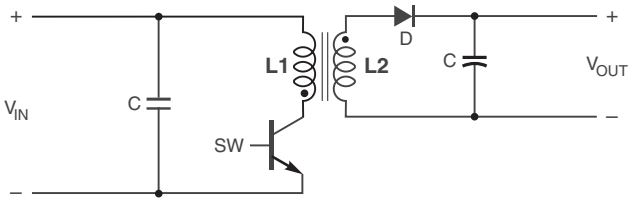
Coupled Inductors for Critical Applications

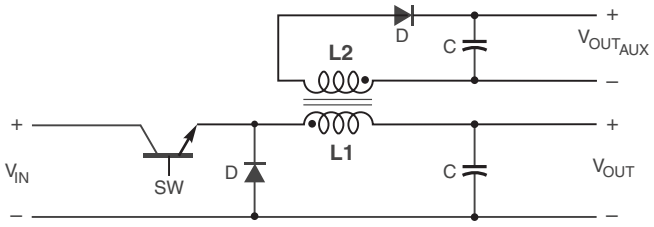
Tight coupling (k ≥ 0.97) and 200 V isolation make the ST526PND series of coupled inductors ideal for use in a variety of circuits including flyback, multi-output buck and SEPIC.

These inductors provide high inductance, high efficiency and excellent current handling in a rugged, low cost part.

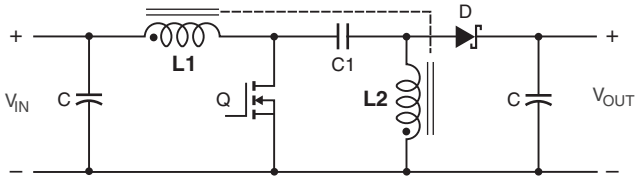
They can also be used as two single inductors connected in series or parallel, as a common mode choke or as a 1 : 1 transformer.

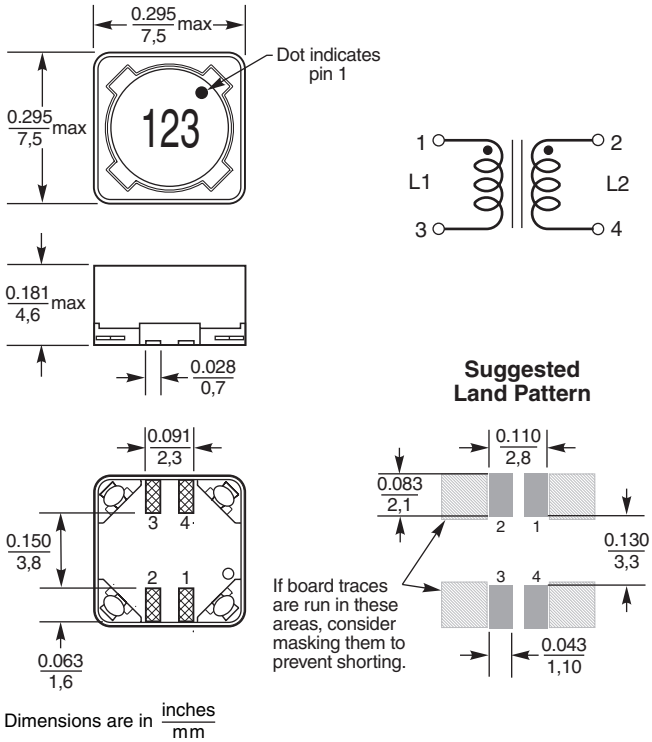


Typical Flyback Converter



Typical Buck Converter with auxiliary output





Dimensions are in inches / mm

Core material Ferrite

Core and winding loss Go to online calculator

Terminations Matte tin over nickel over phos bronze. Other terminations available at additional cost.

Weight 0.76 – 0.87 g

Ambient temperature –40°C to +85°C with Irms current

Maximum part temperature +125°C (ambient + temp rise)

Storage temperature Component: –55°C to +125°C.
Tape and reel packaging: –55°C to +80°C

Winding to winding isolation 200 Vrms

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)

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document ST621-1 Revised 05/03/23

Coupled Inductors – ST526PND

Part number[1]	Inductance[2] ±20% (µH)	DCR max[3] (Ohms)	SRF typ[4] (MHz)	Coupling coefficient typ	Leakage L typ[5] (µH)	Isat (A)[6] 10% drop	Isat (A)[6] 20% drop	Isat (A)[6] 30% drop	Irms (A) both windings[7]	Irms (A) one winding[8]
ST526PND252MLZ	2.5	0.033	55	0.97	0.14	6.0	6.2	6.3	2.17	3.06
ST526PND332MLZ	3.3	0.037	43	0.99	0.09	5.2	5.3	5.4	2.05	2.89
ST526PND472MLZ	4.7	0.051	35	0.99	0.11	4.1	4.3	4.6	1.74	2.46
ST526PND562MLZ	5.6	0.063	32	0.99	0.09	3.9	4.1	4.2	1.57	2.22
ST526PND682MLZ	6.8	0.070	30	0.99	0.14	3.7	3.8	3.9	1.49	2.10
ST526PND822MLZ	8.2	0.075	27	0.98	0.25	3.3	3.4	3.5	1.44	2.03
ST526PND103MLZ	10	0.100	22	0.98	0.30	2.8	2.9	3.0	1.24	1.76
ST526PND123MLZ	12	0.120	20	0.98	0.36	2.5	2.6	2.7	1.14	1.61
ST526PND153MLZ	15	0.130	18	0.98	0.49	2.2	2.3	2.4	1.09	1.54
ST526PND183MLZ	18	0.170	15	>0.99	0.16	2.0	2.2	2.3	0.95	1.35
ST526PND223MLZ	22	0.220	13.5	>0.99	0.20	1.9	2.0	2.1	0.84	1.19
ST526PND273MLZ	27	0.250	12.0	>0.99	0.20	1.7	1.8	1.9	0.79	1.11
ST526PND333MLZ	33	0.270	11.0	>0.99	0.15	1.5	1.6	1.7	0.76	1.07
ST526PND393MLZ	39	0.380	10.0	0.99	0.70	1.3	1.4	1.5	0.64	0.90
ST526PND473MLZ	47	0.420	9.5	>0.99	0.30	1.2	1.3	1.4	0.61	0.86
ST526PND563MLZ	56	0.460	8.7	>0.99	0.51	1.1	1.2	1.3	0.58	0.82
ST526PND683MLZ	68	0.600	7.3	>0.99	0.51	1.0	1.1	1.2	0.51	0.72
ST526PND823MLZ	82	0.680	6.2	0.99	1.17	0.90	1.00	1.1	0.48	0.67
ST526PND104MLZ	100	0.770	5.5	>0.99	0.96	0.80	0.92	0.98	0.45	0.63
ST526PND124MLZ	120	1.03	4.5	>0.99	0.61	0.70	0.80	0.90	0.39	0.55
ST526PND154MLZ	150	1.35	4.0	>0.99	0.54	0.65	0.76	0.80	0.34	0.48
ST526PND184MLZ	180	1.52	3.8	>0.99	0.75	0.62	0.66	0.73	0.32	0.45
ST526PND224MLZ	220	1.72	3.5	>0.99	1.43	0.59	0.62	0.66	0.30	0.42
ST526PND274MLZ	270	2.41	3.3	>0.99	1.56	0.55	0.57	0.60	0.25	0.36
ST526PND334MLZ	330	2.70	3.0	>0.99	1.65	0.49	0.52	0.54	0.24	0.34
ST526PND394MLZ	390	3.05	2.8	0.99	4.73	0.45	0.47	0.50	0.23	0.32
ST526PND474MLZ	470	4.00	2.6	0.99	5.50	0.41	0.43	0.46	0.20	0.28
ST526PND564MLZ	560	4.43	2.5	>0.99	4.85	0.38	0.40	0.42	0.19	0.26
ST526PND684MLZ	680	5.00	2.3	0.99	7.59	0.36	0.37	0.38	0.18	0.25
ST526PND824MLZ	820	6.80	2.2	>0.99	8.01	0.30	0.32	0.35	0.15	0.21
ST526PND105MLZ	1000	7.80	2.0	>0.99	8.69	0.27	0.29	0.31	0.14	0.20

1. When ordering, please specify **termination** and **screening** codes:

ST526PND105MLZ

Termination: **L** = Matte tin over nickel over phos bronze.
Special order: **T** = Tin-silver-copper (95.5/4/0.5) or **S** = Tin-lead (63/37).

Screening: **Z** = Unscreened
Y = Unscreened (SLDC Option A)
W = Unscreened (SLDC Option B)
H = Group A screening per Coilcraft CP-SA-10001
G = Coilcraft CP-SA-10001 Group A (SLDC Option A)
D = Coilcraft CP-SA-10001 Group A (SLDC Option B)
All screening performed to the document's latest revision
Custom screening also available

Coupled Inductor Core and Winding Loss Calculator

This web-based utility allows you to enter frequency, peak-to-peak (ripple) current, and Irms current to predict temperature rise and overall losses, including core loss. Go to online calculator.

2. Inductance shown for each winding, measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent. When leads are connected in parallel, inductance is the same value. When leads are connected in series, inductance is four times the value.
3. DCR is for each winding. When leads are connected in parallel, DCR is half the value. When leads are connected in series, DCR is twice the value.
4. SRF measured using an Agilent/HP 4191A or equivalent. When leads are connected in parallel, SRF is the same value.
5. Leakage inductance is for L1 and is measured with L2 shorted.
6. DC current at 25°C that causes the specified inductance drop from its value without current It is the sum of the current flowing in both windings.
7. Equal current when applied to each winding simultaneously that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Use the online calculator to determine temperature rise
8. Maximum current when applied to one winding that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Use the online calculator to determine temperature rise.
9. Electrical specifications at 25°C.

Refer to Doc 639 "Selecting Coupled Inductors for SEPIC Applications."
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

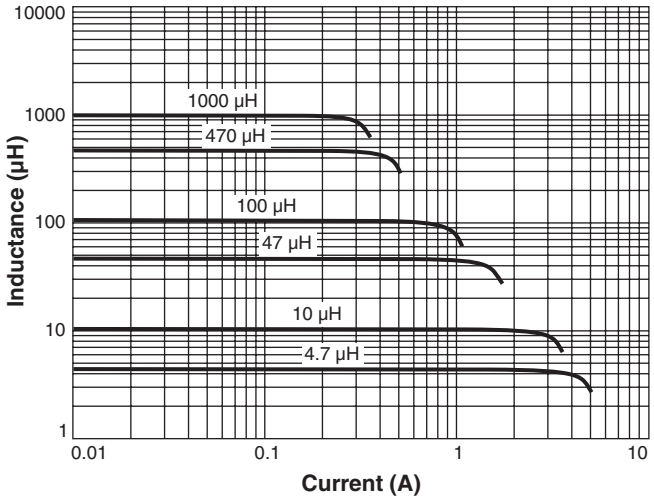
1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

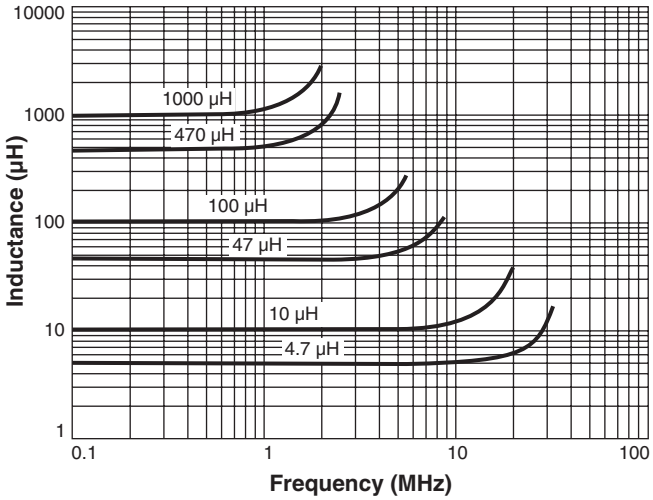
Document ST621-2 Revised 05/03/23

Coupled Inductors – ST526PND

Typical L vs Current



Typical L vs Frequency



Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document ST621-3 Revised 05/03/23