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:

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

ELECTRICAL SPECIFICATIONS:

Abracon P/N:	ASPI-8040S Series
Operating Temperature	-40ºC to +125ºC
Storage Temperature	-10ºC to +40ºC 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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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

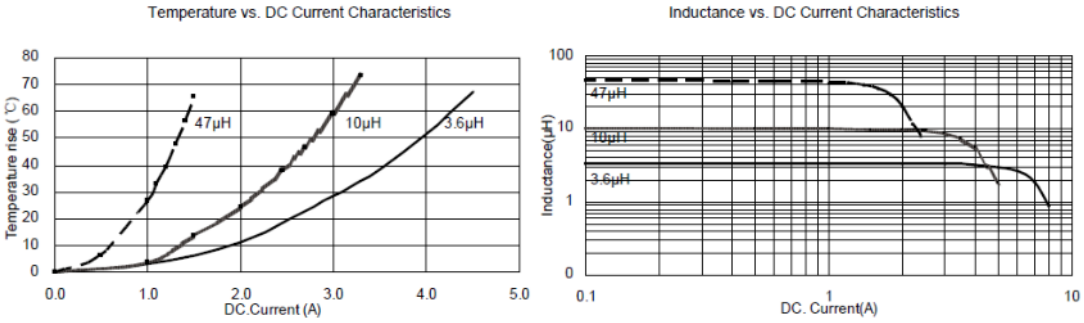
Test Conditions:

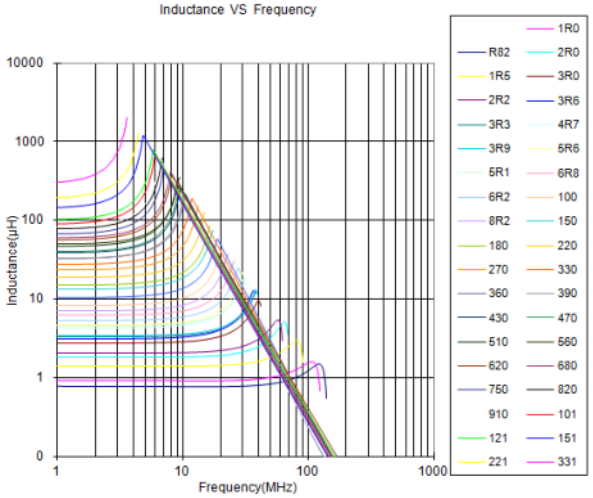
a. Ambient Temperature: 20± 15°C
b. Relative Humidity: 65%±20%
c. Air Pressure: 86KPa to 106KPa

Inductance (L): ZM2355 LCR meter or equivalent, 100kHz, $1V_{rms}$
Direct Current Resistance (DCR): HIOKI 3540 or equivalent
Saturation Current (Isat): Saturation current meter
Isat: Based on inductance change (Δ L/Lo :Δ -30%)
Temperature rise current (Irms): Electric Power, Electric current meter, Thermometer
Irms: Based on temperature rise (Δ T : 40°C TYP.)

ELECTRICAL CHARACTERISTICS CURVES

Typical Electrical Characteristics





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ELECTRICAL CHARACTERISTICS CURVES

ASPI-8040S - ☐ ☐ - ☐

Inductance Code	Tolerance	Packaging
Please refer to the table above	M: ±20% * N: ±30% *	T: Tape and Reel (1kpcs / reel)

*M for 6.8μH~330μH
*N for 0.82μH~6.2μH

OUTLINE DIMENSIONS:

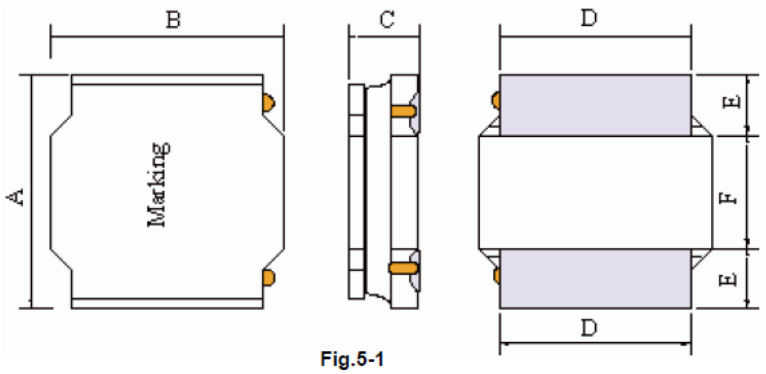
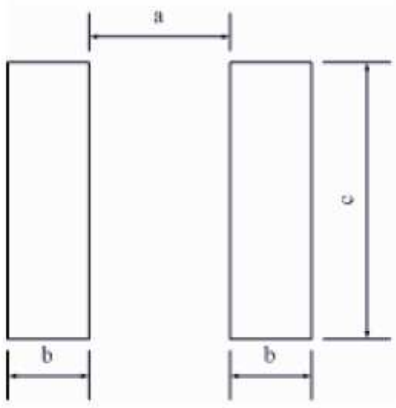


Fig.5-1

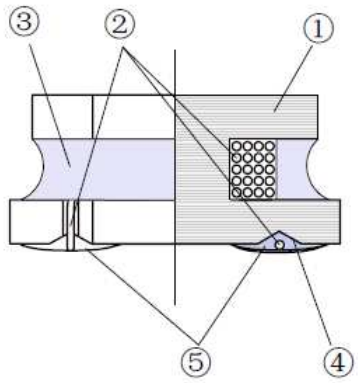
Recommended Land Pattern



A	B	C Max.	D	E	F	a Typ.	b Typ.	c Typ.
8.0±0.3	8.0±0.3	4.2Max.	6.3±0.3	2.00±0.3	4.0±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%

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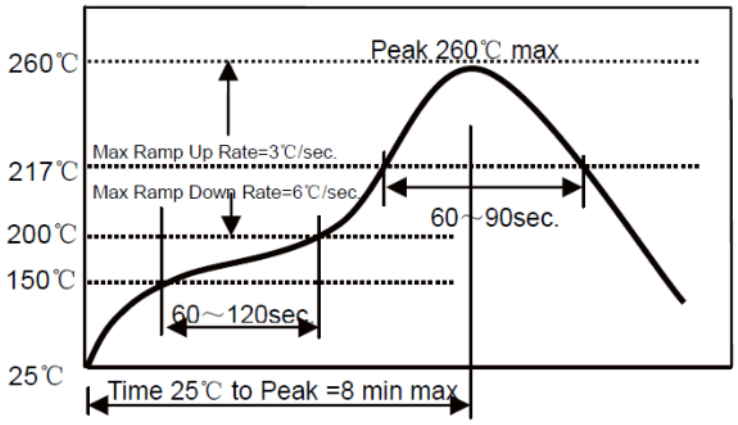


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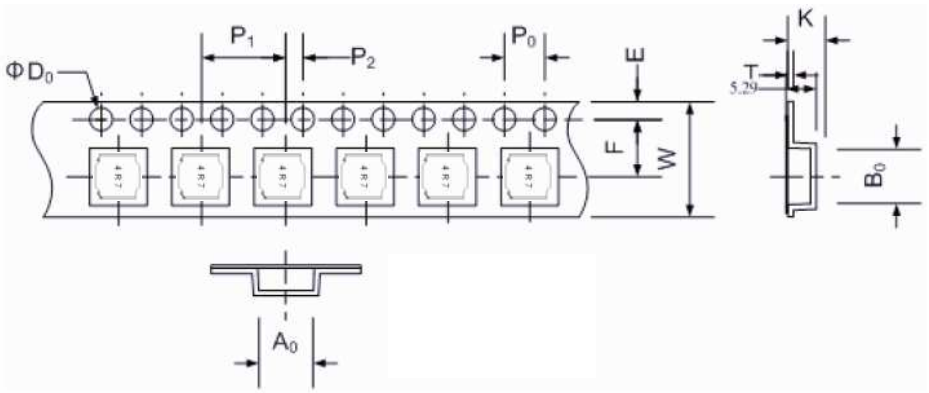
REFLOW PROFILE



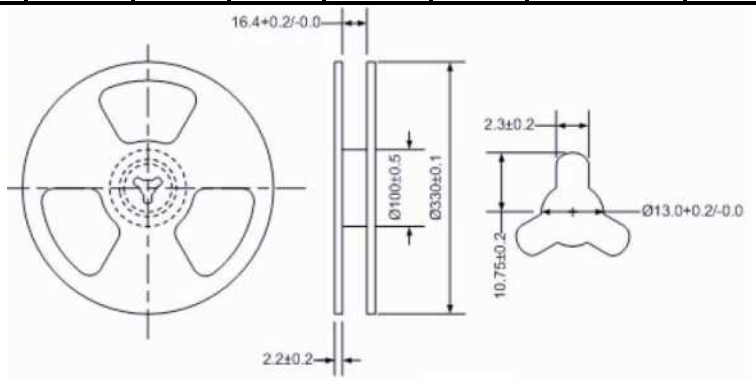
- Δ 1~2 °C/sec. Ramp
- Δ Pre-heating: 150~190°C/90±30 sec.
- Δ Time above 240°C: 20~40sec
- Δ Peak temperature: 260°C Max./5sec;
- Δ Solder paste: Sn/3.0Ag/0.5Cu
- Δ Max.2 times for Re-flowing

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

ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

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