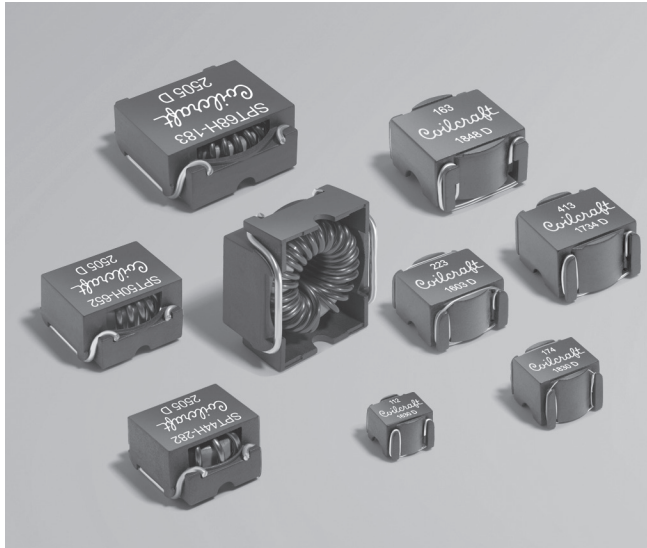




# Toroid Power Inductors – SPT Series



- 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)

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	L <sup>2</sup> ±20% (µH)	DCR max (mOhm)	SRF typ <sup>3</sup> (MHz)	Isat (A) <sup>4</sup>			Irms (A) <sup>5</sup>		Body size
				10% drop	20% drop	30% drop	20°C rise	40°C rise	
<b>Standard series</b>									
SPT20L-112ML_	1.1	16.0	130	3.2	4.8	6.7	4.7	6.1	1
SPT38L-382ML_	3.8	9.3	61	4.0	6.1	8.2	6.5	8.5	3
SPT30L-522ML_	5.2	24.2	47	2.8	4.2	5.8	4.2	5.7	2
SPT20L-702ML_	7.0	95.0	37	1.2	1.8	2.5	1.8	2.2	1
SPT38L-752ML_	7.5	22.8	50	2.7	4.2	5.8	4.4	6.5	3
SPT44L-792ML_	7.9	16.2	26	3.5	5.4	7.3	5.6	7.5	4
SPT30L-123ML_	12	54.7	23.9	1.9	2.8	3.7	2.5	3.3	2
SPT44L-143ML_	14	23.6	15.6	2.8	4.1	5.7	4.2	5.7	4
SPT50L-163ML_	16	19.7	14.3	2.8	4.2	5.8	5.1	7.1	5
SPT38L-223ML_	22	63	18.1	1.5	2.3	3.1	3.1	3.8	3
SPT20L-233ML_	23	320	13.5	0.6	1.0	1.3	0.71	1.0	1
SPT50L-263ML_	26	32	11.2	2.3	3.4	4.6	4.3	6.0	5
SPT30L-353ML_	35	166	11.0	1.1	1.6	2.2	1.3	1.6	2
SPT44L-413ML_	41	85	8.30	1.6	2.3	3.1	2.3	3.1	4
SPT38L-733ML_	73	290	10.8	0.81	1.3	1.7	1.1	1.5	3
SPT50L-733ML_	73	133	4.56	1.4	2.0	2.7	2.6	3.5	5
SPT30L-174ML_	170	640	3.84	0.44	0.68	0.95	0.70	0.88	2
SPT38L-294ML_	290	657	2.87	0.41	0.64	0.90	0.70	1.0	3
SPT50L-564ML_	560	550	1.54	0.37	0.59	0.81	0.70	0.90	5
SPT38L-674ML_	670	1200	1.38	0.26	0.40	0.55	0.48	0.65	3
SPT44L-115ML_	1100	1908	1.35	0.25	0.41	0.57	0.57	0.63	4
SPT50L-205ML_	2000	1932	1.35	0.18	0.29	0.41	0.56	0.70	5
<b>High current series</b>									
SPT44H-282ML_	2.8	4.6	74	5.8	8.8	12.2	9.7	13.6	6
SPT44H-422ML_	4.2	6.6	72	5.0	7.8	10.9	8.8	11.8	6
SPT50H-652ML_	6.5	7.2	27.3	4.6	6.7	9.1	8.6	11.7	7
SPT50H-842ML_	8.4	8.5	22.8	4.3	6.4	8.5	7.1	9.8	7
SPT68H-113ML_	11	8.2	25.9	4.8	7.2	9.9	8.3	11.2	8
SPT68H-183ML_	18	12.5	12.0	3.9	5.7	7.7	6.8	9.2	8

1. Please specify **termination** and **packaging** codes:

**SPT68H-183MLD**

**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.

Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**B = Less than full reel**

In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D.

- Inductance tested at 100 kHz, 0.1 Vrms on Agilent/HP 4192A.
- SRF measured on Agilent/HP 8753ES network analyzer.
- DC current that causes the specified inductance drop from its value without current.
- Current that causes the specified temperature rise from 25°C ambient.
- Electrical specifications at 25°C. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



[www.coilcraft.com](http://www.coilcraft.com)

**US** +1-847-639-6400 [sales@coilcraft.com](mailto:sales@coilcraft.com)

**UK** +44-1236-730595 [sales@coilcraft-europe.com](mailto:sales@coilcraft-europe.com)

**Taiwan** +886-2-2264 3646 [sales@coilcraft.com.tw](mailto:sales@coilcraft.com.tw)

**China** +86-21-6218 8074 [sales@coilcraft.com.cn](mailto:sales@coilcraft.com.cn)

**Singapore** + 65-6484 8412 [sales@coilcraft.com.sg](mailto:sales@coilcraft.com.sg)

Document 280-1 Revised 10/09/23

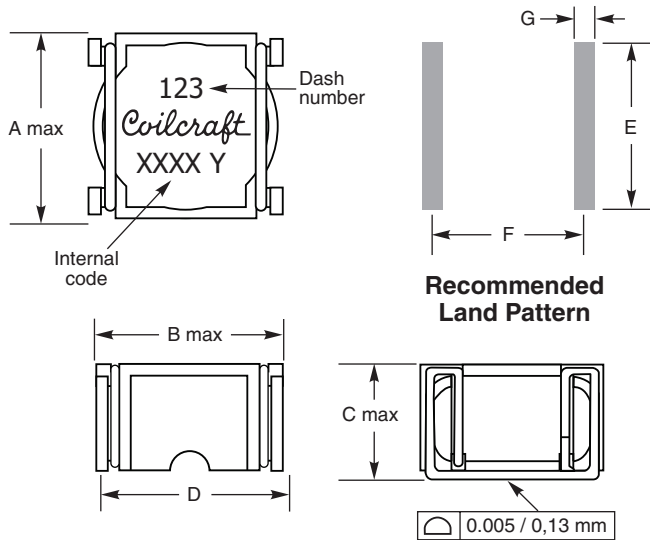
© Coilcraft Inc. 2025

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

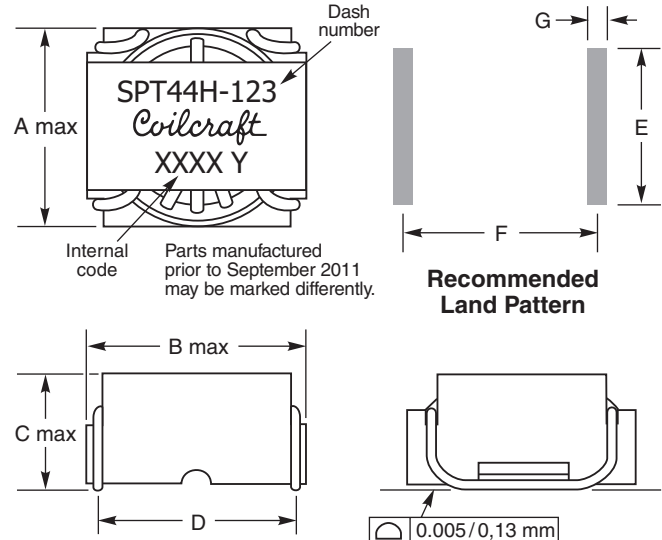


# Toroid Power Inductors – SPT Series

## Body size 1 - 5



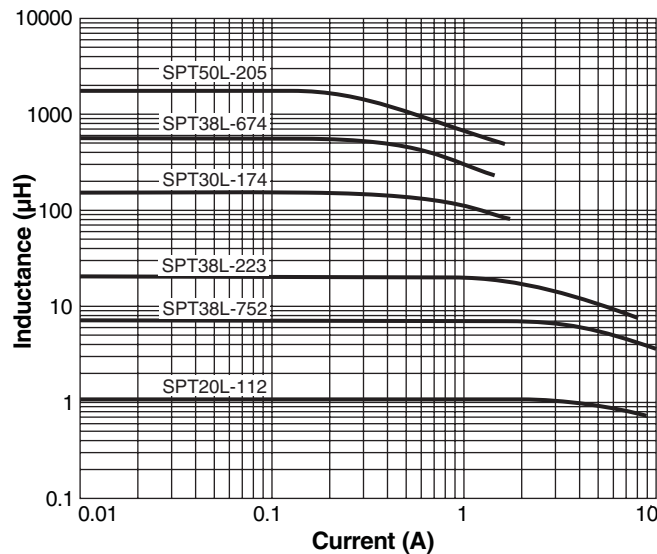
## Body size 6 - 8



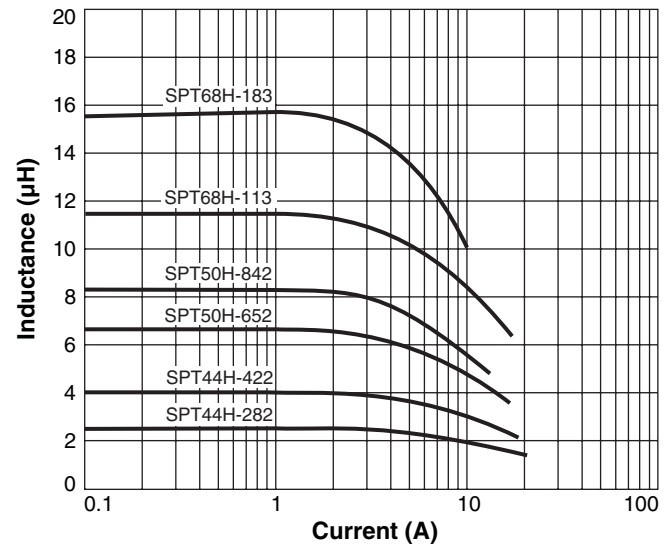
Size	A max	B max	C max	D <sup>1</sup>	E <sup>2</sup>	F <sup>2</sup>	G	Weight (g)
1	0.34/8,64	0.34/8,64	0.28/7,00	0.26/6,60	0.30/7,62	0.27/6,86	0.06/1,52	0.47-0.54
2	0.44/11,05	0.44/11,18	0.37/9,50	0.35/8,89	0.40/10,16	0.36/9,14	0.06/1,52	1.42-1.59
3	0.56/14,22	0.56/14,35	0.37/9,50	0.45/11,43	0.52/13,21	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 ± 0.009/0,25.  
 1. ±0.030/0,76  
 2. ±0.005/0,13

## Typical L vs Current (Standard series)



## Typical L vs Current (High current series)



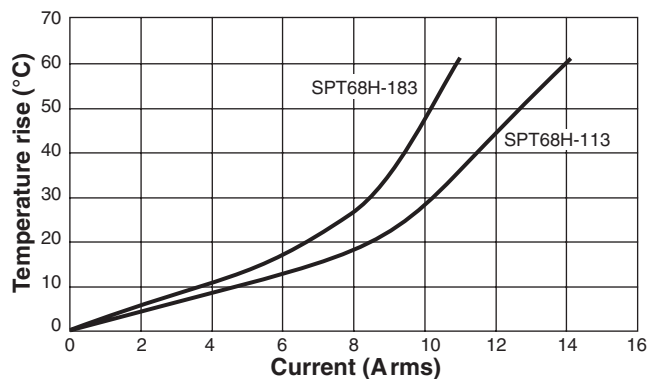
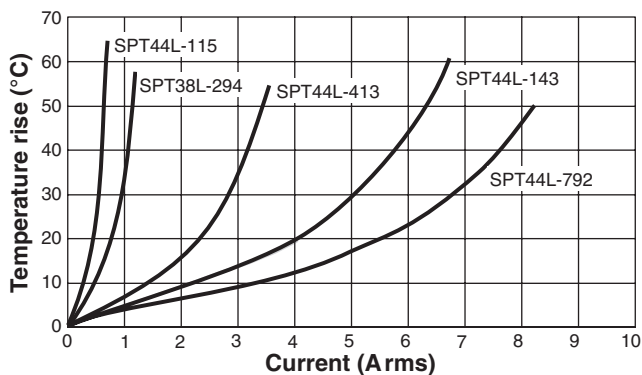
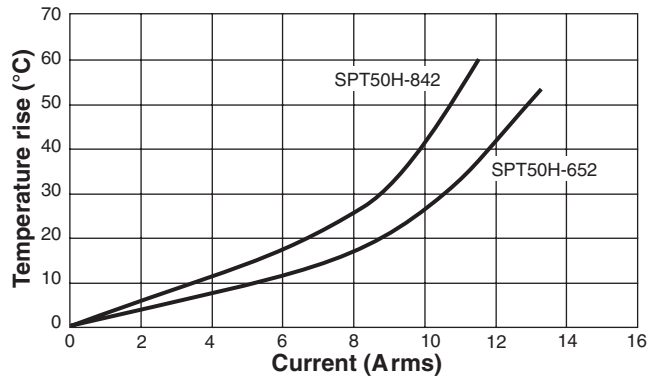
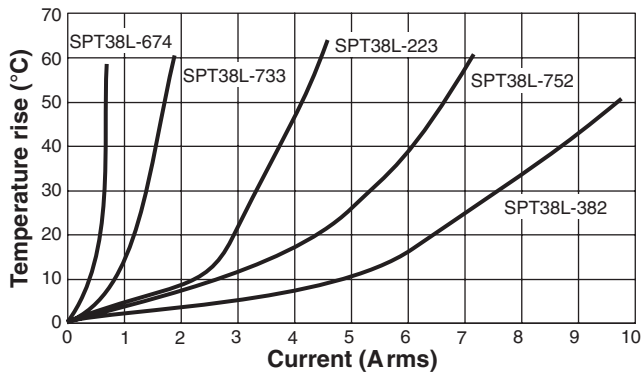
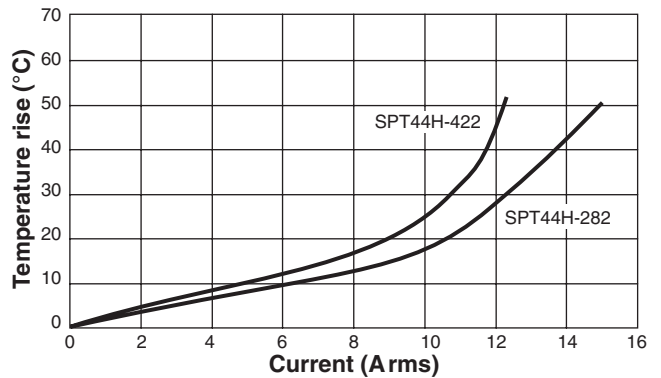
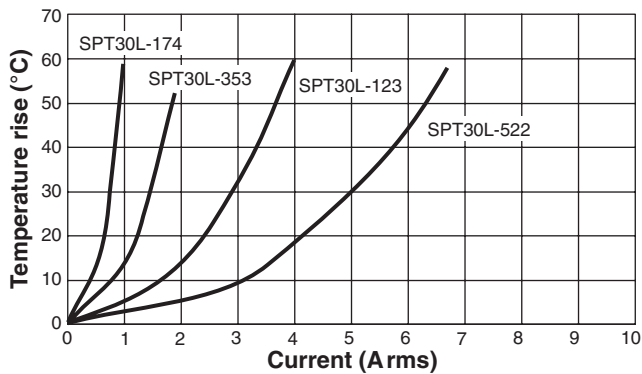
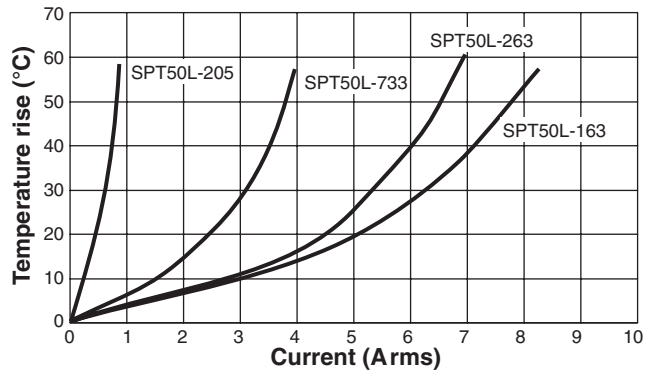
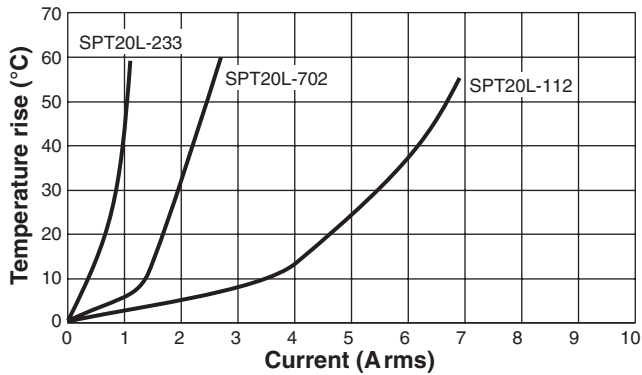
US +1-847-639-6400 sales@coilcraft.com  
 UK +44-1236-730595 sales@coilcraft-europe.com  
 Taiwan +886-2-2264 3646 sales@coilcraft.com.tw  
 China +86-21-6218 8074 sales@coilcraft.com.cn  
 Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 280-2 Revised 10/09/23  
 © Coilcraft Inc. 2025  
 This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.



# Toroid Power Inductors – SPT Series

## Typical Temperature Rise vs Current\*



\* Measured at 25°C ambient.



**US** +1-847-639-6400 sales@coilcraft.com  
**UK** +44-1236-730595 sales@coilcraft-europe.com  
**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw  
**China** +86-21-6218 8074 sales@coilcraft.com.cn  
**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

Document 280-3 Revised 10/09/23  
 © Coilcraft Inc. 2025  
 This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.