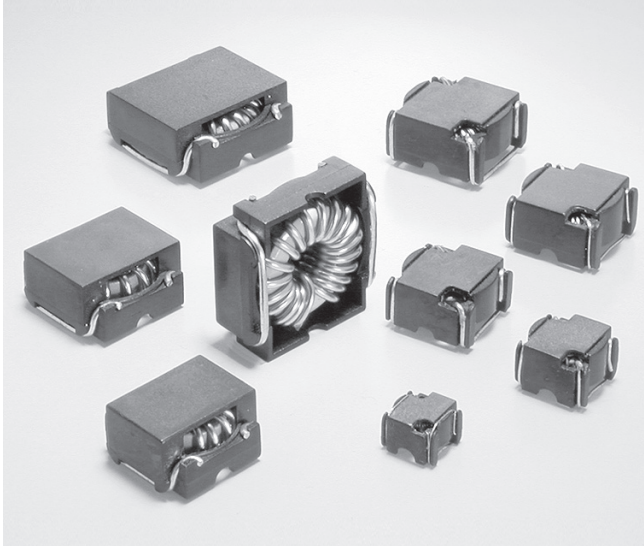




# Toroid Power Inductors – SPT Series



- Toroid winding eliminates stray electromagnetic emissions
- Two versions: Standard, current ratings up to 8 Amps; High current, with ratings up to 12.2 Amp

**Core material** Powered iron

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Terminations** RoHS compliant tin-silver over copper. Other terminations available at additional cost.

**Ambient temperature** –40°C to +85°C

**Maximum part temperature:** The part temperature should not exceed +85°C (ambient + self-heating). Prolonged operation above +85°C may result in a permanent increase in core loss and part failure due to thermal aging of the core material.

**Storage temperature** Component: –40°C to +85°C.  
Packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**  
38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**PCB washing** Only pure water or alcohol recommended

| Part number <sup>1</sup> | L <sup>2</sup><br>±20%<br>(µH) | DCR<br>max<br>(mOhm) | SRF<br>typ <sup>3</sup><br>(MHz) | Isat (A) <sup>4</sup> |             |             | Body<br>size |
|--------------------------|--------------------------------|----------------------|----------------------------------|-----------------------|-------------|-------------|--------------|
|                          |                                |                      |                                  | 10%<br>drop           | 20%<br>drop | 30%<br>drop |              |
| Standard series          |                                |                      |                                  |                       |             |             |              |
| SPT20L-112ML_            | 1.1                            | 16.0                 | 130                              | 3.2                   | 4.8         | 6.7         | 1            |
| SPT38L-382ML_            | 3.8                            | 9.3                  | 61                               | 4.0                   | 6.1         | 8.2         | 3            |
| SPT30L-522ML_            | 5.2                            | 24.2                 | 47                               | 2.8                   | 4.2         | 5.8         | 2            |
| SPT20L-702ML_            | 7.0                            | 95.0                 | 37                               | 1.2                   | 1.8         | 2.5         | 1            |
| SPT38L-752ML_            | 7.5                            | 22.8                 | 50                               | 2.7                   | 4.2         | 5.8         | 3            |
| SPT44L-792ML_            | 7.9                            | 16.2                 | 26                               | 3.5                   | 5.4         | 7.3         | 4            |
| SPT30L-123ML_            | 12                             | 54.7                 | 23.9                             | 1.9                   | 2.8         | 3.7         | 2            |
| SPT44L-143ML_            | 14                             | 23.6                 | 15.6                             | 2.8                   | 4.1         | 5.7         | 4            |
| SPT50L-163ML_            | 16                             | 19.7                 | 14.3                             | 2.8                   | 4.2         | 5.8         | 5            |
| SPT38L-223ML_            | 22                             | 63                   | 18.1                             | 1.5                   | 2.3         | 3.1         | 3            |
| SPT20L-233ML_            | 23                             | 320                  | 13.5                             | 0.6                   | 1.0         | 1.3         | 1            |
| SPT50L-263ML_            | 26                             | 32                   | 11.2                             | 2.3                   | 3.4         | 4.6         | 5            |
| SPT30L-353ML_            | 35                             | 166                  | 11.0                             | 1.1                   | 1.6         | 2.2         | 2            |
| SPT44L-413ML_            | 41                             | 85                   | 8.30                             | 1.6                   | 2.3         | 3.1         | 4            |
| SPT38L-733ML_            | 73                             | 290                  | 10.8                             | 0.81                  | 1.3         | 1.7         | 3            |
| SPT50L-733ML_            | 73                             | 133                  | 4.56                             | 1.4                   | 2.0         | 2.7         | 5            |
| SPT30L-174ML_            | 170                            | 640                  | 3.84                             | 0.44                  | 0.68        | 0.95        | 2            |
| SPT38L-294ML_            | 290                            | 657                  | 2.87                             | 0.41                  | 0.64        | 0.90        | 3            |
| SPT50L-564ML_            | 560                            | 550                  | 1.54                             | 0.37                  | 0.59        | 0.81        | 5            |
| SPT38L-674ML_            | 670                            | 1200                 | 1.38                             | 0.26                  | 0.40        | 0.55        | 3            |
| SPT44L-115ML_            | 1100                           | 1908                 | 1.35                             | 0.25                  | 0.41        | 0.57        | 4            |
| SPT50L-205ML_            | 2000                           | 1932                 | 1.35                             | 0.18                  | 0.29        | 0.41        | 5            |
| High current series      |                                |                      |                                  |                       |             |             |              |
| SPT44H-282ML_            | 2.8                            | 4.6                  | 74                               | 5.8                   | 8.8         | 12.2        | 6            |
| SPT44H-422ML_            | 4.2                            | 6.6                  | 61                               | 5.0                   | 7.8         | 10.9        | 6            |
| SPT50H-652ML_            | 6.5                            | 7.2                  | 27.3                             | 4.6                   | 6.7         | 9.1         | 7            |
| SPT50H-842ML_            | 8.4                            | 8.5                  | 22.8                             | 4.3                   | 6.4         | 8.5         | 7            |
| SPT68H-113ML_            | 11                             | 8.2                  | 25.9                             | 4.8                   | 7.2         | 9.9         | 8            |
| SPT68H-183ML_            | 18                             | 12.5                 | 12.0                             | 3.9                   | 5.7         | 7.7         | 8            |

1. When ordering, specify **termination** and **packaging** codes:

**SPT20L-112MLD**

**Termination:** L = RoHS compliant tin-silver over copper.

**Special order:**

T = RoHS tin-silver-copper (95.5/4/0.5) or  
S = non-RoHS tin-lead (63/37).

**Packaging:** D = 13" machine-ready reel

EIA-481 embossed plastic tape.

Body size 1: 750 per full reel.

Body sizes 2–3: 350 per full reel.

Body size 4: 300 per full reel.

Body sizes 5–6: 250 per full reel.

Body sizes 7–8: 200 per full reel.

**B = Less than full reel**

In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter D instead.

2. Inductance tested at 100 kHz, 0.1 Vrms on Agilent/HP 4192A.

3. SRF measured on Agilent/HP 8753ES network analyzer.

4. DC current that causes the specified inductance drop from its value without current.

5. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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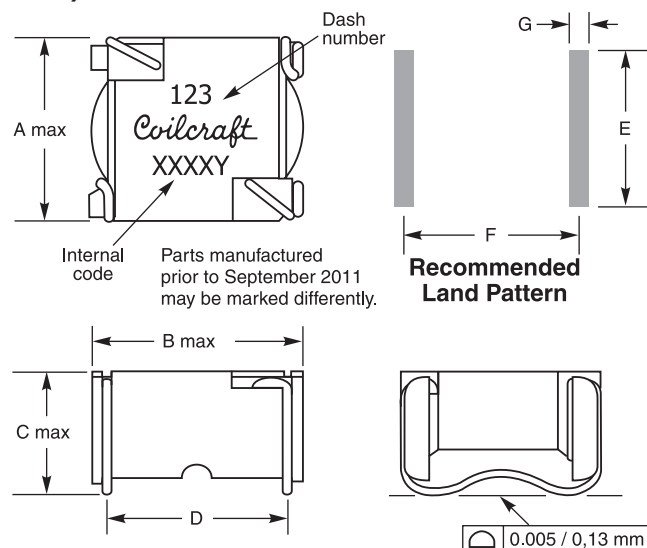
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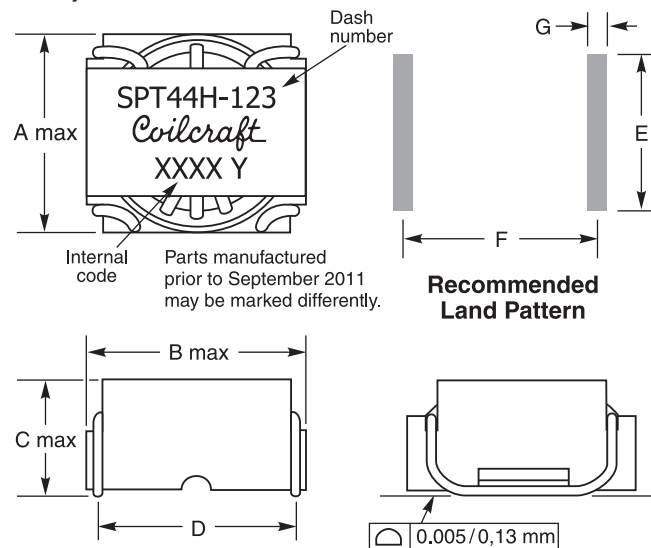


# Toroid Power Inductors – SPT Series

## Body size 1 - 5



## Body size 6 - 8



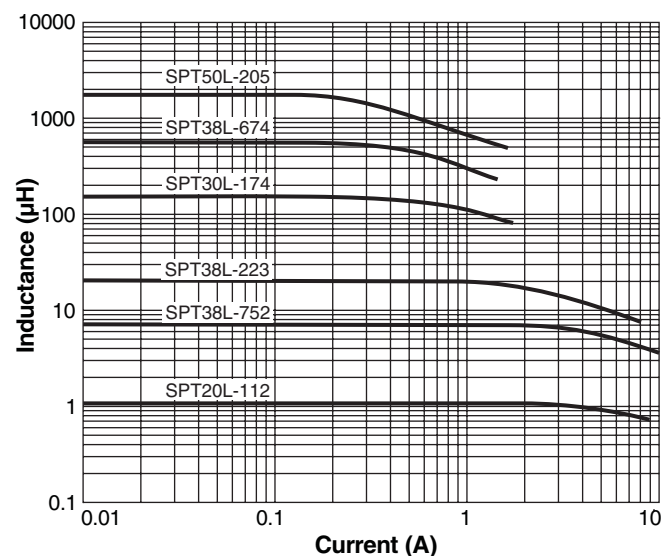
| Size | A max      | B max      | C max      | D <sup>1</sup> | E <sup>2</sup> | F <sup>2</sup> | G         | Weight (g)  |
|------|------------|------------|------------|----------------|----------------|----------------|-----------|-------------|
| 1    | 0.34/8,64  | 0.34/8,64  | 0.28/7,00  | 0.26/6,60      | 0.30/7,62      | 0.27/6,86      | 0.06/1,52 | 0.47-0.54   |
| 2    | 0.44/11,05 | 0.44/11,18 | 0.37/9,50  | 0.35/8,89      | 0.40/10,16     | 0.36/9,14      | 0.06/1,52 | 1.42-1.59   |
| 3    | 0.56/14,22 | 0.56/14,35 | 0.37/9,50  | 0.45/11,43     | 0.52/13,21     | 0.46/11,68     | 0.06/1,52 | 2.73-3.34   |
| 4    | 0.59/14,99 | 0.61/15,62 | 0.41/10,50 | 0.50/12,70     | 0.55/13,97     | 0.51/12,95     | 0.06/1,52 | 3.57-4.08   |
| 5    | 0.67/17,02 | 0.70/17,78 | 0.41/10,50 | 0.58/14,73     | 0.62/15,75     | 0.59/14,99     | 0.06/1,52 | 5.19-5.97   |
| 6    | 0.66/16,89 | 0.66/16,89 | 0.41/10,50 | 0.56/14,22     | 0.49/12,45     | 0.57/14,48     | 0.08/2,03 | 4.23-4.48   |
| 7    | 0.74/18,80 | 0.74/18,80 | 0.41/10,50 | 0.63/16,00     | 0.56/14,22     | 0.64/16,26     | 0.08/2,03 | 6.18-6.53   |
| 8    | 0.94/23,88 | 0.94/23,88 | 0.41/10,50 | 0.82/20,83     | 0.70/17,78     | 0.83/21,08     | 0.08/2,03 | 11.12-11.63 |

Dimensions are in inches/mm. Unless specified, tolerance is  $\pm 0.009/0,25$ .

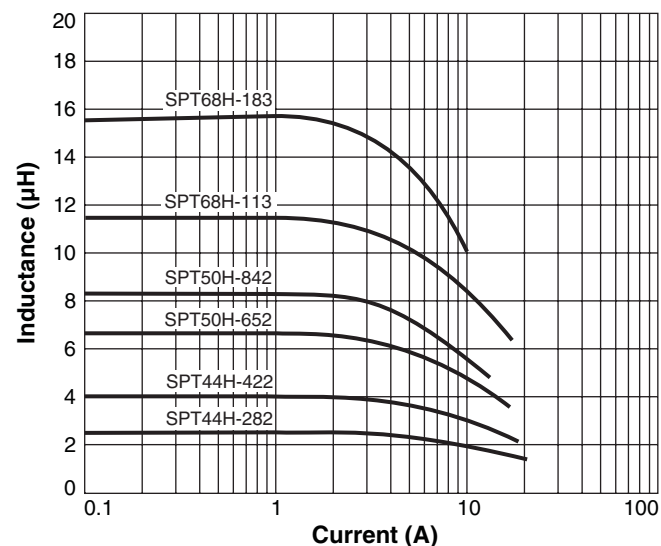
1.  $\pm 0.015/0,38$

2.  $\pm 0.005/0,13$

## Typical L vs Current (Standard series)



## Typical L vs Current (High current series)



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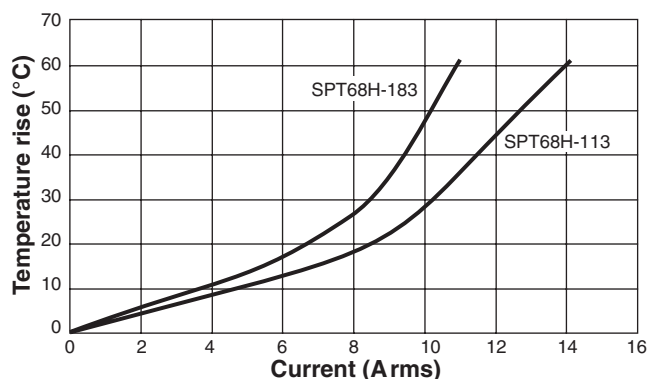
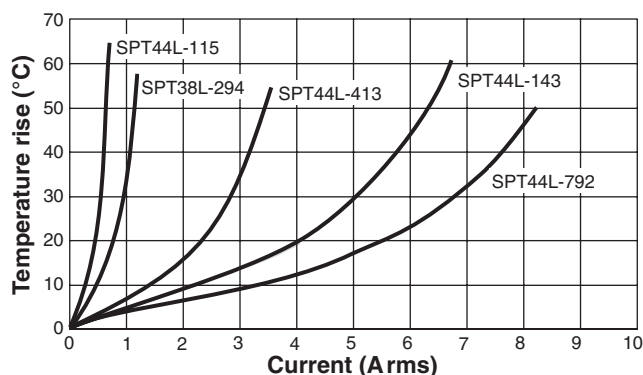
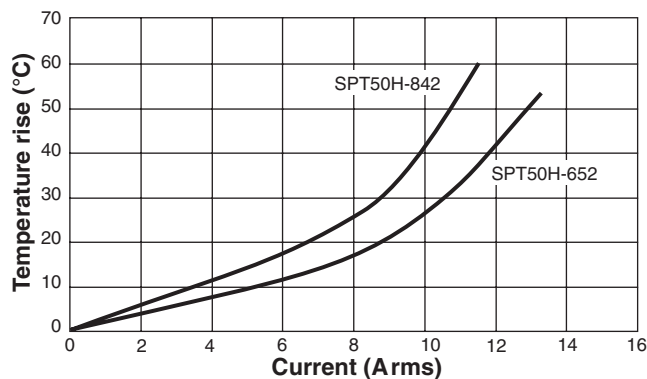
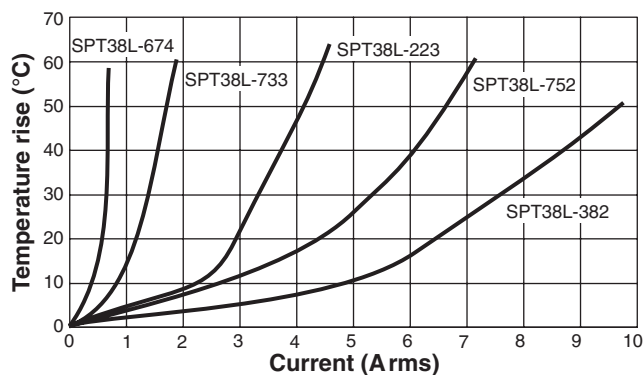
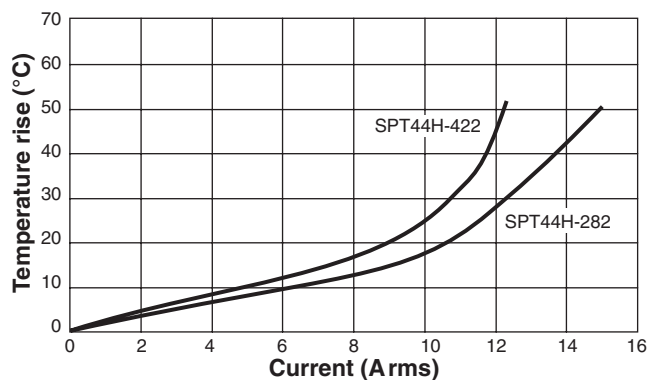
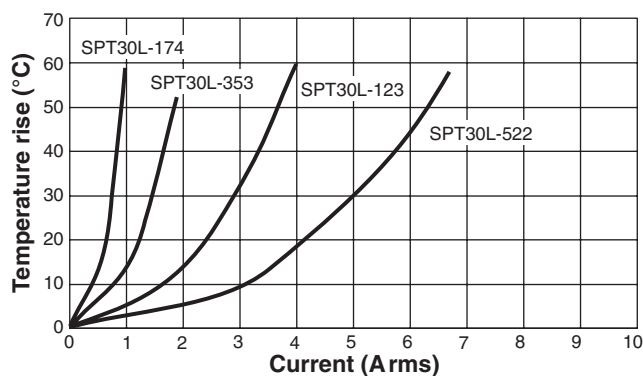
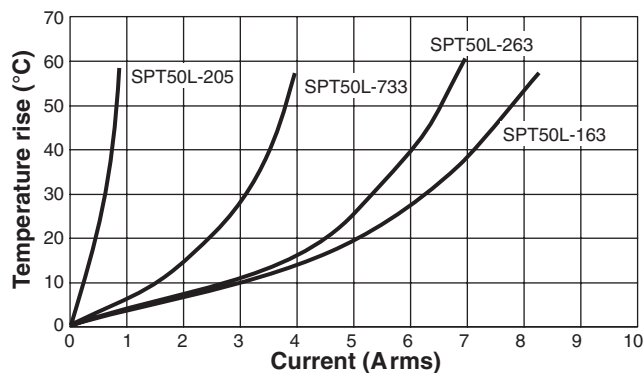
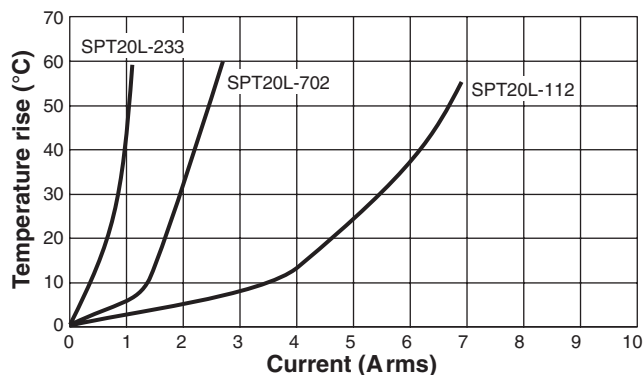
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# Toroid Power Inductors – SPT Series

## Typical Temperature Rise vs Current\*



\* Measured at 25°C ambient.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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