

# Wire Wound Magnetically Shielded SMD Power Inductor



ASPI-6045S

6.0 x 6.0 x 4.5mm

ASPI-6045S



**RoHS**  
Compliant

**MSL level: 2 (This product is packed with dry packaging)**

## 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-6045S Series
Operating Temperature :	-40°C to +125°C
Storage Temperature :	-10°C to +40°C and 70% R.H.

Part Number	Inductance	L Tolerance	DC Resistance (±30%)	Saturation Current	Temperature Rise Current	Min. Self resonant frequency	Marking
Units	µH	—	Ω	A	A	MHz	—
Symbol	L	N, M	DCR	Isat	I <sub>rms</sub>	SRF	—
ASPI-6045S-R82	0.82	N	0.008	10.35	5.90	140	R82
ASPI-6045S-1R0	1	N	0.011	9.85	5.14	100	1R0
ASPI-6045S-1R2	1.2	N	0.01	8.35	5.40	100	1R2
ASPI-6045S-1R5	1.5	N	0.012	8.80	4.95	65	1R5
ASPI-6045S-1R8	1.8	N	0.012	7.60	4.95	74	1R8
ASPI-6045S-2R2	2.2	N	0.014	6.75	4.60	52	2R2
ASPI-6045S-2R3	2.3	N	0.021	6.00	3.50	60	2R3
ASPI-6045S-2R7	2.7	N	0.015	5.75	4.30	38	2R7
ASPI-6045S-3R0	3	N	0.02	5.60	3.80	35	3R0
ASPI-6045S-3R3	3.3	N	0.021	5.90	3.70	32	3R3
ASPI-6045S-3R6	3.6	N	0.021	5.25	3.70	28	3R6
ASPI-6045S-4R3	4.3	M	0.023	4.45	3.50	23	4R3
ASPI-6045S-4R7	4.7	M	0.026	4.97	3.30	24	4R7
ASPI-6045S-5R1	5.1	M	0.026	4.40	3.30	23	5R1
ASPI-6045S-5R6	5.6	M	0.029	4.15	3.15	23	5R6
ASPI-6045S-6R2	6.2	M	0.031	4.43	3.00	26	6R2
ASPI-6045S-6R8	6.8	M	0.031	3.90	3.00	20	6R8
ASPI-6045S-7R5	7.5	M	0.034	3.50	2.90	18	7R5
ASPI-6045S-8R2	8.2	M	0.043	3.90	2.60	21	8R2
ASPI-6045S-9R1	9.1	M	0.043	3.35	2.60	17	9R1
ASPI-6045S-100	10	M	0.048	3.20	2.45	15	100
ASPI-6045S-120	12	M	0.058	2.80	2.20	13	120
ASPI-6045S-150	15	M	0.068	2.50	2.05	12	150
ASPI-6045S-180	18	M	0.081	2.20	1.85	10	180
ASPI-6045S-220	22	M	0.089	2.05	1.80	10	220
ASPI-6045S-270	27	M	0.102	1.90	1.65	9.2	270
ASPI-6045S-300	30	M	0.132	1.70	1.50	7.8	300
ASPI-6045S-330	33	M	0.137	1.65	1.45	7.8	330
ASPI-6045S-360	36	M	0.173	1.62	1.40	7.8	360
ASPI-6045S-390	39	M	0.18	1.50	1.25	7.8	390
ASPI-6045S-430	43	M	0.2	1.63	1.20	7.7	430
ASPI-6045S-470	47	M	0.2	1.40	1.20	6.4	470
ASPI-6045S-510	51	M	0.207	1.35	1.15	6.4	510
ASPI-6045S-560	56	M	0.221	1.30	1.10	6.4	560
ASPI-6045S-620	62	M	0.235	1.25	1.10	6.4	620
ASPI-6045S-680	68	M	0.289	1.20	1.00	6.4	680
ASPI-6045S-750	75	M	0.305	1.15	0.95	5	750
ASPI-6045S-820	82	M	0.341	1.05	0.90	4.9	820
ASPI-6045S-910	91	M	0.359	1.00	0.85	4.9	910
ASPI-6045S-101	100	M	0.433	0.95	0.80	4.2	101
ASPI-6045S-121	120	M	0.484	0.85	0.77	4.2	121
ASPI-6045S-151	150	M	0.58	0.80	0.70	4.2	151
ASPI-6045S-221	220	M	0.834	0.70	0.59	3.5	221
ASPI-6045S-331	330	M	1.27	0.57	0.57	2.8	331

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## Test Conditions:

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

Inductance (L): ZM2355 LCR meter or equivalent

Direct Current Resistance (DCR): HIOKI 3540 or equivalent

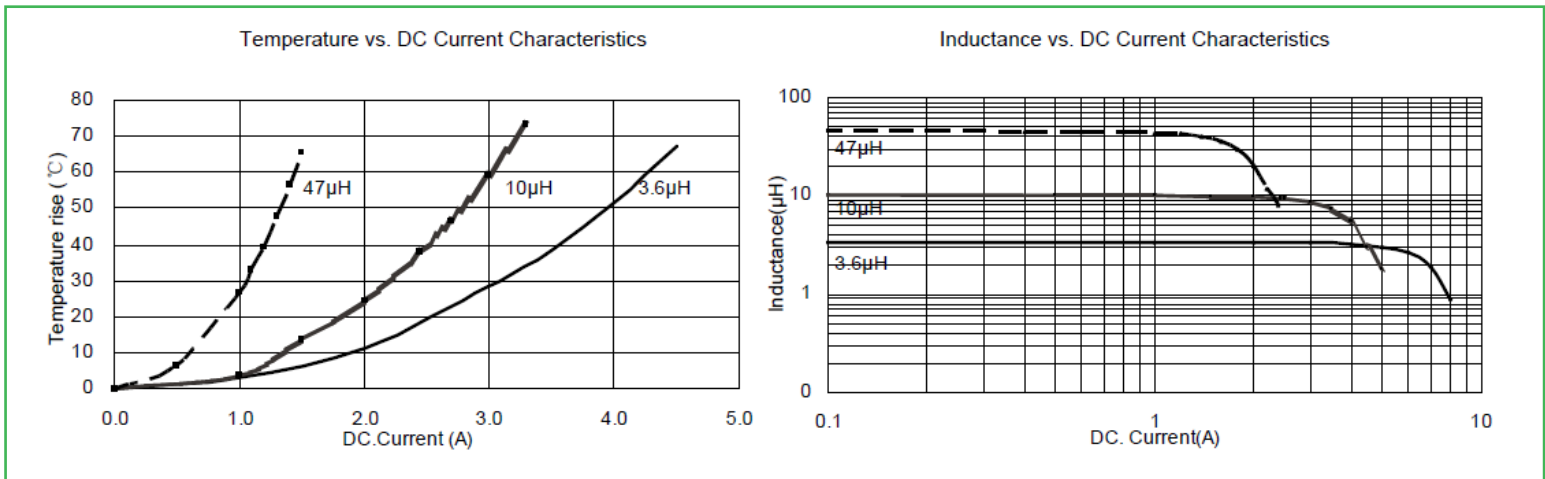
Saturation Current (Isat): Saturation current meter

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

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

Irms: Based on temperature rise ( $\Delta T : 40^\circ\text{C TYP.}$ )

## ELECTRICAL CHARACTERISTICS CURVES



## PART IDENTIFICATIONS:

ASPI-6045S -   -

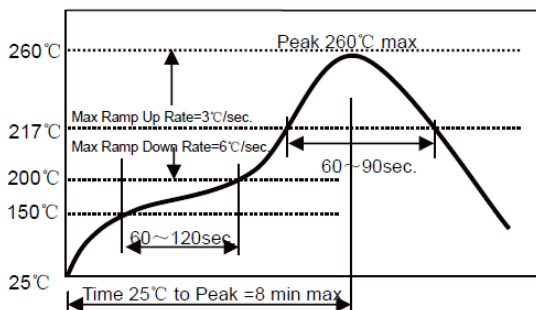
**Inductance Code**  
Please refer to the table above

**Tolerance**  
M: ±20%  
N: ±30%

**Packaging**  
T: Tape and Reel (1,500kpcs / reel)

M for 4.3µH~330µH  
N for 0.82µH~3.6µH

## REFLOW PROFILE:



- △ 1~2 /sec. Ramp
- △ Pre-heating: 150~190 /120±30sec.
- △ Time above 240 : 20~60sec
- △ Peak temperature: 260 Max/10sec.
- △ Solder paste: Sn/3.0Ag/0.5Cu
- △ Max.2 times for re-flowing

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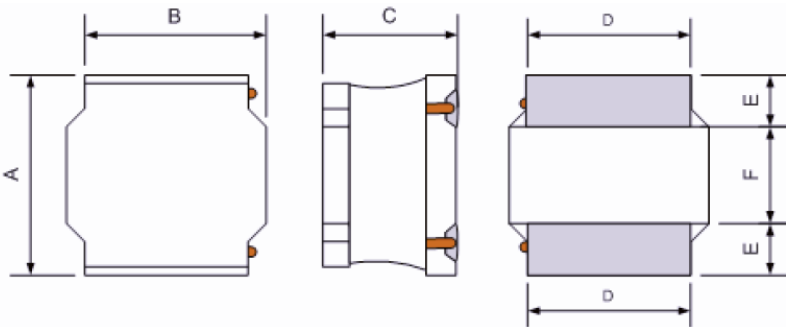
6.0 x 6.0 x 4.5mm

ASPI-6045S

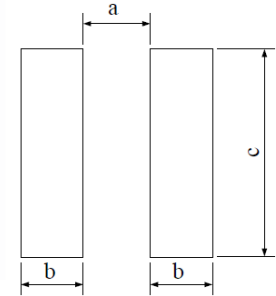


**RoHS**  
Compliant

## OUTLINE DRAWING:



## Recommended Land Pattern

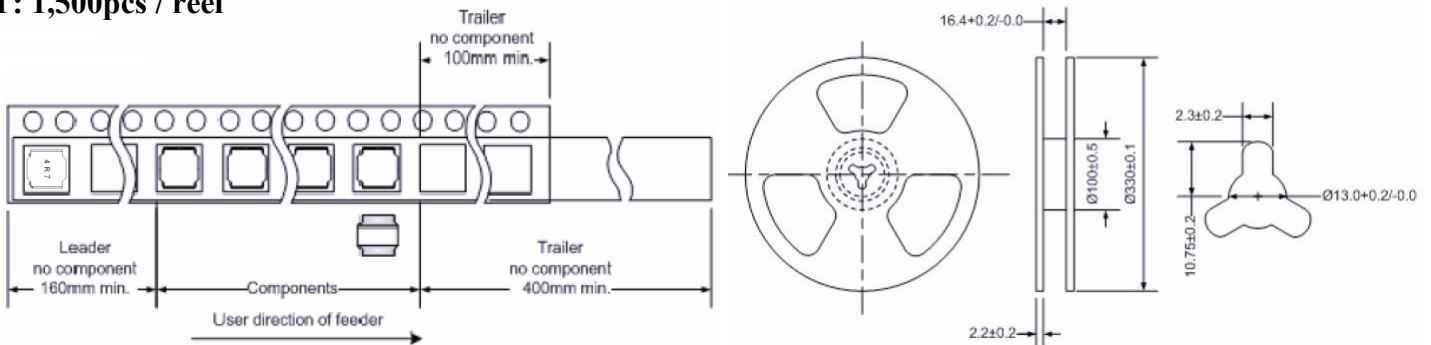


A	B	C Max.	D	E	F	a Typ.	b Typ.	c Typ.
6.0±0.3	6.0±0.3	4.5Max.	4.9±0.3	1.55±0.3	2.9±0.3	2.8Typ.	1.7Typ.	5.7Typ.

Dimensions: mm

## TAPE & REEL:

**T: 1,500pcs / reel**



A	B	F	K	T
6.20±0.10	6.25±0.10	8.0±0.10	4.7±0.10	0.40±0.03

### 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.)
- The ambient temperature must be kept below 30 °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.
- In case of storage over 6 months, solderability shall be checked before actual usage.

Dimension: mm

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