



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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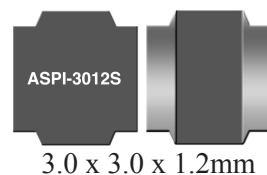
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SMD SHIELDED POWER INDUCTOR



ASPI-3012S



RoHS/RoHS II Compliant

3.0 x 3.0 x 1.2mm

FEATURES:

- Shielded magnetics, low radiation
- Large Terminal surface for good PCB bonding
- Low DCR, High Energy storage, suitable for large currents
- Ideal for a variety of DC-DC converter inductor applications

APPLICATIONS:

- Portable communication equipment
- OA equipment
- LCD, DVD, modem, set-top box
- DC/DC converters

ELECTRICAL SPECIFICATIONS:

Abrakon P/N:	ASPI-3012S Series
Operating Temperature :	-40°C to +125°C
Storage Temperature :	-10°C to +40°C and 70% R.H.

Part Number ASPI-3012S- Inductance Code	Inductance	L Tolerance	DC Resistance (±30%)	Saturation Current	Temperature Rise Current	Min. Self resonant frequency	Inductance Code
Units	μH	—	Ω	A	A	MHz	
Symbol	L	N, M	DCR	Isat	Irms	SRF	
ASPI-3012S-R82	0.82	N	0.030	2.05	2.47	180	R82
ASPI-3012S-1R0	1.0	N	0.040	1.87	2.20	120	1R0
ASPI-3012S-1R2	1.2	N	0.045	2.22	2.01	120	1R2
ASPI-3012S-1R5	1.5	N	0.045	1.62	2.01	110	1R5
ASPI-3012S-1R8	1.8	N	0.063	1.30	1.65	90	1R8
ASPI-3012S-2R2	2.2	N	0.075	1.20	1.55	84	2R2
ASPI-3012S-2R4	2.4	N	0.068	1.15	1.60	100	2R4
ASPI-3012S-2R7	2.7	M,N	0.085	1.14	1.48	65	2R7
ASPI-3012S-3R3	3.3	M,N	0.100	1.05	1.36	64	3R3
ASPI-3012S-3R9	3.9	M,N	0.145	1.00	1.24	61	3R9
ASPI-3012S-4R7	4.7	M,N	0.120	0.90	1.24	61	4R7
ASPI-3012S-6R8	6.8	M,N	0.190	0.75	0.98	61	6R8
ASPI-3012S-100	10	M,N	0.265	0.60	0.83	42	100
ASPI-3012S-120	12	M,N	0.345	0.48	0.73	32	120
ASPI-3012S-150	15	M,N	0.360	0.45	0.71	27	150
ASPI-3012S-180	18	M,N	0.545	0.43	0.58	25	180
ASPI-3012S-220	22	M,N	0.645	0.42	0.53	23	220
ASPI-3012S-270	27	M,N	0.870	0.35	0.47	21	270
ASPI-3012S-330	33	M,N	0.875	0.36	0.46	18	330
ASPI-3012S-360	36	M,N	0.950	0.34	0.44	18	360
ASPI-3012S-390	39	M,N	1.330	0.30	0.37	18	390
ASPI-3012S-470	47	M,N	1.450	0.27	0.35	14	470
ASPI-3012S-680	68	M,N	1.670	0.24	0.33	12	680
ASPI-3012S-820	82	M,N	2.540	0.17	0.27	12	820
ASPI-3012S-101	100	M,N	2.860	0.21	0.25	12	101

Test Conditions:

- Ambient Temperature: 20± 15°C
- Relative Humidity: 65%±20%
- Air Pressure: 86KPa to 106KPa

Inductance (L): ZM2355 LCR meter or equivalent, 100kHz, 1V_{rms}

Direct Current Resistance (DCR): HIOKI 3540 or equivalent

Saturation Current (Isat): E3260B meter or equivalent

Isat: Based on inductance change (ΔL/Lo :Δ -30%)

Temperature rise current (Irms): Electric Power, Electric current meter, Thermometer

Irms: Based on temperature rise (ΔT : 40 °C TYP.)

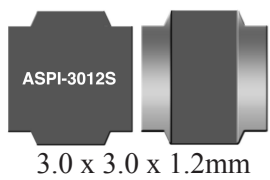
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ASPI-3012S

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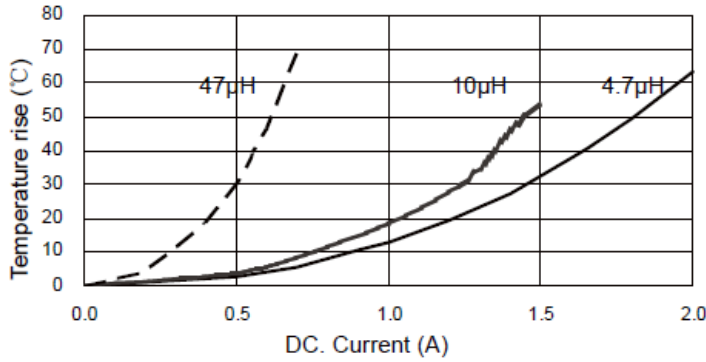
ASPI-3012S



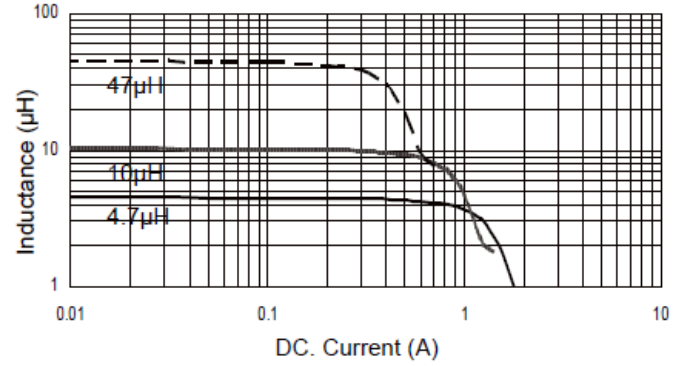
RoHS/RoHS II Compliant

ELECTRICAL SPECIFICATIONS:

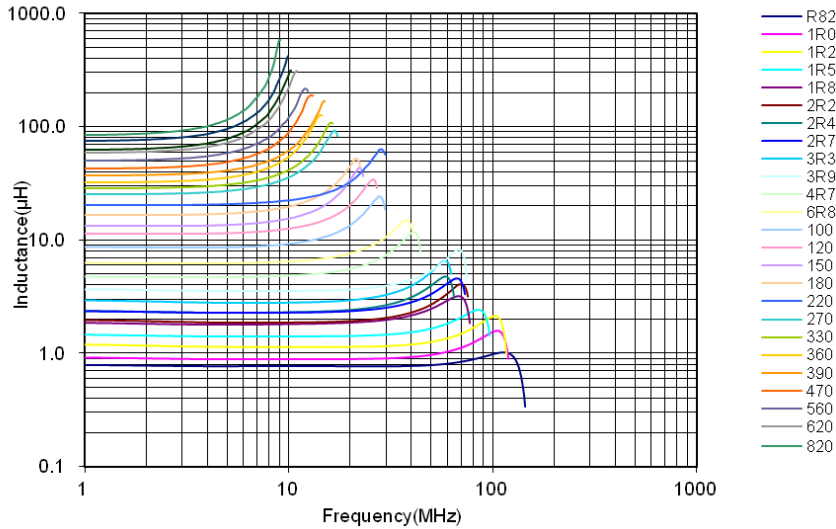
Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



Inductance VS Frequency



OPTIONS AND PART IDENTIFICATION

ASPI-3012S - [] [] - []

Inductance Code
Please refer to the table above

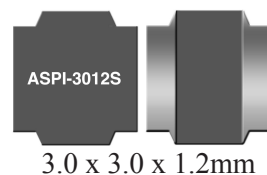
Tolerance
M: ±20% *
N: ±30% *

Packaging
T: Tape and Reel
(2kpcs / reel)

*M for 2.7µH~100µH
*N for 0.82µH~100µH



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ASPI-3012S

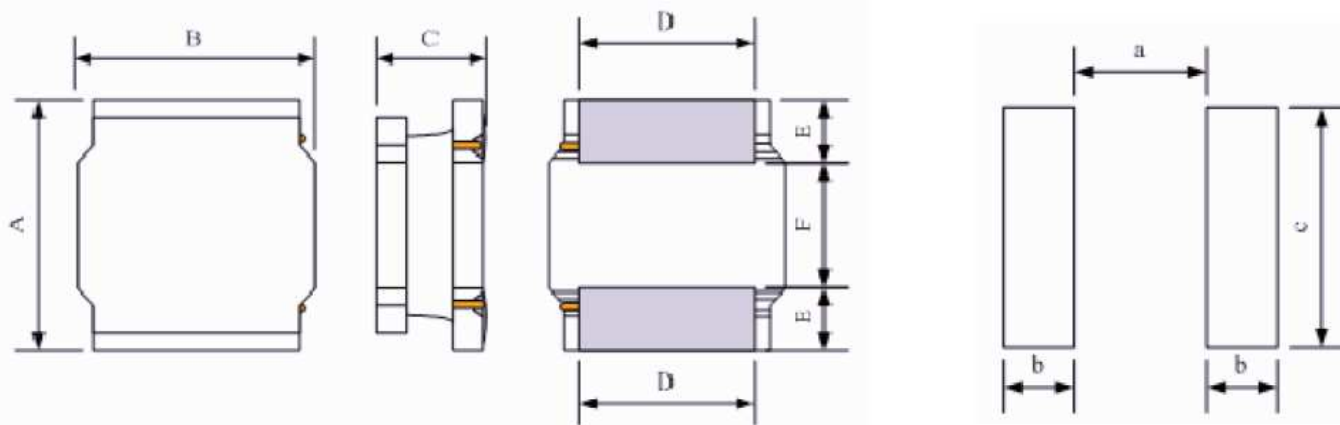


RoHS/RoHS II Compliant

3.0 x 3.0 x 1.2mm

OUTLINE DIMENSIONS:

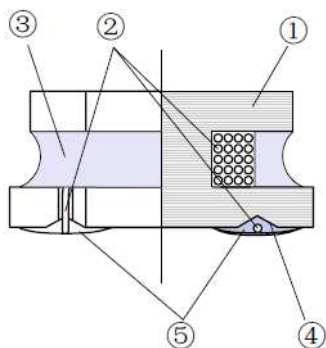
Recommended Land Pattern



A	B	C Max.	D	E	F	a Typ.	b Typ.	c Typ.
3.0±0.2	3.0±0.2	1.2Max.	2.5±0.2	0.75±0.2	1.5±0.2	1.5Typ.	0.8Typ.	2.7Typ.

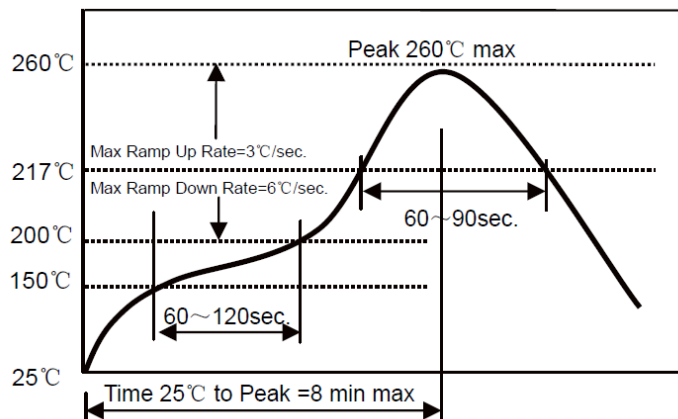
Dimensions: mm

Materials



No	Components	Material
1	Ferrite Core	Ni-Zn Ferrite
2	Wire	Polyurethane System enameled copper wire
3	Magnetic Glue	Epoxy resin and magnetic powder
4	Plating Electrodes	Plating: Ag/Ni/Sn
5	Outer Electrodes	Top surface solder coating: Sn96.5%/Ag3%/Cu0.5%

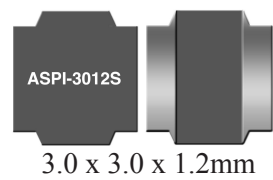
REFLOW PROFILE:



- Δ Preheat condition: 150 ~200°C/60~120sec.
- Δ Allowed time above 217°C: 60~90sec.
- Δ Max temp: 260°C
- Δ Max time at max temp: 5sec.
- Δ Solder paste: Sn/3.0Ag/0.5Cu
- Δ Allowed Reflow time: 2x max



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TAPE & REEL:

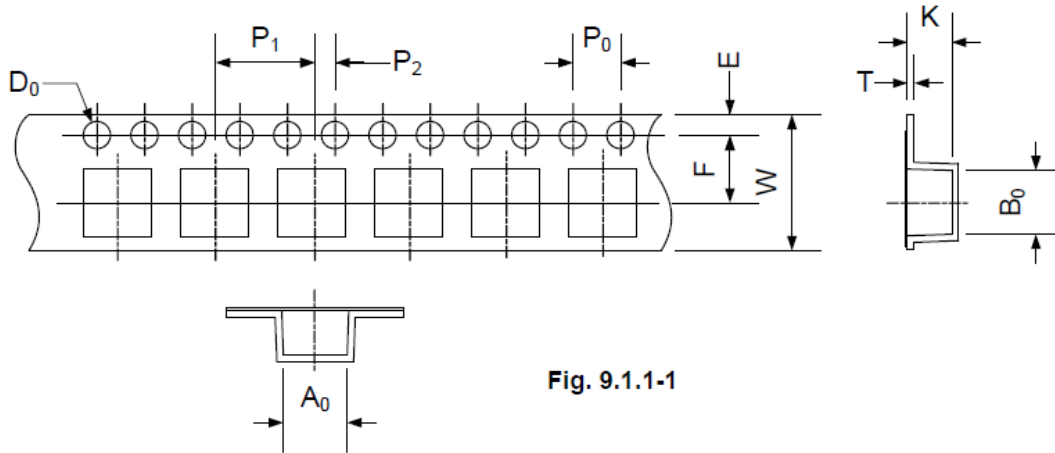
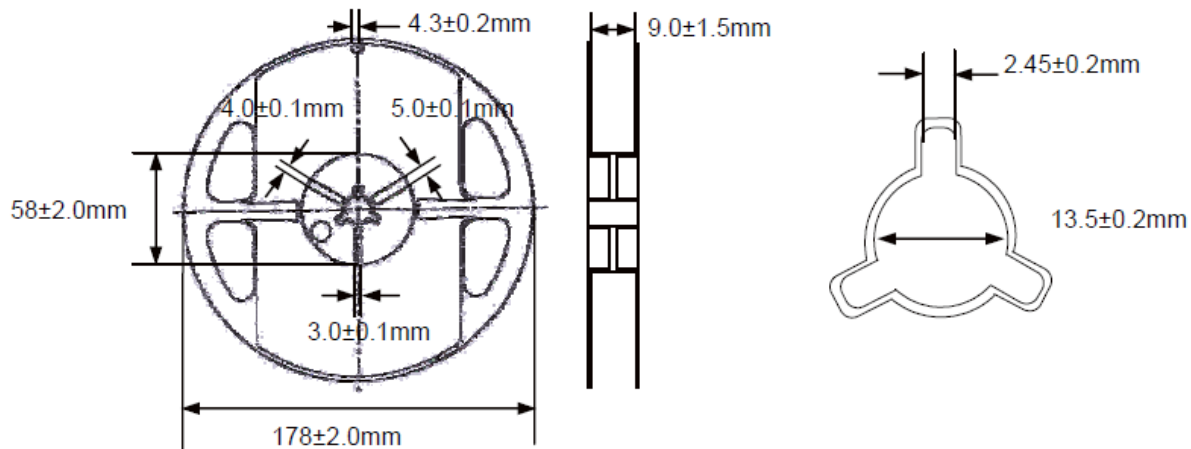


Fig. 9.1.1-1

A0	B0	W	E	F	P0	P1	P2	D0	T	K
3.3±0.1	3.3±0.1	8.0±0.3	1.75±0.1	3.5±0.05	4.0±0.1	4.0±0.1	2.0±0.1	1.5+0.1/-0.0	0.25±0.03	1.6±0.1



Storage Conditions

- To maintain the solderability of terminal electrodes and to keep the packing material in good condition, temperature and humidity in the storage area should be controlled.
- Recommended conditions: -10°C ~ 40 °C, 70% RH (Max.)
- Even under ideal storage conditions, solderability of products electrodes may decrease as time passes. For this reason, product should be used with one year from the time of delivery.
- In case of storage over 6 months, solderability shall be checked before actual usage.

Dimension: mm

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