

# ASPI-6045T-4R3M-T Datasheet



|                              |   |
|------------------------------|---|
| DiGi Electronics Part Number | ASPI-6045T-4R3M-T-DG  |
| Manufacturer                 | <a href="#">Abracon LLC</a>   |
| Manufacturer Product Number  | ASPI-6045T-4R3M-T   |
| Description                  | IND 4.3UH 3.5A 30M  |
| Detailed Description         | 4.3 $\mu$ H Shielded Wirewound Inductor 3.5 A 30mOhm<br>Max Nonstandard |

<https://www.DiGi-Electronics.com>



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

ASPI-6045T-4R3M-T

Series:

ASPI-6045T

Type:

Wirewound

Inductance:

4.3  $\mu$ H

Current Rating (Amps):

3.5 A

Shielding:

Shielded

Q @ Freq:

-

Ratings:

-

Inductance Frequency - Test:

100 kHz

Mounting Type:

Surface Mount

Supplier Device Package:

-

Height - Seated (Max):

0.177" (4.50mm)

Manufacturer:

Abracon LLC

Product Status:

Active

Material - Core:

Ferrite

Tolerance:

$\pm$ 20%

Current - Saturation (Isat):

4.45A

DC Resistance (DCR):

30mOhm Max

Frequency - Self Resonant:

23MHz

Operating Temperature:

-40°C ~ 125°C

Features:

-

Package / Case:

Nonstandard

Size / Dimension:

0.236" L x 0.236" W (6.00mm x 6.00mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8504.50.4000

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

# Wirewound SMD Power Inductor (Resin-Shielded)


**ASPI-6045T**

Request Samples



Check Inventory


**6.0 x 6.0 x 4.5 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Features

- Shielded construction
- Soft saturation
- High Saturation Current
- Designed for switching frequencies between 100KHz-2MHz

## Applications

- DC/DC Switching converters
- Power supplies for Notebooks, workstations, and Servers
- Low Profile applications
- High current, transient load applications
- Applications requiring extended temperature.

## Electrical Specifications

| Part Number    | Inductance | Self-Resonant Frequency | Tolerance | DC Resistance | Saturation Current | Temperature Rise Current |
|----------------|------------|-------------------------|-----------|---------------|--------------------|--------------------------|
|                | 0.1MHz/1V  |                         |           | Max           | Max                | Max                      |
| Units          | μH         | MHz                     | %         | Ω             | A                  | A                        |
| Symbol         | L          | SRF                     | M, N      | DCR           | Isat               | Irms                     |
| ASPI-6045T-R47 | 0.47       | 155                     | N         | 0.008         | 15.00              | 6.50                     |
| ASPI-6045T-R56 | 0.56       | 142                     | N         | 0.008         | 14.00              | 6.50                     |
| ASPI-6045T-R68 | 0.68       | 99                      | N         | 0.008         | 11.00              | 5.70                     |
| ASPI-6045T-R82 | 0.82       | 140                     | N         | 0.010         | 10.35              | 5.90                     |
| ASPI-6045T-1R0 | 1.0        | 100                     | N         | 0.014         | 9.85               | 5.14                     |
| ASPI-6045T-1R2 | 1.2        | 100                     | N         | 0.013         | 8.35               | 5.40                     |
| ASPI-6045T-1R3 | 1.3        | 100                     | N         | 0.013         | 8.35               | 5.40                     |
| ASPI-6045T-1R5 | 1.5        | 65                      | N         | 0.016         | 8.80               | 4.95                     |
| ASPI-6045T-1R8 | 1.8        | 74                      | N         | 0.016         | 7.60               | 4.95                     |
| ASPI-6045T-2R2 | 2.2        | 52                      | N         | 0.018         | 6.75               | 4.60                     |
| ASPI-6045T-2R3 | 2.3        | 60                      | N         | 0.027         | 6.00               | 3.50                     |
| ASPI-6045T-2R7 | 2.7        | 38                      | N         | 0.020         | 5.75               | 4.30                     |
| ASPI-6045T-3R0 | 3          | 35                      | N         | 0.026         | 5.60               | 3.80                     |
| ASPI-6045T-3R3 | 3.3        | 32                      | N         | 0.027         | 5.90               | 3.70                     |
| ASPI-6045T-3R6 | 3.6        | 28                      | N         | 0.027         | 5.25               | 3.70                     |
| ASPI-6045T-4R3 | 4.3        | 23                      | M         | 0.030         | 4.45               | 3.50                     |
| ASPI-6045T-4R5 | 4.5        | 24                      | M         | 0.034         | 4.97               | 3.30                     |
| ASPI-6045T-4R7 | 4.7        | 24                      | M         | 0.034         | 4.97               | 3.30                     |
| ASPI-6045T-5R1 | 5.1        | 23                      | M         | 0.034         | 4.40               | 3.30                     |
| ASPI-6045T-5R6 | 5.6        | 23                      | M         | 0.038         | 4.15               | 3.15                     |
| ASPI-6045T-6R2 | 6.2        | 26                      | M         | 0.040         | 4.43               | 3.00                     |
| ASPI-6045T-6R3 | 6.3        | 26                      | M         | 0.040         | 4.43               | 3.00                     |
| ASPI-6045T-6R8 | 6.8        | 20                      | M         | 0.040         | 3.90               | 3.00                     |
| ASPI-6045T-7R5 | 7.5        | 18                      | M         | 0.044         | 3.50               | 2.90                     |
| ASPI-6045T-8R2 | 8.2        | 21                      | M         | 0.056         | 3.90               | 2.60                     |



5101 Hidden Creek Ln Spicewood TX 78669  
 Phone: 512-371-6159 | Fax: 512-351-8858  
 For terms and conditions of sales, please visit:  
[www.abracon.com](http://www.abracon.com)

**REVISED: 06-28-21**

ABRACON IS  
 ISO9001-2015  
 CERTIFIED

## Wirewound SMD Power Inductor (Resin-Shielded)



ASPI-6045T

Request Samples



Check Inventory



6.0 x 6.0 x 4.5 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

| Part Number    | Inductance    | Self-Resonant Frequency | Tolerance | DC Resistance | Saturation Current | Temperature Rise Current |
|----------------|---------------|-------------------------|-----------|---------------|--------------------|--------------------------|
|                | 0.1MHz/1V     |                         |           | Max           | Max                | Max                      |
| Units          | $\mu\text{H}$ | MHz                     | %         | $\Omega$      | A                  | A                        |
| Symbol         | L             | SRF                     | M, N      | DCR           | Isat               | Irms                     |
| ASPI-6045T-9R1 | 9.1           | 17                      | M         | 0.056         | 3.35               | 2.60                     |
| ASPI-6045T-100 | 10            | 15                      | M         | 0.062         | 3.20               | 2.45                     |
| ASPI-6045T-120 | 12            | 13                      | M         | 0.075         | 2.80               | 2.20                     |
| ASPI-6045T-150 | 15            | 12                      | M         | 0.088         | 2.50               | 2.05                     |
| ASPI-6045T-180 | 18            | 10                      | M         | 0.105         | 2.20               | 1.85                     |
| ASPI-6045T-220 | 22            | 10                      | M         | 0.116         | 2.05               | 1.80                     |
| ASPI-6045T-270 | 27            | 9.2                     | M         | 0.133         | 1.90               | 1.65                     |
| ASPI-6045T-300 | 30            | 7.8                     | M         | 0.172         | 1.70               | 1.50                     |
| ASPI-6045T-330 | 33            | 7.8                     | M         | 0.178         | 1.65               | 1.45                     |
| ASPI-6045T-360 | 36            | 7.8                     | M         | 0.225         | 1.62               | 1.40                     |
| ASPI-6045T-390 | 39            | 7.8                     | M         | 0.234         | 1.50               | 1.25                     |
| ASPI-6045T-430 | 43            | 7.7                     | M         | 0.260         | 1.63               | 1.20                     |
| ASPI-6045T-470 | 47            | 6.4                     | M         | 0.260         | 1.40               | 1.20                     |
| ASPI-6045T-510 | 51            | 6.4                     | M         | 0.269         | 1.35               | 1.15                     |
| ASPI-6045T-560 | 56            | 6.4                     | M         | 0.287         | 1.30               | 1.10                     |
| ASPI-6045T-620 | 62            | 6.4                     | M         | 0.306         | 1.25               | 1.10                     |
| ASPI-6045T-680 | 68            | 6.4                     | M         | 0.376         | 1.20               | 1.00                     |
| ASPI-6045T-750 | 75            | 5                       | M         | 0.397         | 1.15               | 0.95                     |
| ASPI-6045T-820 | 82            | 4.9                     | M         | 0.443         | 1.05               | 0.90                     |
| ASPI-6045T-910 | 91            | 4.9                     | M         | 0.467         | 1.00               | 0.85                     |
| ASPI-6045T-101 | 100           | 4.2                     | M         | 0.563         | 0.95               | 0.80                     |
| ASPI-6045T-121 | 120           | 4.2                     | M         | 0.629         | 0.85               | 0.77                     |
| ASPI-6045T-151 | 150           | 4.2                     | M         | 0.754         | 0.80               | 0.70                     |
| ASPI-6045T-221 | 220           | 3.5                     | M         | 1.084         | 0.70               | 0.59                     |
| ASPI-6045T-331 | 330           | 2.8                     | M         | 1.651         | 0.57               | 0.57                     |
| ASPI-6045T-471 | 470           | 2.0                     | M         | 2.340         | 0.50               | 0.42                     |
| ASPI-6045T-681 | 680           | 1.7                     | M         | 3.250         | 0.42               | 0.33                     |

**Test Conditions**

**Isat:** DC current at which the inductance drops 30% from its value.

**Irms:** DC current that causes the temperature rise ( $\Delta T$ , approximate 40 °C) from 20°C ambient.

**Operating Temperature:** -40°C ~ +125°C (including self-temperature rise)

**Storage Condition:** -40°C ~ +125°C and R.H. 70% max.

**Operating Voltage:** 50V (across inductor)

**ASPI-6045T Series is RoHS Compliant and Pb free.**

**MSL level: 1**



5101 Hidden Creek Ln Spicewood TX 78669  
Phone: 512-371-6159 | Fax: 512-351-8858  
For terms and conditions of sales, please visit:  
www.abracon.com

REVISED: 06-28-21

ABRACON IS  
ISO9001-2015  
CERTIFIED

## Wirewound SMD Power Inductor (Resin-Shielded)



ASPI-6045T

Request Samples

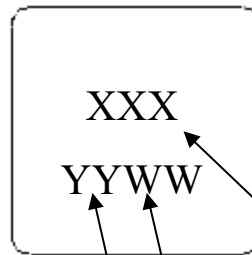


Check Inventory



6.0 x 6.0 x 4.5 mm  
 RoHS/RoHS II Compliant  
 MSL Level = 1

## Marking



Inductance Code

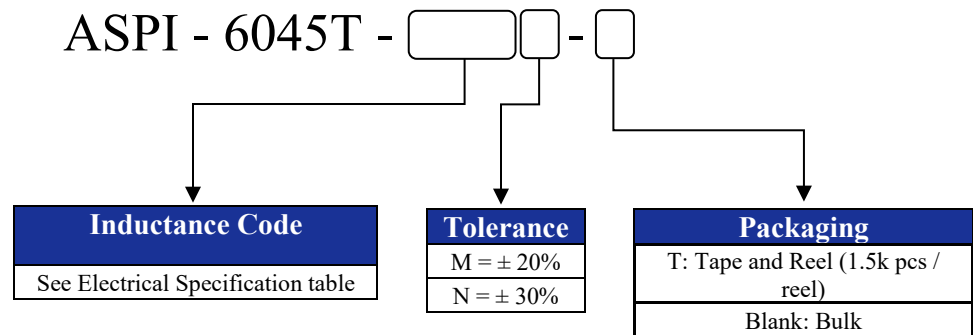
e.g. 5R6

W: Week: E.g. 05 for the 5<sup>th</sup> week  
 of the year.

Y: Year: E.g. 21 for 2021

Marking Method: Ink

## Part Identification



# Wirewound SMD Power Inductor (Resin-Shielded)


**ASPI-6045T**

Request Samples

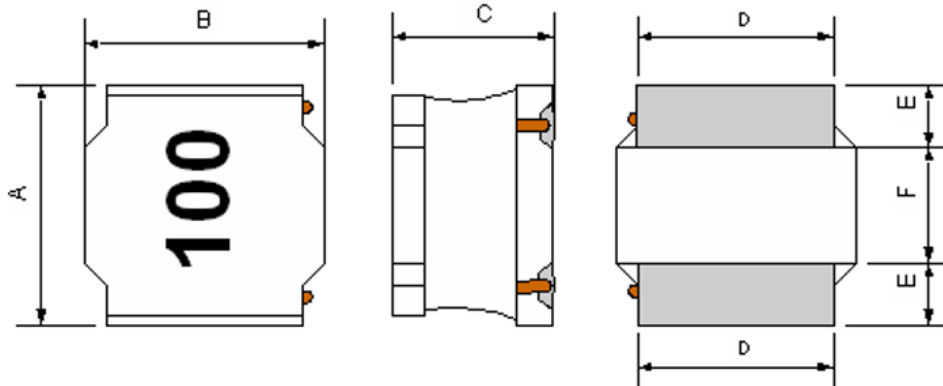


Check Inventory



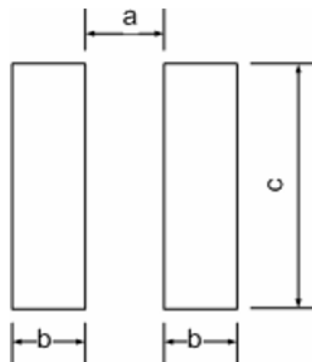
6.0 x 6.0 x 4.5 mm  
 RoHS/RoHS II Compliant  
 MSL Level = 1

## Mechanical Dimensions



| Series     | A         | B         | C       | D         | E          | F         |
|------------|-----------|-----------|---------|-----------|------------|-----------|
| ASPI-6045T | 6.0 ± 0.3 | 6.0 ± 0.3 | 4.5 MAX | 4.9 ± 0.3 | 1.55 ± 0.3 | 2.9 ± 0.3 |

## Recommended Land Pattern



| a        | b        | c        |
|----------|----------|----------|
| 2.8 Typ. | 1.7 Typ. | 5.7 Typ. |

# Wirewound SMD Power Inductor (Resin-Shielded)


**ASPI-6045T**

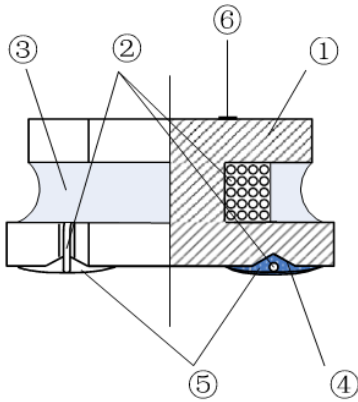
Request Samples



Check Inventory

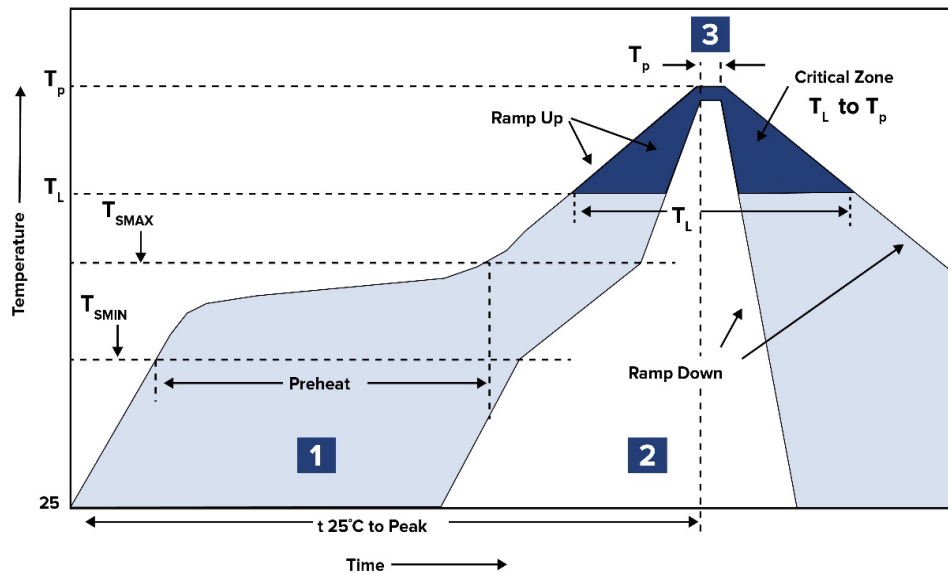

**6.0 x 6.0 x 4.5 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Materials



|      | Components           | Material                          |
|------|----------------------|-----------------------------------|
| 1    | <b>Ferrite Core</b>  | Ni-Zn Ferrite                     |
| 2    | <b>Wire</b>          | Polyurethane enameled copper wire |
| 3    | <b>Magnetic Glue</b> | Epoxy Resin and magnetic powder   |
| 4, 5 | <b>Electrodes</b>    | Ag/Ni/Sn or FeNiCu + Sn Alloy     |
| 6    | <b>Marking</b>       | Nitrocellulose                    |

## Reflow Profile



| Zone | Description | Temperature   | Times         |
|------|-------------|---|---------------|
| 1    | Preheat     | $T_{SMIN} \sim T_{SMAX} = 150^\circ\text{C} \sim 200^\circ\text{C}$ | 60 ~ 120 sec. |
| 2    | Reflow      | $T_L = 217^\circ\text{C}$   | 60 ~ 90 sec.  |
| 3    | Peak heat   | $T_P = 260^\circ\text{C} \pm 5^\circ\text{C}$                       | 10 sec. MAX   |

## Wirewound SMD Power Inductor (Resin-Shielded)



ASPI-6045T

Request Samples



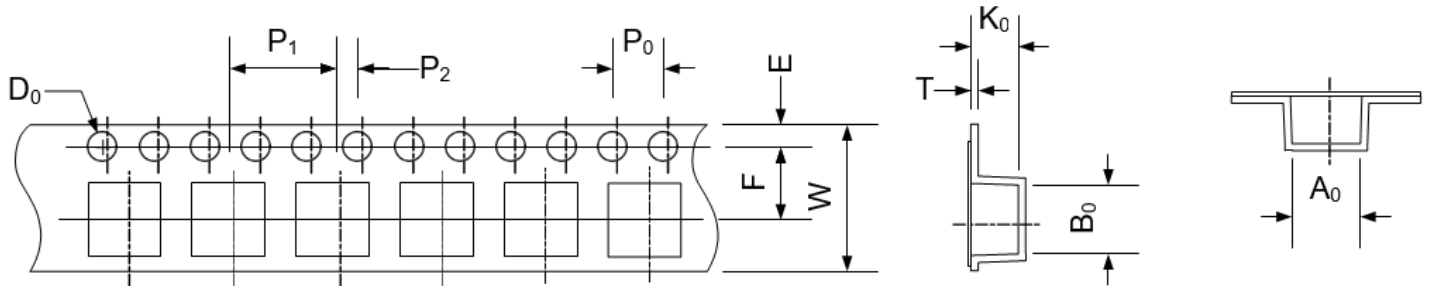
Check Inventory



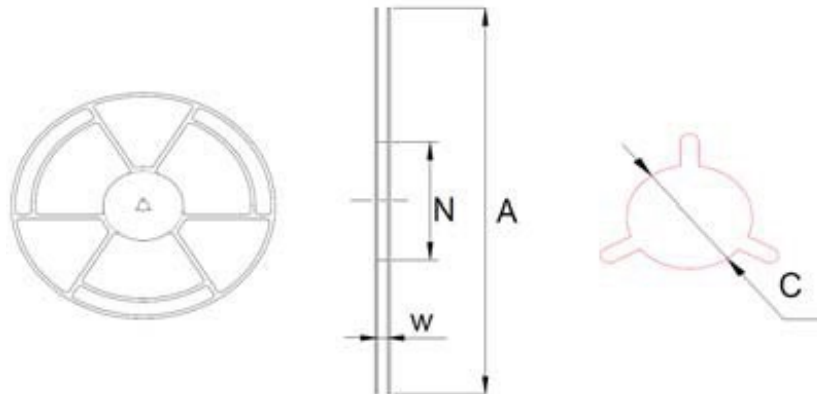
6.0 x 6.0 x 4.5 mm  
 RoHS/RoHS II Compliant  
 MSL Level = 1

## Packaging

Packing (Tape &amp; Reel: 1500 pcs/reel)



| A <sub>0</sub> | B <sub>0</sub> | W        | E        | F       | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> | D <sub>0</sub> | T        | K <sub>0</sub> |
|----------------|----------------|----------|----------|---------|----------------|----------------|----------------|----------------|----------|----------------|
| 6.4±0.1        | 6.4±0.1        | 16.0±0.3 | 1.75±0.1 | 7.5±0.1 | 4.0±0.1        | 8.0.1          | 2.0±0.1        | 1.5+0.1/-0.0   | 0.4±0.03 | 4.7±0.1        |



| A       | N       | W              | C             |
|---------|---------|----------------|---------------|
| 330±0.1 | 100±0.5 | 22.4 +0.2/-0.0 | Ø13 +0.2/-0.0 |

Dimension: mm

**ATTENTION:** Abracon LLC'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-dependent 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 LLC is required. Please contact Abracon LLC for more information.



5101 Hidden Creek Ln Spicewood TX 78669  
 Phone: 512-371-6159 | Fax: 512-351-8858  
 For terms and conditions of sales, please visit:  
[www.abracon.com](http://www.abracon.com)

REVISED: 06-28-21

ABRACON IS  
 ISO9001-2015  
 CERTIFIED



## OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we stricly control the quality of products and services. Welcome your RFQ to

Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.