPA3012S150M	15	0.360	0.45	0.71
SWPA3012S270M	27	0.770	0.40	0.49
SWPA3012S330M	33	0.875	0.36	0.46
SWPA3012S360M	36	0.950	0.34	0.44
SWPA3012S470M	47	1.100	0.27	0.41
SWPA3012S560M	56	1.380	0.26	0.36
SWPA3012S620M	62	1.530	0.25	0.35
SWPA3012S820M	82	1.900	0.22	0.31
SWPA3012S101M	100	2.860	0.21	0.25

● SWPA3015S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance (±30%)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA3015S1R0N	1.0	0.027	2.30	2.35
SWPA3015S1R8N	1.8	0.050	1.75	1.70
SWPA3015S2R2N	2.2	0.058	1.60	1.60
SWPA3015S3R3N	3.3	0.080	1.32	1.36
SWPA3015S4R3N	4.3	0.115	1.20	1.14
SWPA3015S5R1N	5.1	0.125	1.08	1.09
SWPA3015S6R2N	6.2	0.150	1.00	0.98
SWPA3015S100M	10	0.250	0.72	0.77
SWPA3015S150M	15	0.350	0.66	0.65
SWPA3015S180M	18	0.430	0.56	0.59
SWPA3015S220M	22	0.460	0.52	0.57
SWPA3015S270M	27	0.730	0.48	0.45
SWPA3015S330M	33	0.818	0.44	0.43
SWPA3015S430M	43	1.060	0.37	0.37
SWPA3015S560M	56	1.280	0.33	0.34
SWPA3015S620M	62	1.430	0.33	0.32



● SWPA4012S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance ($\pm 30\%$)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA4012SR91N	0.91	0.032	2.60	2.10
SWPA4012S2R7N	2.7	0.066	1.50	1.45
SWPA4012S3R6N	3.6	0.086	1.35	1.25
SWPA4012S4R7N	4.7	0.110	1.15	1.10
SWPA4012S5R1N	5.1	0.125	1.10	1.05
SWPA4012S6R8N	6.8	0.155	0.95	0.95
SWPA4012S100M	10	0.265	0.80	0.77
SWPA4012S150M	15	0.340	0.56	0.64
SWPA4012S220M	22	0.470	0.55	0.55
SWPA4012S330M	33	0.810	0.42	0.42
SWPA4012S360M	36	0.900	0.40	0.40
SWPA4012S470M	47	1.100	0.35	0.37
SWPA4012S560M	56	1.250	0.33	0.33
SWPA4012S680M	68	1.460	0.30	0.31

● SWPA4020S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance ($\pm 30\%$)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA4020S1R0N	1.0	0.020	4.85	2.60
SWPA4020S1R5N	1.5	0.030	3.85	2.15
SWPA4020S2R2N	2.2	0.040	3.40	1.85
SWPA4020S3R6N	3.6	0.055	2.80	1.54
SWPA4020S4R7N	4.7	0.075	2.35	1.34
SWPA4020S5R1N	5.1	0.085	2.30	1.27
SWPA4020S5R6N	5.6	0.090	2.20	1.22
SWPA4020S7R5N	7.5	0.115	1.85	1.08
SWPA4020S8R2N	8.2	0.125	1.75	1.04
SWPA4020S100M	10	0.165	1.60	0.90
SWPA4020S120M	12	0.175	1.50	0.88
SWPA4020S150M	15	0.230	1.35	0.77
SWPA4020S220M	22	0.350	1.05	0.62
SWPA4020S330M	33	0.550	0.85	0.49
SWPA4020S390M	39	0.650	0.82	0.46
SWPA4020S430M	43	0.660	0.77	0.45
SWPA4020S470M	47	0.710	0.74	0.44
SWPA4020S510M	51	0.750	0.70	0.42
SWPA4020S560M	56	0.800	0.66	0.41
SWPA4020S620M	62	0.900	0.65	0.39
SWPA4020S750M	75	1.120	0.60	0.35
SWPA4020S820M	82	1.170	0.56	0.34
SWPA4020S101M	100	1.350	0.52	0.31



● SWPA4030S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance (±30%)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA4030SR91N	0.91	0.013	6.25	4.15
SWPA4030S1R5N	1.5	0.021	4.80	3.34
SWPA4030S4R3N	4.3	0.054	2.95	2.10
SWPA4030S4R7N	4.7	0.058	2.90	2.00
SWPA4030S5R6N	5.6	0.063	2.60	1.95
SWPA4030S6R2N	6.2	0.068	2.50	1.85
SWPA4030S7R5N	7.5	0.085	2.20	1.65
SWPA4030S8R2N	8.2	0.091	2.10	1.60
SWPA4030S9R1N	9.1	0.096	2.00	1.55
SWPA4030S100M	10	0.100	1.95	1.50
SWPA4030S120M	12	0.135	1.70	1.30
SWPA4030S180M	18	0.200	1.40	1.10
SWPA4030S220M	22	0.225	1.30	1.00
SWPA4030S330M	33	0.330	1.10	0.84
SWPA4030S360M	36	0.335	1.05	0.83
SWPA4030S430M	43	0.420	1.00	0.75
SWPA4030S470M	47	0.445	0.95	0.72
SWPA4030S510M	51	0.470	0.90	0.70
SWPA4030S560M	56	0.555	0.85	0.65
SWPA4030S620M	62	0.585	0.80	0.63
SWPA4030S680M	68	0.700	0.75	0.58
SWPA4030S750M	75	1.020	0.70	0.48
SWPA4030S910M	91	1.100	0.65	0.46
SWPA4030S101M	100	1.150	0.60	0.45
SWPA4030S121M	120	1.350	0.55	0.42

● SWPA6020S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance (±30%)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA6020S1R0N	1.0	0.012	5.50	4.95
SWPA6020S1R5N	1.5	0.016	4.50	4.35
SWPA6020S2R2N	2.2	0.022	3.75	3.70
SWPA6020S3R9N	3.9	0.037	2.85	2.85
SWPA6020S5R6N	5.6	0.052	2.45	2.40
SWPA6020S6R8N	6.8	0.059	2.20	2.25
SWPA6020S8R2N	8.2	0.077	2.00	2.00
SWPA6020S100M	10	0.086	1.75	1.85
SWPA6020S120M	12	0.113	1.60	1.60
SWPA6020S150M	15	0.134	1.50	1.50
SWPA6020S180M	18	0.156	1.35	1.40
SWPA6020S270M	27	0.222	1.05	1.15
SWPA6020S330M	33	0.251	1.00	1.10
SWPA6020S430M	43	0.328	0.85	1.00
SWPA6020S470M	47	0.335	0.80	0.95
SWPA6020S560M	56	0.423	0.75	0.85
SWPA6020S620M	62	0.461	0.70	0.80
SWPA6020S750M	75	0.557	0.65	0.75
SWPA6020S820M	82	0.603	0.60	0.70
SWPA6020S101M	100	0.744	0.55	0.65



● SWPA6045S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance (±30%)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA6045SR82N	0.82	0.008	10.35	5.90
SWPA6045S1R2N	1.2	0.010	8.35	5.40
SWPA6045S1R8N	1.8	0.012	7.60	4.95
SWPA6045S2R2N	2.2	0.014	6.75	4.60
SWPA6045S2R7N	2.7	0.015	5.75	4.30
SWPA6045S3R6N	3.6	0.021	5.25	3.70
SWPA6045S4R3N	4.3	0.023	4.45	3.50
SWPA6045S5R1N	5.1	0.026	4.40	3.30
SWPA6045S5R6N	5.6	0.029	4.15	3.15
SWPA6045S6R8N	6.8	0.031	3.90	3.00
SWPA6045S7R5N	7.5	0.034	3.50	2.90
SWPA6045S9R1N	9.1	0.043	3.35	2.60
SWPA6045S100M	10	0.048	3.20	2.45
SWPA6045S120M	12	0.058	2.80	2.20
SWPA6045S150M	15	0.068	2.50	2.05
SWPA6045S180M	18	0.081	2.20	1.85
SWPA6045S220M	22	0.089	2.05	1.80
SWPA6045S270M	27	0.102	1.90	1.65
SWPA6045S300M	30	0.132	1.70	1.50
SWPA6045S330M	33	0.137	1.65	1.45
SWPA6045S390M	39	0.180	1.50	1.25
SWPA6045S470M	47	0.200	1.40	1.20
SWPA6045S510M	51	0.207	1.35	1.15
SWPA6045S560M	56	0.221	1.30	1.10
SWPA6045S620M	62	0.235	1.25	1.10
SWPA6045S680M	68	0.289	1.20	1.00
SWPA6045S750M	75	0.305	1.15	0.95
SWPA6045S820M	82	0.341	1.05	0.90
SWPA6045S910M	91	0.359	1.00	0.85
SWPA6045S101M	100	0.433	0.95	0.80
SWPA6045S121M	120	0.484	0.85	0.70



● SWPA8040S Series

Part Number	Inductance at 100KHz, 1V	DC Resistance (±30%)	Saturation Current (max.)	Heat Rating Current (max.)
Unit	μH	Ω	A	Ω
Symbol	L	DCR	Isat	DCR
SWPA8040S1R0N	1.0	0.008	9.85	6.30
SWPA8040S1R5N	1.5	0.010	8.15	5.65
SWPA8040S2R2N	2.2	0.012	7.10	5.15
SWPA8040S3R0N	3.0	0.014	6.10	4.70
SWPA8040S3R9N	3.9	0.017	5.75	4.35
SWPA8040S5R1N	5.1	0.019	4.70	4.05
SWPA8040S6R2N	6.2	0.021	4.45	3.85
SWPA8040S6R8N	6.8	0.024	4.55	3.60
SWPA8040S8R2N	8.2	0.026	4.22	3.45
SWPA8040S100M	10	0.029	3.60	3.30
SWPA8040S150M	15	0.047	2.95	2.60
SWPA8040S180M	18	0.053	2.70	2.40
SWPA8040S220M	22	0.069	2.40	2.10
SWPA8040S270M	27	0.078	2.15	2.00
SWPA8040S330M	33	0.097	2.05	1.80
SWPA8040S360M	36	0.102	2.00	1.75
SWPA8040S390M	39	0.107	1.95	1.70
SWPA8040S430M	43	0.113	1.90	1.65
SWPA8040S470M	47	0.136	1.75	1.55
SWPA8040S510M	51	0.142	1.70	1.50
SWPA8040S560M	56	0.148	1.55	1.45
SWPA8040S620M	62	0.182	1.50	1.30
SWPA8040S680M	68	0.196	1.45	1.25
SWPA8040S750M	75	0.211	1.35	1.20
SWPA8040S910M	91	0.272	1.20	1.05
SWPA8040S101M	100	0.290	1.15	1.00
SWPA8040S121M	120	0.334	1.05	0.95

● Note

- (1) All test data is referenced to +20°C ambient
- (2) Rated current: Isat or Irms, whichever is smaller
- (3) Isat: DC current at which the inductance drops approximate 30% from its values without current.
- (4) Irms: DC current that causes the temperature rise ($\Delta T=40^{\circ}\text{C}$) from 20°C ambient