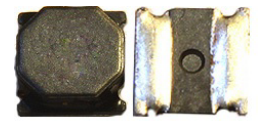




**THE DATASHEET OF  
ASPI-8040S-910M-T**



# Wire Wound Magnetically Shielded SMD Power Inductor



8.0 x 8.0 x 4.2mm

ASPI-8040S



RoHS/RoHS II compliant

## 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:

Abracon P/N:	ASPI-8040S Series
Operating Temperature	-40°C to +125°C
Storage Temperature	-10°C to +40°C and 70% R.H.

Part Number ASPI-8040S- Inductance Code	Inductance	L Tolerance	DC Resistance (±30%)	Saturation Current	Temperature Rise Current	Min. Self resonant frequency
Units	µH	—	Ω	A	A	MHz
Symbol	L	N, M	DCR	Isat	Irms	SRF
ASPI-8040S-R82	0.82	N	0.008	13.8	6.30	94
ASPI-8040S-1R0	1.0	N	0.008	9.85	6.30	89
ASPI-8040S-1R5	1.5	N	0.010	8.15	5.65	67
ASPI-8040S-2R0	2.0	N	0.012	9.25	5.15	43
ASPI-8040S-2R2	2.2	N	0.012	7.10	5.15	41
ASPI-8040S-3R0	3.0	N	0.014	6.10	4.70	32
ASPI-8040S-3R3	3.3	N	0.017	6.50	4.40	27
ASPI-8040S-3R6	3.6	N	0.017	7.52	4.35	30
ASPI-8040S-3R9	3.9	N	0.017	5.75	4.35	26
ASPI-8040S-4R7	4.7	N	0.019	5.90	4.10	24
ASPI-8040S-5R1	5.1	N	0.019	4.70	4.05	22
ASPI-8040S-5R6	5.6	N	0.021	6.00	3.85	24
ASPI-8040S-6R2	6.2	N	0.021	4.45	3.85	20
ASPI-8040S-6R8	6.8	M	0.024	4.55	3.60	20
ASPI-8040S-8R2	8.2	M	0.026	4.20	3.45	17
ASPI-8040S-100	10	M	0.029	3.60	3.30	15
ASPI-8040S-150	15	M	0.047	2.95	2.60	12
ASPI-8040S-180	18	M	0.053	2.70	2.40	11
ASPI-8040S-220	22	M	0.069	2.40	2.10	9.5
ASPI-8040S-270	27	M	0.078	2.15	2.00	9.2
ASPI-8040S-330	33	M	0.097	2.05	1.80	7.8
ASPI-8040S-360	36	M	0.102	2.00	1.75	7.8
ASPI-8040S-390	39	M	0.107	1.95	1.70	7.8
ASPI-8040S-430	43	M	0.113	1.90	1.65	7.8
ASPI-8040S-470	47	M	0.136	1.75	1.55	6.4
ASPI-8040S-510	51	M	0.142	1.70	1.50	6.4
ASPI-8040S-560	56	M	0.148	1.55	1.45	6.4
ASPI-8040S-620	62	M	0.182	1.50	1.30	6.4
ASPI-8040S-680	68	M	0.196	1.45	1.25	4.9
ASPI-8040S-750	75	M	0.211	1.35	1.20	4.9
ASPI-8040S-820	82	M	0.225	1.30	1.15	5.9
ASPI-8040S-910	91	M	0.272	1.20	1.05	4.9
ASPI-8040S-101	100	M	0.290	1.15	1.00	4.2

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ISO9001:2008  
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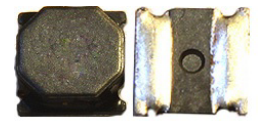


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Revised: 02.03.14

# Wire Wound Magnetically Shielded SMD Power Inductor



8.0 x 8.0 x 4.2mm

ASPI-8040S

RoHS/RoHS II compliant

Part Number ASPI-8040S- Inductance Code	Inductance	L Tolerance	DC Resistance (±30%)	Saturation Current	Temperature Rise Current	Min. Self resonant frequency
Units	μH	—	Ω	A	A	MHz
Symbol	L	N, M	DCR	Isat	Irms	SRF
ASPI-8040S-121	120	M	0.334	1.05	0.95	3.5
ASPI-8040S-151	150	M	0.410	1.10	0.85	3.5
ASPI-8040S-221	220	M	0.599	0.85	0.80	3.5
ASPI-8040S-331	330	M	0.889	0.68	0.64	2.8

## 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<sub>rms</sub>

Direct Current Resistance (DCR): HIOKI 3540 or equivalent

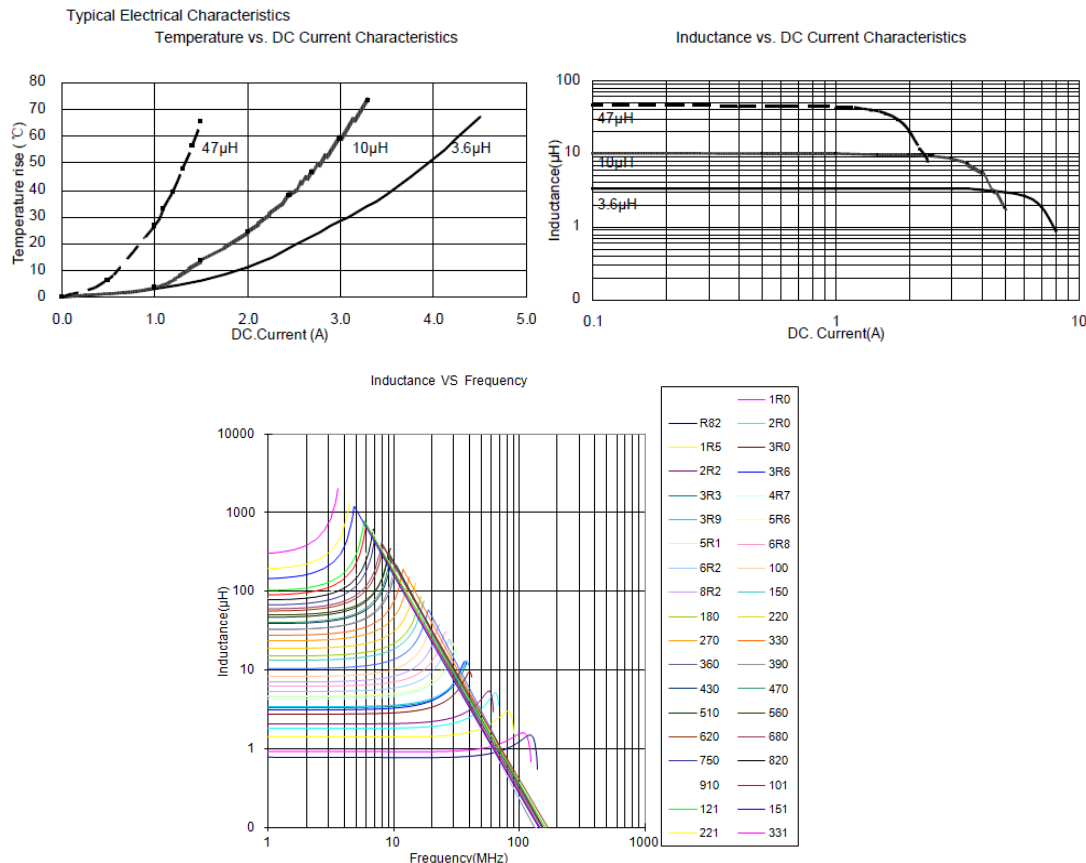
Saturation Current (Isat): Saturation current meter

Isat: Based on inductance change ( $\Delta L/L_0$  :  $\Delta -30\%$ )

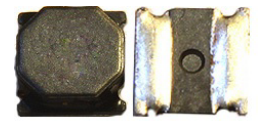
Temperature rise current (Irms): Electric Power, Electric current meter, Thermometer

Irms: Based on temperature rise ( $\Delta T$  : 40°C TYP. )

## ELECTRICAL CHARACTERISTICS CURVES



# Wire Wound Magnetically Shielded SMD Power Inductor



8.0 x 8.0 x 4.2mm

ASPI-8040S

**Pb** RoHS/RoHS II compliant

## ▶ ELECTRICAL CHARACTERISTICS CURVES

ASPI-8040S -   -

**Inductance Code**  
Please refer to the table above

**Tolerance**  
M:  $\pm 20\%$  \*  
N:  $\pm 30\%$  \*

**Packaging**  
T: Tape and Reel  
(1kpcs / reel)

\*M for  $6.8\mu\text{H} \sim 330\mu\text{H}$   
\*N for  $0.82\mu\text{H} \sim 6.2\mu\text{H}$

## ▶ OUTLINE DIMENSIONS:

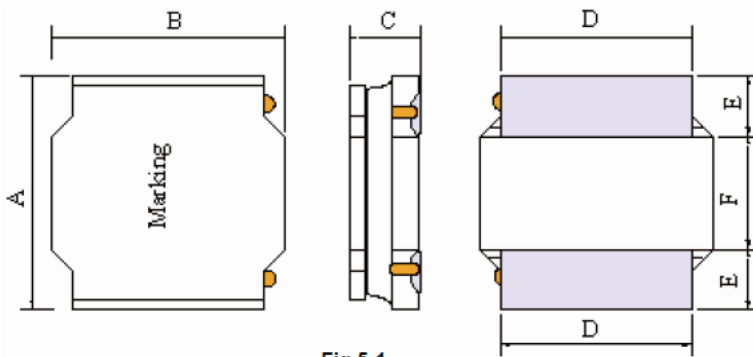
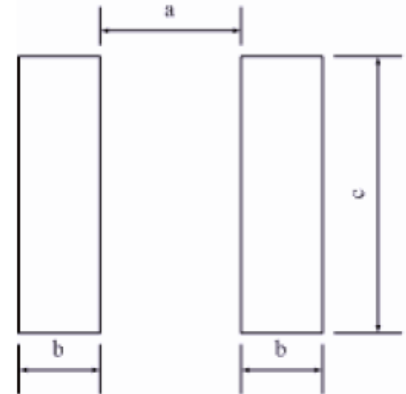


Fig.5-1

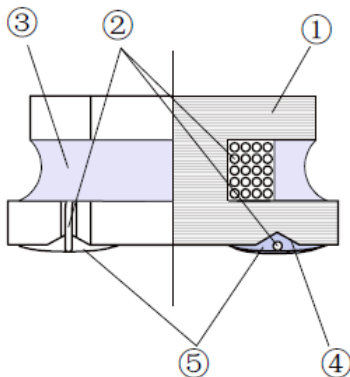
### Recommended Land Pattern



A	B	C Max.	D	E	F	a Typ.	b Typ.	c Typ.
8.0 $\pm$ 0.3	8.0 $\pm$ 0.3	4.2Max.	6.3 $\pm$ 0.3	2.00 $\pm$ 0.3	4.0 $\pm$ 0.3	3.8Typ.	2.2Typ.	7.5Typ.

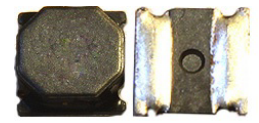
Dimensions: mm

### 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%/Ag3.0%/Cu0.5%

# Wire Wound Magnetically Shielded SMD Power Inductor

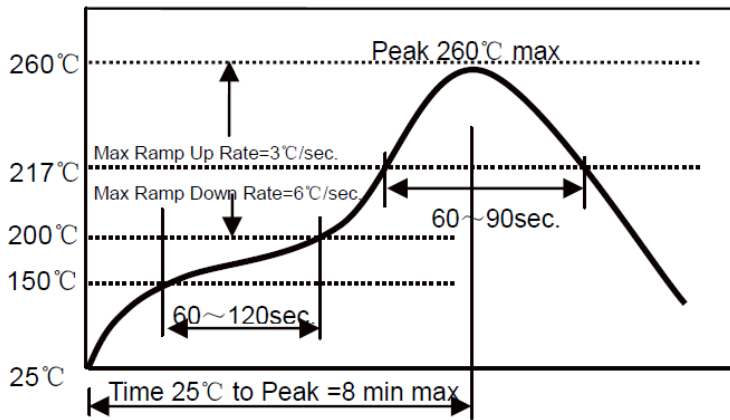


8.0 x 8.0 x 4.2mm

ASPI-8040S

**Pb** RoHS/RoHS II compliant

## REFLOW PROFILE

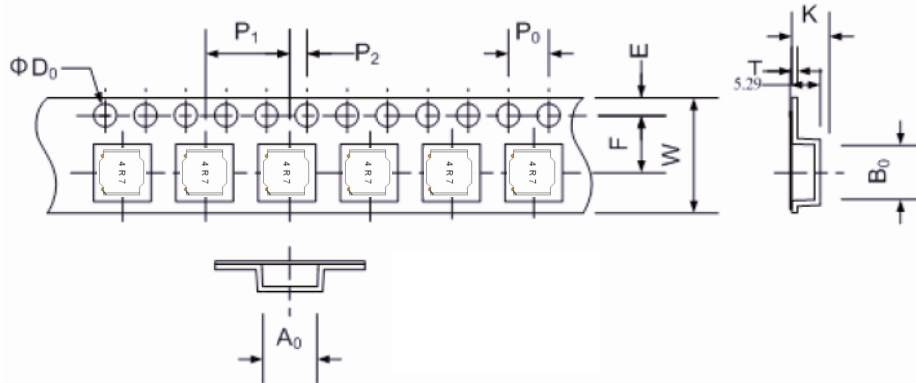


- △ 1~2 °C/sec. Ramp
- △ Pre-heating: 150~190°C/90±30 sec.
- △ Time above 240°C: 20~40sec
- △ Peak temperature: 260°C Max./5sec;
- △ Solder paste: Sn/3.0Ag/0.5Cu
- △ Max.2 times for Re-flowing

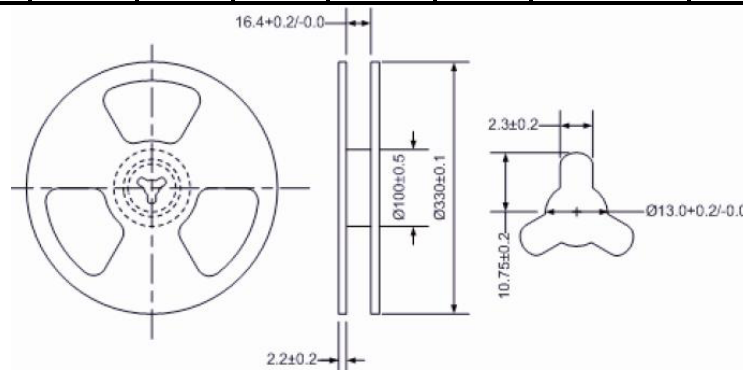
## TAPE & REEL:

### Packing

T: 1,000pcs / reel



A0	B0	W	E	F	P0	P1	P2	D0	T	K
8.35±0.1	8.35±0.1	16.0±0.3	1.75±0.1	7.5±0.1	4.0±0.1	12.0±0.1	2.0±0.1	1.5+0.1/-0.0	0.4±0.03	4.4±0.1



### Storage Conditions

- a. 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.
- b. Recommended conditions: -10°C ~ 40 °C, 70% RH (Max.)
- c. 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.
- d. In case of storage over 6 months, solderability shall be checked before actual usage.

**Dimension: mm**

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