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**(TPSH) Low DCR  
Low-Profile  
Power Inductors**

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## ▶ Product Introduction

### Token's Low DCR Low-Profile Power Inductors fit into to more portable applications.

#### Features :

- Various high power inductors are superior to be high Saturation for surface mounting..
- Excellent solderability and high heat resistance.
- Magnetically shielded construction.

#### Applications :

- Power supply for VCRS; OA equipment Digital camera, LCD television set notebook PC, portable communication Equipments, DC/DC converters, etc..

Like many components in the industry, power wirewound inductors are being impacted by the trend toward smaller electronic devices with enhanced functionality requiring increased density of components on the board.

Token introduces low-profile, high-current inductor in case size. The TPSH series offers designers a high-current solution using a larger part, without exceeding a profile of 1.1 mm on either side of the PC board.

The miniaturization of battery-powered devices also requires more compact circuit-board designs, and therefore smaller but more-effective inductor designs. Token (TPSH) offers an inductance range from 1.0  $\mu\text{H}$  to 1000.0  $\mu\text{H}$ , and DCR from 0.009 $\Omega$  to 19.110 $\Omega$ .

The (TPSH) inductor serves as a high-performing, space-saving and power-saving solution for low-profile, high-current power supplies and point of load (POL) converters; distributed power systems; voltage regulator module (VRM) and DC-to-DC converter applications in end products including next-generation mobile devices; notebooks, desktop computers, personal multimedia devices, automotive systems, servers, graphic cards, portable gaming devices, and personal navigation systems; and field-programmable gate arrays (FPGAs).

This wire-wound inductor handles high transient current spikes without hard saturation. Packaged in an RoHS-compliant, 100 % lead (Pb)-free shielded, composite construction that reduces buzz noise to ultra-low levels, the new device is specified for an operating temperature range of -25°C to +125°C, with high resistance to mechanical shock, thermal shock, moisture, and vibration.

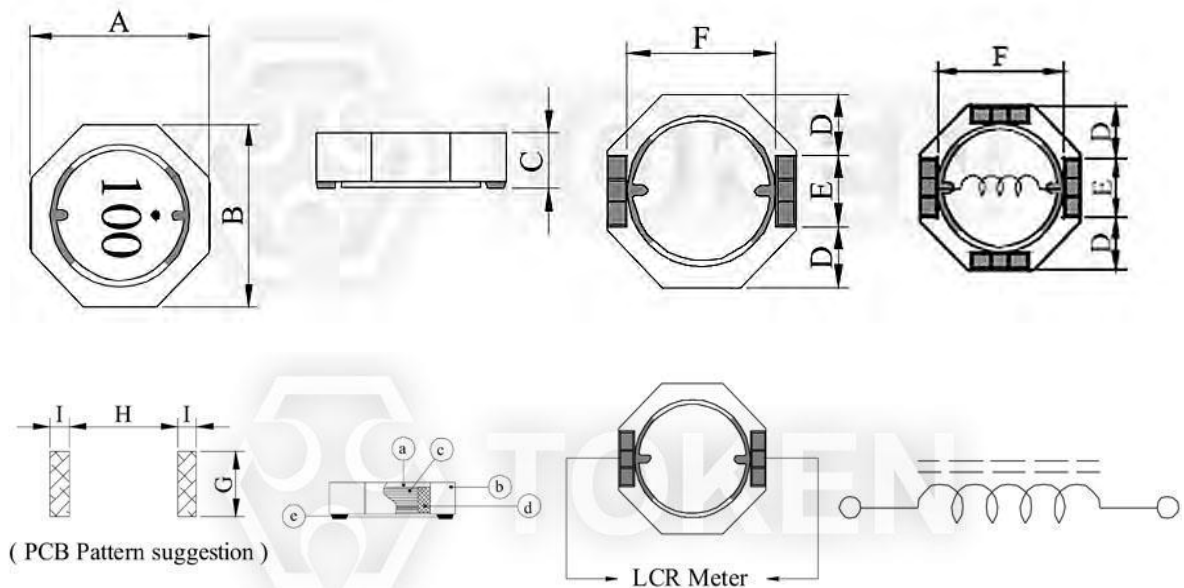
Custom parts are available on request. Token will also produce devices outside these specifications to meet specific customer requirements, Please contact our sales or link to Token official website "[SMD Power Inductors](http://www.token.com.tw)" for more information.



► Dimensions

Dimensions & Configurations (TPSH)

| Type     | A ± 0.3 | B ± 0.3 | C ± 0.3 | D    | E    | F    | G    | H    | I    |
|----------|---------|---------|---------|------|------|------|------|------|------|
| TPSH6011 | 6.20    | 6.50    | 1.10    | 2.15 | 2.20 | 4.90 | 2.40 | 4.90 | 1.10 |
| TPSH6011 | 6.20    | 6.50    | 1.10    | 2.15 | 2.20 | 4.90 | 2.40 | 4.90 | 1.10 |
| TPSH6013 | 6.20    | 6.50    | 1.40    | 2.15 | 2.20 | 4.90 | 2.40 | 4.90 | 1.10 |
| TPSH6018 | 6.20    | 6.50    | 1.80    | 2.15 | 2.20 | 4.90 | 2.40 | 4.90 | 1.10 |
| TPSH6025 | 6.20    | 6.50    | 2.50    | 2.15 | 2.20 | 4.90 | 2.40 | 4.90 | 1.10 |
| TPSH8028 | 6.20    | 6.50    | 2.50    | 2.15 | 2.20 | 4.90 | 2.40 | 4.90 | 1.10 |
| TPSH8030 | 8.00    | 8.00    | 2.80    | 2.50 | 2.80 | 6.00 | 3.20 | 5.80 | 2.00 |
| TPSH8040 | 8.00    | 8.00    | 3.80    | 2.40 | 3.20 | 6.40 | 3.40 | 6.20 | 1.40 |
| TPSH8043 | 6.20    | 6.50    | 2.50    | 2.15 | 2.20 | 4.90 | 2.40 | 4.90 | 1.10 |
| TPSH8045 | 8.00    | 8.00    | 4.30    | 2.50 | 3.00 | 6.00 | 3.20 | 5.80 | 1.40 |
| TPSH8058 | 8.00    | 8.00    | 5.80    | 2.40 | 3.20 | 6.40 | 3.40 | 6.20 | 1.40 |
| TPSH1028 | 10.0    | 10.0    | 2.80    | 3.40 | 3.20 | 7.40 | 4.00 | 7.20 | 1.80 |
| TPSH1030 | 10.0    | 10.0    | 2.80    | 3.00 | 4.00 | 8.20 | 4.20 | 8.20 | 1.40 |
| TPSH1038 | 10.0    | 10.0    | 3.80    | 3.40 | 3.20 | 7.40 | 4.00 | 7.20 | 1.80 |
| TPSH1040 | 10.0    | 10.0    | 3.80    | 3.00 | 4.00 | 8.20 | 4.20 | 8.20 | 1.40 |
| TPSH1050 | 10.0    | 10.0    | 4.80    | 3.00 | 4.00 | 8.20 | 4.20 | 8.20 | 1.40 |
| TPSH1065 | 10.0    | 10.0    | 6.60    | 3.00 | 4.00 | 8.20 | 4.20 | 8.20 | 1.40 |



● Note: Design as Customer's Requested Specifications.

## TPSH60

### Electrical Characteristics (TPSH6011)

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |       | DCR (mΩ) |      | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|-------|----------|------|----------------|----------------|----------------|
|              |                 |        | L          | Q     | TYP.     | MAX. |                |                |                |
| TPSH6011-1R4 | 1.4 ± 30%       | 8      | 100K       | 7.96M | 30       | 40   | 140            | 2600           | 1800           |
| TPSH6011-2R7 | 2.7 ± 30%       | 8      | 100K       | 7.96M | 48       | 62   | 100            | 2200           | 1450           |
| TPSH6011-4R7 | 4.7 ± 30%       | 8      | 100K       | 7.96M | 66       | 86   | 70             | 1800           | 1100           |
| TPSH6011-6R8 | 6.8 ± 30%       | 7      | 100K       | 7.96M | 105      | 136  | 55             | 1400           | 900            |
| TPSH6011-100 | 10.0 ± 30%      | 12     | 100K       | 2.52M | 170      | 220  | 45             | 1100           | 720            |
| TPSH6011-150 | 15.0 ± 30%      | 10     | 100K       | 2.52M | 240      | 320  | 32             | 950            | 620            |
| TPSH6011-220 | 22.0 ± 30%      | 10     | 100K       | 2.52M | 300      | 390  | 26             | 800            | 480            |
| TPSH6011-330 | 33.0 ± 30%      | 10     | 100K       | 2.52M | 430      | 560  | 22             | 680            | 380            |
| TPSH6011-470 | 47.0 ± 30%      | 10     | 100K       | 2.52M | 650      | 850  | 20             | 550            | 320            |
| TPSH6011-680 | 68.0 ± 30%      | 12     | 100K       | 2.52M | 920      | 1200 | 18             | 460            | 280            |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

### Electrical Characteristics (TPSH6013)

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |       | DCR (mΩ) |      | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|-------|----------|------|----------------|----------------|----------------|
|              |                 |        | L          | Q     | TYP.     | MAX. |                |                |                |
| TPSH6013-1R0 | 1.0 ± 30%       | 12     | 100K       | 7.96M | 28       | 36   | 100            | 3200           | 2900           |
| TPSH6013-1R5 | 1.5 ± 30%       | 10     | 100K       | 7.96M | 32       | 40   | 90             | 3000           | 2400           |
| TPSH6013-2R2 | 2.2 ± 30%       | 10     | 100K       | 7.96M | 40       | 50   | 80             | 2500           | 2100           |
| TPSH6013-3R3 | 3.3 ± 30%       | 10     | 100K       | 7.96M | 45       | 60   | 70             | 2350           | 1750           |
| TPSH6013-4R2 | 4.2 ± 30%       | 10     | 100K       | 7.96M | 58       | 75   | 55             | 2100           | 1500           |
| TPSH6013-6R4 | 6.4 ± 30%       | 10     | 100K       | 7.96M | 85       | 110  | 45             | 1700           | 1300           |
| TPSH6013-100 | 10.0 ± 30%      | 14     | 100K       | 2.52M | 132      | 156  | 35             | 1400           | 1100           |
| TPSH6013-150 | 15.0 ± 30%      | 12     | 100K       | 2.52M | 180      | 235  | 26             | 1100           | 800            |
| TPSH6013-220 | 22.0 ± 30%      | 12     | 100K       | 2.52M | 260      | 325  | 22             | 950            | 720            |
| TPSH6013-330 | 33.0 ± 30%      | 10     | 100K       | 2.52M | 400      | 500  | 18             | 780            | 580            |
| TPSH6013-470 | 47.0 ± 30%      | 10     | 100K       | 2.52M | 540      | 675  | 14             | 660            | 500            |
| TPSH6013-680 | 68.0 ± 30%      | 10     | 100K       | 2.52M | 720      | 900  | 10             | 600            | 400            |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

### Electrical Characteristics (TPSH6018)

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |       | DCR (mΩ) |      | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|-------|----------|------|----------------|----------------|----------------|
|              |                 |        | L          | Q     | TYP.     | MAX. |                |                |                |
| TPSH6018-1R2 | 1.2 ± 30%       | 8      | 100K       | 7.96M | 19       | 25   | 130            | 3600           | 2800           |
| TPSH6018-1R8 | 1.8 ± 30%       | 8      | 100K       | 7.96M | 22       | 28   | 90             | 3000           | 2300           |
| TPSH6018-3R3 | 3.3 ± 30%       | 8      | 100K       | 7.96M | 28       | 39   | 60             | 2500           | 1700           |
| TPSH6018-4R7 | 4.7 ± 30%       | 8      | 100K       | 7.96M | 32       | 42   | 50             | 2200           | 1400           |
| TPSH6018-6R8 | 6.8 ± 30%       | 8      | 100K       | 7.96M | 46       | 60   | 40             | 1900           | 1200           |
| TPSH6018-100 | 10.0 ± 30%      | 12     | 100K       | 2.52M | 68       | 88   | 30             | 1700           | 1000           |
| TPSH6018-150 | 15.0 ± 30%      | 12     | 100K       | 2.52M | 100      | 130  | 24             | 1500           | 800            |
| TPSH6018-220 | 22.0 ± 30%      | 14     | 100K       | 2.52M | 145      | 190  | 18             | 1200           | 650            |
| TPSH6018-330 | 33.0 ± 30%      | 10     | 100K       | 2.52M | 195      | 255  | 16             | 1000           | 580            |
| TPSH6018-470 | 47.0 ± 30%      | 12     | 100K       | 2.52M | 315      | 410  | 14             | 800            | 460            |
| TPSH6018-680 | 68.0 ± 30%      | 12     | 100K       | 2.52M | 455      | 600  | 12             | 620            | 360            |
| TPSH6018-101 | 100.0 ± 30%     | 20     | 100K       | 2.52M | 550      | 715  | 9              | 550            | 340            |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

### Electrical Characteristics (TPSH6025)

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |       | DCR (mΩ) |      | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|-------|----------|------|----------------|----------------|----------------|
|              |                 |        | L          | Q     | TYP.     | MAX. |                |                |                |
| TPSH6025-2R2 | 2.2 ± 30%       | 8      | 100K       | 7.96M | 18.5     | 24   | 65             | 3400           | 2350           |
| TPSH6025-3R3 | 3.3 ± 30%       | 8      | 100K       | 7.96M | 21.0     | 27   | 50             | 3200           | 2000           |
| TPSH6025-4R7 | 4.7 ± 30%       | 8      | 100K       | 7.96M | 27.0     | 35   | 42             | 2700           | 1550           |
| TPSH6025-6R8 | 6.8 ± 30%       | 8      | 100K       | 7.96M | 32.0     | 42   | 36             | 2400           | 1300           |
| TPSH6025-8R2 | 8.2 ± 30%       | 8      | 100K       | 7.96M | 40.0     | 52   | 30             | 2200           | 1250           |
| TPSH6025-100 | 10.0 ± 30%      | 12     | 100K       | 2.52M | 44.0     | 57   | 25             | 2000           | 1050           |
| TPSH6025-150 | 15.0 ± 30%      | 12     | 100K       | 2.52M | 66.0     | 86   | 22             | 1800           | 920            |
| TPSH6025-220 | 22.0 ± 30%      | 12     | 100K       | 2.52M | 100      | 130  | 18             | 1600           | 700            |
| TPSH6025-330 | 33.0 ± 30%      | 12     | 100K       | 2.52M | 140      | 12   | 65             | 1200           | 640            |
| TPSH6025-470 | 47.0 ± 30%      | 12     | 100K       | 2.52M | 190      | 250  | 10             | 1000           | 480            |
| TPSH6025-680 | 68.0 ± 30%      | 10     | 100K       | 2.52M | 280      | 500  | 7              | 700            | 350            |
| TPSH6025-101 | 100.0 ± 30%     | 24     | 100K       | 796K  | 385      | 500  | 7              | 700            | 370            |
| TPSH6025-221 | 220.0 ± 30%     | 20     | 100K       | 796K  | 950      | 1250 | 4              | 420            | 240            |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

▶ **TPSH80**

**Electrical Characteristics (TPSH8028)**

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |       | DCR (mΩ) |       | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|-------|----------|-------|----------------|----------------|----------------|
|              |                 |        | L          | Q     | TYP.     | MAX.  |                |                |                |
| TPSH8028-3R3 | 3.3 ± 30%       | 12     | 100K       | 7.96M | 60.0     | 17.5  | 23.0           | 3.60           | 3.50           |
| TPSH8028-4R7 | 4.7 ± 30%       | 15     | 100K       | 7.96M | 50.0     | 20.0  | 26.0           | 3.70           | 3.20           |
| TPSH8028-6R8 | 6.8 ± 30%       | 13     | 100K       | 7.96M | 40.0     | 34.0  | 45.0           | 2.80           | 2.50           |
| TPSH8028-100 | 10.0 ± 30%      | 22     | 100K       | 2.52M | 25.0     | 45.0  | 85.0           | 2.00           | 1.70           |
| TPSH8028-150 | 15.0 ± 30%      | 20     | 100K       | 2.52M | 20.0     | 66.0  | 130.0          | 1.60           | 1.50           |
| TPSH8028-220 | 22 ± 30%        | 22     | 100K       | 2.52M | 15.0     | 147.0 | 185.0          | 1.30           | 1.10           |
| TPSH8028-470 | 47.0 ± 30%      | 14     | 100K       | 2.52M | 12.0     | 177.0 | 230.0          | 1.20           | 1.00           |
| TPSH8028-680 | 68 ± 30%        | 23     | 100K       | 2.52M | 9.0      | 317.0 | 390.0          | 0.85           | 0.80           |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

**Electrical Characteristics (TPSH8030)**

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |        | DCR (mΩ) |       | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|--------|----------|-------|----------------|----------------|----------------|
|              |                 |        | L          | Q      | TYP.     | MAX.  |                |                |                |
| TPSH8030-3R3 | 3.3 ± 30%       | 12     | 100K       | 7.96M  | 55.0     | 15.6  | 22.0           | 5.00           | 4.60           |
| TPSH8030-4R7 | 4.7 ± 30%       | 10     | 100K       | 7.96M  | 42.0     | 22.6  | 30.0           | 4.60           | 3.80           |
| TPSH8030-6R8 | 6.8 ± 30%       | 10     | 100K       | 7.96M  | 30.0     | 34.5  | 46.0           | 3.60           | 3.20           |
| TPSH8030-100 | 10.0 ± 30%      | 18     | 100K       | 2.52M  | 25.0     | 47.3  | 60.0           | 3.00           | 2.60           |
| TPSH8030-150 | 15.0 ± 30%      | 18     | 100K       | 2.52M  | 20.0     | 75.0  | 100.0          | 2.20           | 2.00           |
| TPSH8030-220 | 22.0 ± 30%      | 18     | 100K       | 2.52M  | 16.0     | 105.0 | 130.0          | 2.00           | 1.75           |
| TPSH8030-330 | 33.0 ± 30%      | 16     | 100K       | 2.52M  | 12.0     | 205.0 | 260.0          | 1.45           | 1.25           |
| TPSH8030-470 | 47.0 ± 30%      | 16     | 100K       | 2.52M  | 12.0     | 205.6 | 260.0          | 1.45           | 1.25           |
| TPSH8030-680 | 68.0 ± 30%      | 16     | 100K       | 2.52M  | 9.0      | 25.6  | 315.0          | 1.25           | 0.96           |
| TPSH8030-101 | 100.0 ± 30%     | 24     | 100K       | 0.796M | 7.0      | 415.0 | 520.0          | 0.85           | 0.75           |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).





### Electrical Characteristics (TPSH8040)

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |        | DCR (mΩ) |       | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|--------|----------|-------|----------------|----------------|----------------|
|              |                 |        | L          | Q      | TYP.     | MAX.  |                |                |                |
| TPSH8040-3R3 | 3.3 ± 30%       | 12     | 100K       | 7.96M  | 40.0     | 13.8  | 18.0           | 6.00           | 5.00           |
| TPSH8040-4R2 | 4.2 ± 30%       | 12     | 100K       | 7.96M  | 32.0     | 16.5  | 22.0           | 5.30           | 4.60           |
| TPSH8040-6R2 | 6.2 ± 30%       | 10     | 100K       | 7.96M  | 28.0     | 25.0  | 32.0           | 4.20           | 4.00           |
| TPSH8040-100 | 10.0 ± 30%      | 22     | 100K       | 2.52M  | 20.0     | 33.0  | 42.0           | 3.70           | 2.90           |
| TPSH8040-150 | 15.0 ± 30%      | 20     | 100K       | 2.52M  | 18.0     | 55.0  | 70.0           | 2.80           | 2.50           |
| TPSH8040-220 | 22.0 ± 30%      | 22     | 100K       | 2.52M  | 15.0     | 88    | 11.0           | 2.20           | 2.05           |
| TPSH8040-330 | 33.0 ± 30%      | 22     | 100K       | 2.52M  | 12.0     | 115.0 | 150.0          | 1.90           | 1.75           |
| TPSH8040-470 | 47.0 ± 30%      | 20     | 100K       | 2.52M  | 10.0     | 150.0 | 190.0          | 1.55           | 1.45           |
| TPSH8040-680 | 68.0 ± 30%      | 18     | 100K       | 2.52M  | 8.0      | 205.0 | 260.0          | 1.35           | 1.10           |
| TPSH8040-101 | 100.0 ± 30%     | 25     | 100K       | 0.796M | 6.0      | 325.0 | 410.0          | 1.05           | 0.95           |
| TPSH8040-151 | 150.0 ± 30%     | 18     | 100K       | 0.796M | 5.0      | 445.0 | 560.0          | 0.90           | 0.77           |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

### Electrical Characteristics (TPSH8043)

| Part NO      | Inductance (μH) | Q Ref. | TEST Freq. |        | DCR (mΩ) |       | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|-----------------|--------|------------|--------|----------|-------|----------------|----------------|----------------|
|              |                 |        | L          | Q      | TYP.     | MAX.  |                |                |                |
| TPSH8043-1R0 | 1.0 ± 30%       | 15     | 100K       | 7.96M  | 70.0     | 8.1   | 10.0           | 6.60           | 7.50           |
| TPSH8043-2R2 | 2.2 ± 30%       | 15     | 100K       | 7.96M  | 65.0     | 11.2  | 15.0           | 5.40           | 5.20           |
| TPSH8043-3R3 | 3.3 ± 30%       | 12     | 100K       | 7.96M  | 54.0     | 12.5  | 17.0           | 5.10           | 4.50           |
| TPSH8043-3R9 | 3.9 ± 30%       | 15     | 100K       | 7.96M  | 42.0     | 14.6  | 19.0           | 4.80           | 4.00           |
| TPSH8043-4R7 | 4.7 ± 30%       | 13     | 100K       | 7.96M  | 36.0     | 17.0  | 22.0           | 4.60           | 3.60           |
| TPSH8043-100 | 10.0 ± 30%      | 27     | 100K       | 2.52M  | 20.0     | 30.0  | 40.0           | 3.50           | 2.70           |
| TPSH8043-150 | 15.0 ± 30%      | 26     | 100K       | 2.52M  | 15.0     | 46.0  | 60.0           | 2.70           | 2.00           |
| TPSH8043-220 | 22.0 ± 30%      | 24     | 100K       | 2.52M  | 12.0     | 72.5  | 95.0           | 2.20           | 1.70           |
| TPSH8043-330 | 33.0 ± 30%      | 21     | 100K       | 2.52M  | 11.0     | 100.0 | 130.0          | 1.70           | 1.40           |
| TPSH8043-470 | 47.0 ± 30%      | 21     | 100K       | 2.52M  | 9.0      | 120.0 | 150.0          | 1.50           | 1.20           |
| TPSH8043-680 | 68.0 ± 30%      | 20     | 100K       | 2.52M  | 7.0      | 192.0 | 250.0          | 1.20           | 1.00           |
| TPSH8043-101 | 100 ± 30%       | 50     | 100K       | 0.796M | 6.0      | 287.0 | 370.0          | 1.00           | 0.80           |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

### Electrical Characteristics (TPSH8045)

| Part NO      | Inductance ( $\mu\text{H}$ ) | Q Ref. | TEST Freq. |       | DCR ( $\text{m}\Omega$ ) |       | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|------------------------------|--------|------------|-------|--------------------------|-------|----------------|----------------|----------------|
|              |                              |        | L          | Q     | TYP.                     | MAX.  |                |                |                |
| TPSH8045-3R5 | $3.5 \pm 30\%$               | 12     | 100K       | 7.96M | 45.0                     | 18.8  | 25.0           | 5.00           | 5.00           |
| TPSH8045-4R7 | $4.7 \pm 30\%$               | 10     | 100K       | 7.96M | 30.0                     | 22.0  | 27.5           | 4.60           | 4.40           |
| TPSH8045-6R2 | $6.2 \pm 30\%$               | 10     | 100K       | 7.96M | 23.0                     | 28.5  | 36.0           | 4.20           | 3.80           |
| TPSH8045-100 | $10.0 \pm 30\%$              | 16     | 100K       | 2.52M | 18.0                     | 35.8  | 48.0           | 3.50           | 3.30           |
| TPSH8045-220 | $22.0 \pm 30\%$              | 18     | 100K       | 2.52M | 12.0                     | 94.0  | 122.0          | 2.25           | 2.15           |
| TPSH8045-330 | $33.0 \pm 30\%$              | 14     | 100K       | 2.52M | 8.0                      | 118.0 | 150.0          | 2.00           | 1.80           |
| TPSH8045-470 | $47.0 \pm 30\%$              | 12     | 100K       | 2.52M | 6.0                      | 215.0 | 270.0          | 1.45           | 1.40           |
| TPSH8045-680 | $68.0 \pm 30\%$              | 8      | 100K       | 2.52M | 4.0                      | 320.0 | 400.0          | 1.25           | 1.20           |
| TPSH8045-101 | $100.0 \pm 30\%$             | 20     | 100K       | 0.70M | 3.0                      | 400.0 | 500.0          | 1.00           | 0.92           |

- Note:
- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise  $40^\circ\text{C}$   $\Delta t = 40^\circ\text{C}$  ( $t_a = 20^\circ\text{C}$ ).

### Electrical Characteristics (TPSH8058)

| Part NO      | Inductance ( $\mu\text{H}$ ) | Q Ref. | TEST Freq. |        | DCR ( $\text{m}\Omega$ ) |       | SRF (MHz) TYP. | Irms (mA) TYP. | Isat (mA) TYP. |
|--------------|------------------------------|--------|------------|--------|--------------------------|-------|----------------|----------------|----------------|
|              |                              |        | L          | Q      | TYP.                     | MAX.  |                |                |                |
| TPSH8058-3R9 | $3.9 \pm 30\%$               | 8      | 100K       | 7.96M  | 45.0                     | 12.0  | 16.0           | 6.50           | 4.50           |
| TPSH8058-5R2 | $5.2 \pm 30\%$               | 8      | 100K       | 7.96M  | 35.0                     | 14.0  | 17.5           | 5.80           | 3.90           |
| TPSH8058-6R8 | $6.8 \pm 30\%$               | 8      | 100K       | 7.96M  | 30.0                     | 16.0  | 20.0           | 5.50           | 4.00           |
| TPSH8058-100 | $10.0 \pm 30\%$              | 20     | 100K       | 2.52M  | 14.0                     | 42.0  | 52.0           | 3.40           | 1.80           |
| TPSH8058-220 | $22.0 \pm 30\%$              | 20     | 100K       | 2.52M  | 14.0                     | 42.0  | 52.0           | 3.40           | 1.80           |
| TPSH8058-330 | $33.0 \pm 30\%$              | 16     | 100K       | 2.52M  | 10.0                     | 58.0  | 72.0           | 2.70           | 1.60           |
| TPSH8058-470 | $47.0 \pm 30\%$              | 12     | 100K       | 2.52M  | 7.0                      | 80.0  | 10.0           | 2.30           | 1.50           |
| TPSH8058-680 | $68.0 \pm 30\%$              | 16     | 100K       | 2.52M  | 6.0                      | 100.0 | 130.0          | 2.00           | 1.20           |
| TPSH8058-101 | $100.0 \pm 30\%$             | 22     | 100K       | 0.796M | 5.0                      | 124.0 | 160.0          | 1.70           | 0.90           |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise  $40^\circ\text{C}$   $\Delta t = 40^\circ\text{C}$  ( $t_a = 20^\circ\text{C}$ ).



▶ **TPSH10**

**Electrical Characteristics (TPSH1028)**

| Part NO      | Inductance (μH) | Q Ref. | SRF (MHz) TYP. | DCR (mΩ) |       | Irms (A) TYP. | Isat (A) TYP. |
|--------------|-----------------|--------|----------------|----------|-------|---------------|---------------|
|              |                 |        |                | TYP.     | MAX.  |               |               |
| TPSH1028-1R0 | 1.0 ± 30%       | 14     | 100            | 4.9      | 6.5   | 7.00          | 8.00          |
| TPSH1028-1R5 | 1.5 ± 30%       | 12     | 80             | 7.3      | 10.0  | 6.50          | 6.50          |
| TPSH1028-2R2 | 2.2 ± 30%       | 12     | 65             | 11.0     | 15.0  | 5.30          | 4.80          |
| TPSH1028-3R3 | 3.3 ± 30%       | 14     | 55             | 15.0     | 20.0  | 4.60          | 4.30          |
| TPSH1028-4R7 | 4.7 ± 30%       | 12     | 40             | 16.5     | 3.0   | 4.50          | 3.80          |
| TPSH1028-6R8 | 6.8 ± 30%       | 12     | 30             | 25.0     | 33.0  | 3.50          | 3.00          |
| TPSH1028-8R2 | 8.2 ± 30%       | 12     | 28             | 28.5     | 37.0  | 3.30          | 2.70          |
| TPSH1028-100 | 10.0 ± 30%      | 20     | 25             | 40.0     | 53.0  | 2.80          | 2.40          |
| TPSH1028-150 | 15.0 ± 30%      | 26     | 22             | 69.0     | 90.0  | 2.00          | 2.00          |
| TPSH1028-220 | 22.0 ± 30%      | 26     | 16             | 104.0    | 135.0 | 1.60          | 1.40          |
| TPSH1028-330 | 33.0 ± 30%      | 24     | 12             | 139.0    | 180.0 | 1.25          | 1.20          |
| TPSH1028-470 | 47.0 ± 30%      | 20     | 11             | 167.0    | 230.0 | 1.30          | 1.10          |
| TPSH1028-560 | 56.0 ± 30%      | 22     | 10             | 208.0    | 270.0 | 1.10          | 1.00          |
| TPSH1028-680 | 68.0 ± 30%      | 20     | 9              | 232.0    | 300.0 | 1.00          | 0.90          |
| TPSH1028-820 | 82.0 ± 30%      | 20     | 8              | 323.0    | 420.0 | 0.90          | 0.85          |
| TPSH1028-101 | 100.0 ± 30%     | 20     | 7              | 365.0    | 470.0 | 0.85          | 0.80          |
| TPSH1028-121 | 120.0 ± 30%     | 18     | 6              | 428.0    | 560.0 | 0.65          | 0.70          |
| TPSH1028-151 | 150.0 ± 30%     | 18     | 5              | 518.0    | 680.0 | 0.70          | 0.65          |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

**Electrical Characteristics (TPSH1030)**

| Part NO      | Inductance (μH) | Q Ref. | SRF (MHz) TYP. | DCR (mΩ) |       | Irms (A) TYP. | Isat (A) TYP. |
|--------------|-----------------|--------|----------------|----------|-------|---------------|---------------|
|              |                 |        |                | TYP.     | MAX.  |               |               |
| TPSH1030-4R7 | 4.7 ± 30%       | 14     | 36             | 25.0     | 32.5  | 4.20          | 4.40          |
| TPSH1030-6R2 | 6.2 ± 30%       | 12     | 30             | 32.0     | 42.0  | 3.80          | 3.90          |
| TPSH1030-100 | 10.0 ± 30%      | 16     | 26             | 44.0     | 58.0  | 3.00          | 3.10          |
| TPSH1030-150 | 15.0 ± 30%      | 16     | 22             | 73.0     | 95.0  | 2.60          | 2.55          |
| TPSH1030-220 | 22.0 ± 30%      | 16     | 18             | 110.0    | 145.0 | 2.00          | 2.10          |
| TPSH1030-330 | 33.0 ± 30%      | 12     | 14             | 150.0    | 195.0 | 1.70          | 1.74          |
| TPSH1030-470 | 47.0 ± 30%      | 14     | 12             | 210.0    | 270.0 | 1.40          | 1.35          |
| TPSH1030-680 | 68.0 ± 30%      | 14     | 10             | 285.0    | 370.0 | 1.20          | 1.22          |
| TPSH1030-101 | 100.0 ± 30%     | 14     | 8.5            | 395.0    | 520.0 | 1.10          | 1.02          |
| TPSH1030-151 | 150.0 ± 30%     | 12     | 5.5            | 640.0    | 840.0 | 0.85          | 0.84          |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).



### Electrical Characteristics (TPSH1038)

| Part NO      | Inductance<br>( $\mu$ H) | Q<br>Ref. | SRF (MHz)<br>TYP. | DCR (m $\Omega$ ) |        | Irms (A)<br>TYP. | Isat (A)<br>TYP. |
|--------------|--------------------------|-----------|-------------------|-------------------|--------|------------------|------------------|
|              |                          |           |                   | TYP.              | MAX.   |                  |                  |
| TPSH1038-1R5 | 1.5 $\pm$ 30%            | 14        | 65                | 5.2               | 7.5    | 7.20             | 7.00             |
| TPSH1038-2R2 | 2.2 $\pm$ 30%            | 12        | 55                | 7.7               | 10.5   | 6.80             | 6.50             |
| TPSH1038-3R5 | 3.5 $\pm$ 30%            | 14        | 35                | 11.5              | 15.0   | 5.50             | 5.50             |
| TPSH1038-5R0 | 5.0 $\pm$ 30%            | 12        | 30                | 14.5              | 22.0   | 4.60             | 4.80             |
| TPSH1038-6R2 | 6.2 $\pm$ 30%            | 12        | 25                | 16.5              | 24.0   | 4.00             | 4.20             |
| TPSH1038-100 | 10.0 $\pm$ 30%           | 24        | 20                | 25.0              | 35.0   | 3.80             | 3.60             |
| TPSH1038-150 | 15.0 $\pm$ 30%           | 24        | 16                | 37.0              | 50.0   | 2.80             | 2.70             |
| TPSH1038-220 | 22.0 $\pm$ 30%           | 20        | 12                | 55.8              | 75.0   | 2.20             | 2.30             |
| TPSH1038-330 | 33.0 $\pm$ 30%           | 22        | 10                | 86.0              | 112.0  | 1.80             | 1.80             |
| TPSH1038-470 | 47.0 $\pm$ 30%           | 22        | 8                 | 121.0             | 160.0  | 1.65             | 1.60             |
| TPSH1038-680 | 68.0 $\pm$ 30%           | 24        | 6                 | 220.0             | 300.0  | 1.30             | 1.10             |
| TPSH1038-101 | 100.0 $\pm$ 30%          | 24        | 6                 | 220.0             | 300.0  | 1.30             | 1.10             |
| TPSH1038-151 | 150.0 $\pm$ 30%          | 20        | 5                 | 358.0             | 476.0  | 0.90             | 0.80             |
| TPSH1038-221 | 220.0 $\pm$ 30%          | 22        | 4                 | 565.0             | 740.0  | 0.65             | 0.65             |
| TPSH1038-331 | 330.0 $\pm$ 30%          | 20        | 3                 | 773.0             | 1000.0 | 0.55             | 0.52             |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C  $\Delta$ t = 40°C (ta = 20°C).

### Electrical Characteristics (TPSH1040)

| Part NO      | Inductance<br>( $\mu$ H) | Q<br>Ref. | SRF (MHz)<br>TYP. | DCR (m $\Omega$ ) |        | Irms (A)<br>TYP. | Isat (A)<br>TYP. |
|--------------|--------------------------|-----------|-------------------|-------------------|--------|------------------|------------------|
|              |                          |           |                   | TYP.              | MAX.   |                  |                  |
| TPSH1040-5R0 | 5.0 $\pm$ 30%            | 12        | 28.0              | 17.5              | 23.0   | 5.20             | 4.70             |
| TPSH1040-6R2 | 6.2 $\pm$ 30%            | 12        | 24.0              | 21.5              | 28.0   | 4.70             | 4.30             |
| TPSH1040-100 | 10.0 $\pm$ 30%           | 16        | 22.0              | 32.0              | 42.0   | 4.40             | 3.80             |
| TPSH1040-150 | 15.0 $\pm$ 30%           | 18        | 16.0              | 60.0              | 78.0   | 2.90             | 2.80             |
| TPSH1040-220 | 22.0 $\pm$ 30%           | 16        | 12.0              | 75.0              | 98.0   | 2.55             | 2.48             |
| TPSH1040-330 | 33.0 $\pm$ 30%           | 16        | 10.0              | 110.0             | 140.0  | 2.05             | 2.00             |
| TPSH1040-470 | 47.0 $\pm$ 30%           | 16        | 8.0               | 170.0             | 22.0   | 1.62             | 1.56             |
| TPSH1040-680 | 68.0 $\pm$ 30%           | 16        | 7.0               | 245.0             | 320.0  | 1.45             | 1.40             |
| TPSH1040-101 | 100.0 $\pm$ 30%          | 14        | 6.0               | 320.0             | 415.0  | 1.18             | 1.14             |
| TPSH1040-221 | 220.0 $\pm$ 30%          | 14        | 4.0               | 760.0             | 950.0  | 0.78             | 0.72             |
| TPSH1040-331 | 330.0 $\pm$ 30%          | 14        | 2.5               | 1080.0            | 1350.0 | 0.62             | 0.60             |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C  $\Delta$ t = 40°C (ta = 20°C).

**Electrical Characteristics (TPSH1050)**

| Part NO      | Inductance (μH) | Q Ref. | SRF (MHz) TYP. | DCR (mΩ) |        | Irms (A) TYP. | Isat (A) TYP. |
|--------------|-----------------|--------|----------------|----------|--------|---------------|---------------|
|              |                 |        |                | TYP.     | MAX.   |               |               |
| TPSH1050-4R7 | 4.7 ± 30%       | 13     | 34.0           | 14.5     | 19.0   | 5.20          | 5.10          |
| TPSH1050-100 | 10.0 ± 30%      | 16     | 20.0           | 26.0     | 34.0   | 4.40          | 3.80          |
| TPSH1050-220 | 22.0 ± 30%      | 16     | 10.0           | 58.0     | 76.0   | 2.90          | 2.70          |
| TPSH1050-330 | 33.0 ± 30%      | 14     | 8.5            | 70.0     | 90.0   | 2.70          | 2.10          |
| TPSH1050-470 | 47.0 ± 30%      | 14     | 7.0            | 100.0    | 130.0  | 2.10          | 1.80          |
| TPSH1050-680 | 68.0 ± 30%      | 14     | 6.5            | 144.0    | 186.0  | 1.75          | 1.45          |
| TPSH1050-101 | 100.0 ± 30%     | 16     | 5.0            | 198.0    | 260.0  | 1.50          | 1.25          |
| TPSH1050-151 | 150.0 ± 30%     | 16     | 4.0            | 330.0    | 430.0  | 1.15          | 1.05          |
| TPSH1050-221 | 220.0 ± 30%     | 14     | 3.5            | 470.0    | 610.0  | 0.95          | 0.88          |
| TPSH1050-331 | 330.0 ± 30%     | 11     | 2.5            | 690.0    | 900.0  | 0.84          | 0.70          |
| TPSH1050-471 | 470.0 ± 30%     | 11     | 1.9            | 1050.0   | 1350.0 | 0.65          | 0.55          |
| TPSH1050-681 | 680.0 ± 30%     | 11     | 1.6            | 1350.0   | 1760.0 | 0.56          | 0.48          |
| TPSH1050-102 | 1000.0 ± 30%    | 30     | 1.4            | 2120.0   | 2760.0 | 0.47          | 0.40          |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).

**Electrical Characteristics (TPSH1065)**

| Part NO      | Inductance (μH) | Q Ref. | SRF (MHz) TYP. | DCR (mΩ) |       | Irms (A) TYP. | Isat (A) TYP. |
|--------------|-----------------|--------|----------------|----------|-------|---------------|---------------|
|              |                 |        |                | TYP.     | MAX.  |               |               |
| TPSH1065-4R2 | 4.2 ± 30%       | 14     | 45             | 18.0     | 23.0  | 5.60          | 7.00          |
| TPSH1065-6R5 | 6.5 ± 30%       | 13     | 28             | 28.0     | 35.0  | 5.00          | 7.00          |
| TPSH1065-100 | 10.0 ± 30%      | 14     | 20             | 33.0     | 41.0  | 4.90          | 4.00          |
| TPSH1065-220 | 22.0 ± 30%      | 16     | 12             | 58.0     | 73.0  | 3.80          | 2.80          |
| TPSH1065-330 | 33.0 ± 30%      | 10     | 7              | 93.0     | 120.0 | 2.70          | 2.40          |
| TPSH1065-470 | 47.0 ± 30%      | 10     | 6              | 165.0    | 210.0 | 2.10          | 2.10          |
| TPSH1065-680 | 68.0 ± 30%      | 8      | 5              | 195.0    | 250.0 | 1.85          | 1.75          |
| TPSH1065-101 | 100.0 ± 30%     | 13     | 4              | 234.0    | 290.0 | 1.80          | 1.40          |

Note:

- Measuring Frequency. L: 100KHz/0.25v.
- IDC: The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt = 40°C (ta = 20°C).



▶ **Order Codes**

**Order Codes (TPSH)**

| TPSH6011    |          |          | - | 1R0        |           | M         |      |
|-------------|----------|----------|---|------------|-----------|-----------|------|
| Part Number |          |          |   | Inductance |           | Tolerance |      |
| TPSH6011    | TPSH6013 | TPSH6018 |   | 1R0        | 1.00μH    | J         | ±5%  |
| TPSH6025    | TPSH8028 | TPSH8030 |   | 120        | 12.00μH   | K         | ±10% |
| TPSH8040    | TPSH8043 | TPSH8045 |   | 220        | 22.00μH   | L         | ±15% |
| TPSH8058    | TPSH1028 | TPSH1030 |   | 101        | 100.00μH  | M         | ±20% |
| TPSH1038    | TPSH1040 | TPSH1050 |   | 102        | 1000.00μH | P         | ±25% |
| TPSH1065    |          |          |   |            |           | N         | ±30% |

## ► General Information

### How to Quickly Search Inductor for all of the Characteristics?

#### Quickly Search Inductor Finder

Searching and comparing data sheets of inductor manufacturers can be time consuming. Token's Parameter Sorting Search Mode allows selection of inductors based on different parameters.

By entering just the inductance value,

By sorting parameter to narrow down searching range,

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