

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 Electro Magnetic Interference (EMI)
- 30% higher current rating than conventional inductors of equal size
- Takes up less PCB real estate and save more power

APPLICATIONS

- LED Lighting
- Flat-screen TVs, blue-ray disc recorders, set top box, movie cameras, smart phone
- Notebooks, desktop computers, servers, graphic cards cards
- Portable gaming devices, personal navigation systems, personal multimedia devices
- Telecomm base stations
- VR, AR

PRODUCT IDENTIFICATION

WSPA 3012 S 1R0
 ① ② ③ ④

N T □□□
 ⑤ ⑥ ⑦

① Type	
WSPA	Wire Wound SMD Power Inductor

③ Feature Type	
S	Standard

④ Nominal Inductance	
Example	Nominal Value
1R0	1.0μH
100	10μH

⑤ Inductance Tolerance	
K	±10%
M	±20%
N	±30%

⑥ Packing	
T	Tape Carrier Package

⑦ Design Code	
□□□	Standard product is blank

② (L×W×H) [mm] External Dimensions (L×W×H) [mm]	
252010	2.5×2.0×1.0
252012	2.5×2.0×1.2
3010	3.0×3.0×1.0
3012	3.0×3.0×1.2
3015	3.0×3.0×1.5
4010	4.0×4.0×1.0
4012	4.0×4.0×1.2
4018	4.0×4.0×1.8
4020	4.0×4.0×2.0
4026	4.0×4.0×2.6
4030	4.0×4.0×3.0
5012	5.0×5.0×1.2
5020	5.0×5.0×2.0
5040	5.0×5.0×4.0
6020	6.0×6.0×2.0
6028	6.0×6.0×2.8
6040	6.0×6.0×4.0
6045	6.0×6.0×4.5
8040	8.0×8.0×4.0
8050	8.0×8.0×5.0
8065	8.0×8.0×6.5

SHAPE AND DIMENSIONS

Fig.1

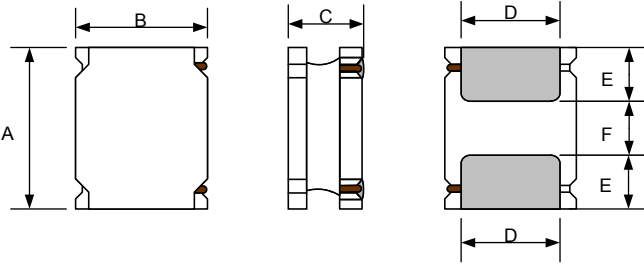


Fig.2

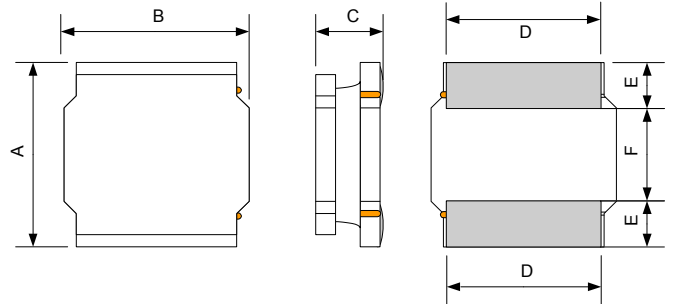
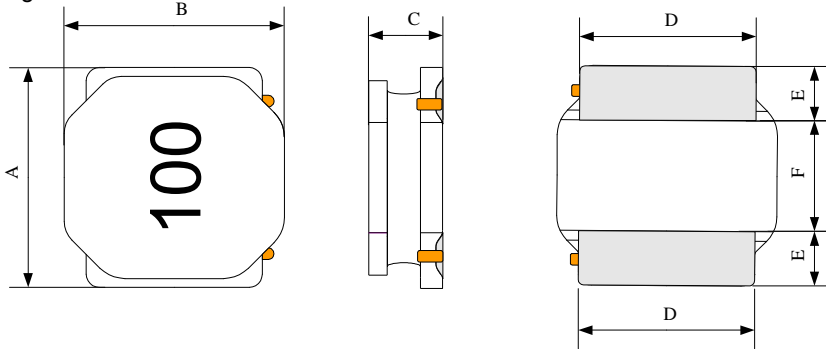
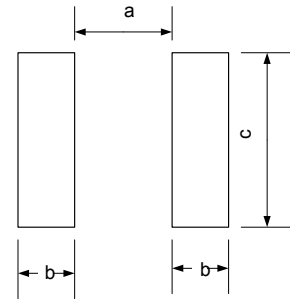


Fig.3



Recommended Land Pattern



Unit: mm

Series	Shape	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
WSPA252010S	Fig.1	2.5±0.1	2.0±0.1	1.0 Max.	2.0±0.2	0.80±0.2	0.80±0.2	0.80	0.85	2.0
WSPA252012S	Fig.1	2.5±0.1	2.0±0.1	1.2 Max.	2.0±0.2	0.80±0.2	0.80±0.2	0.80	0.85	2.0
WSPA3010S	Fig.2	3.0±0.2	3.0±0.2	1.0 Max.	2.5±0.2	0.75±0.2	1.5±0.2	1.5	0.8	2.7
WSPA3012S	Fig.2	3.0±0.2	3.0±0.2	1.2 Max.	2.5±0.2	0.75±0.2	1.5±0.2	1.5	0.8	2.7
WSPA3015S	Fig.2	3.0±0.2	3.0±0.2	1.5 Max.	2.5±0.2	0.75±0.2	1.5±0.2	1.5	0.8	2.7
WSPA4010S	Fig.2	4.0±0.2	4.0±0.2	1.0 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7
WSPA4012S	Fig.2	4.0±0.2	4.0±0.2	1.2 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7
WSPA4018S	Fig.2	4.0±0.2	4.0±0.2	1.8 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7
WSPA4020S	Fig.2	4.0±0.2	4.0±0.2	2.0 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7
WSPA4026S	Fig.2	4.0±0.2	4.0±0.2	2.6 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7
WSPA4030S	Fig.2	4.0±0.2	4.0±0.2	3.0 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7
WSPA5012S	Fig.3	5.0±0.2	5.0±0.2	1.2 Max.	4.0±0.2	1.25±0.2	2.5±0.2	2.3	1.4	4.2
WSPA5020S	Fig.3	5.0±0.2	5.0±0.2	2.0 Max.	4.0±0.2	1.25±0.2	2.5±0.2	2.3	1.4	4.2
WSPA5040S	Fig.3	5.0±0.2	5.0±0.2	4.0 Max.	4.0±0.2	1.25±0.2	2.5±0.2	2.3	1.4	4.2
WSPA6020S	Fig.2	6.0±0.3	6.0±0.3	2.0 Max.	4.9±0.3	1.55±0.3	2.9±0.3	2.8	1.7	5.7
WSPA6028S	Fig.2	6.0±0.3	6.0±0.3	2.8 Max.	4.9±0.3	1.55±0.3	2.9±0.3	2.8	1.7	5.7
WSPA6040S	Fig.2	6.0±0.3	6.0±0.3	4.0 Max.	4.9±0.3	1.55±0.3	2.9±0.3	2.8	1.7	5.7
WSPA6045S	Fig.2	6.0±0.3	6.0±0.3	4.5 Max.	4.9±0.3	1.55±0.3	2.9±0.3	2.8	1.7	5.7
WSPA8040S	Fig.2	8.0±0.3	8.0±0.3	4.2 Max.	6.3±0.3	2.00±0.3	4.0±0.3	3.8	2.2	7.5
WSPA8050S	Fig.3	8.0±0.3	8.0±0.3	5.0 Max.	6.3±0.3	2.00±0.3	4.0±0.3	3.8	2.2	7.5
WSPA8065S	Fig.3	8.0±0.3	8.0±0.3	6.5 Max.	6.3±0.3	2.00±0.3	4.0±0.3	3.8	2.2	7.5

※*1: All products are printed with Marking except the 252010S, 252012S, 3010S, 3012S and 3015S series.

SPECIFICATIONS

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current ^{*3}		Heat Rating Current ^{*4}	
	@100kHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WSPA4030S4R3MT	4.3±20%	0.072	0.055	37	2.95	3.20	2.10	2.30
WSPA4030S4R7MT	4.7±20%	0.078	0.060	31	2.90	3.20	2.00	2.30
WSPA4030S5R6MT	5.6±20%	0.085	0.065	30	2.60	2.80	1.95	2.10
WSPA4030S6R8MT	6.8±20%	0.117	0.090	24	2.75	3.00	1.60	1.70
WSPA4030S7R5MT	7.5±20%	0.110	0.085	26	2.20	2.40	1.65	1.80
WSPA4030S8R2MT	8.2±20%	0.117	0.090	26	2.10	2.30	1.60	1.70
WSPA4030S100MT	10±20%	0.130	0.10	21	1.95	2.40	1.50	1.60
WSPA4030S120MT	12±20%	0.175	0.135	18	1.70	1.80	1.30	1.40
WSPA4030S150MT	15±20%	0.247	0.190	16	1.65	1.80	1.11	1.20
WSPA4030S180MT	18±20%	0.260	0.20	10	1.40	1.50	1.10	1.20
WSPA4030S220MT	22±20%	0.292	0.225	10	1.30	1.40	1.00	1.20
WSPA4030S270MT	27±20%	0.338	0.260	10	1.15	1.35	0.90	1.05
WSPA4030S330MT	33±20%	0.429	0.330	10	1.10	1.20	0.84	0.92
WSPA4030S360MT	36±20%	0.436	0.335	9.8	1.05	1.10	0.83	0.91
WSPA4030S390MT	39±20%	0.566	0.435	10	1.03	1.10	0.73	0.80
WSPA4030S470MT	47±20%	0.579	0.445	8.4	0.95	1.00	0.72	0.80
WSPA4030S510MT	51±20%	0.611	0.470	8.4	0.90	1.13	0.70	0.80
WSPA4030S560MT	56±20%	0.722	0.555	8.4	0.85	0.94	0.65	0.71
WSPA4030S620MT	62±20%	0.761	0.585	7	0.80	0.99	0.63	0.70
WSPA4030S680MT	68±20%	1.128	0.868	7	0.72	0.80	0.52	0.57
WSPA4030S750MT	75±20%	1.326	1.020	6.3	0.70	0.88	0.48	0.53
WSPA4030S820MT	82±20%	1.378	1.060	5.6	0.66	0.72	0.47	0.52
WSPA4030S910MT	91±20%	1.430	1.10	5.6	0.65	0.71	0.46	0.50
WSPA4030S101MT	100±20%	1.495	1.150	5.6	0.60	0.73	0.45	0.49
WSPA4030S121MT	120±20%	1.755	1.350	5.4	0.55	0.60	0.42	0.46
WSPA4030S151MT	150±20%	2.340	1.80	4	0.50	0.55	0.30	0.35
WSPA4030S221MT	220±20%	3.250	2.50	4.2	0.40	0.50	0.35	0.40
WSPA4030S331MT	330±20%	5.20	4.0	6.8	0.30	0.40	0.25	0.26
WSPA4030S471KT	470±10%	9.360	7.20	2	0.30	0.35	0.20	0.23
WSPA4030S501MT	500±20%	9.027	6.944	2	0.28	0.30	0.15	0.20
WSPA4030S681MT	680±20%	9.854	7.580	1.2	0.19	0.20	0.14	0.18

TYPICAL ELECTRICAL CHARACTERISTICS

