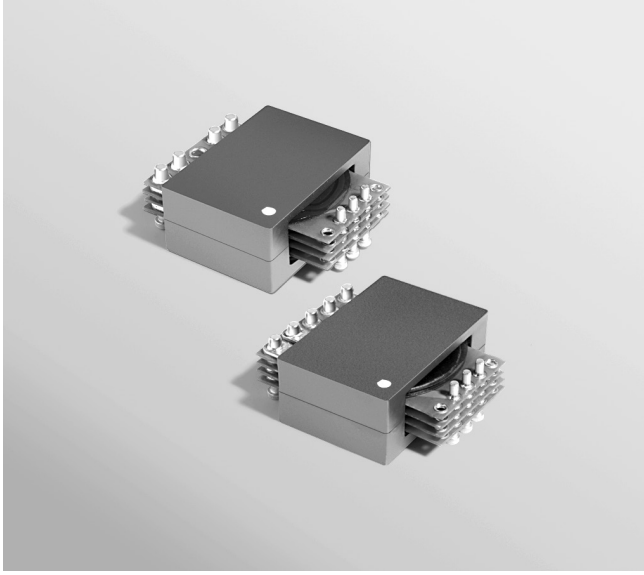
SMT Planar Transformers

For Applications up to 140 Watts



The PL140 surface mount planar transformers are rated for 140 Watts and are designed to operate between 200 kHz and 500 kHz. They are available in 15 turns ratios and six different schematics, and may be special ordered with an auxiliary winding.

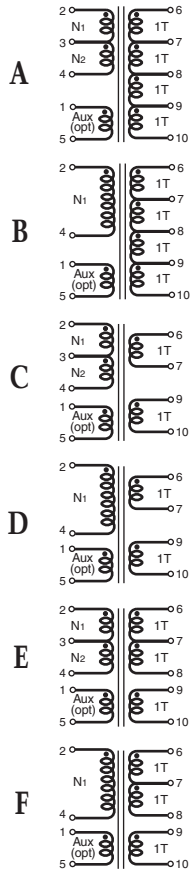
These transformers are ideal for use in high-current power supply applications such as open loop intermediate bus converters (IBC) and closed loop voltage mode converters. They are designed for use with nominal –48 V input. Output voltages depend on the turns ratio, duty cycle and circuit topology. They offer high efficiency and feature excellent DCR, very low leakage inductance and 1500 Vdc primary to secondary isolation.

Coilcraft can custom design planar transformers with different turns ratios to meet your specific requirements.

Coilcraft **Designer's Kit C390** contains two samples each of the parts shown in bold. To order, contact Coilcraft, or visit **http://order.coilcraft.com** to purchase on-line.

Part number[1]	Primary turns N_1	Primary turns N_2	Schem.	Primary inductance[2] min (µH)	Leakage inductance[3] max (µH)	DCR max (mOhms) Primary	DCR max (mOhms) Secondary
PL140-100L_	4	4	A	120.0	0.35	12.0 (2-3), 12.0 (3-4)	4.0 (6-10)
PL140-101L_	9	–	B	152.0	0.35	32.8 (2-4)	4.0 (6-10)
PL140-102L_	5	5	A	188.0	0.35	20.8 (2-3), 20.8 (3-4)	4.0 (6-10)
PL140-103L_	11	–	B	227.0	0.35	48.8 (2-4)	4.0 (6-10)
PL140-104L_	6	6	A	270.0	0.45	28.0 (2-3), 28.0 (3-4)	4.0 (6-10)
PL140-105L_	4	4	C	120.0	0.35	12.0 (2-3), 12.0 (3-4)	0.5 (6-7), 0.5 (9-10)
PL140-106L_	9	–	D	152.0	0.35	32.8 (2-4)	0.5 (6-7), 0.5 (9-10)
PL140-107L_	5	5	C	188.0	0.35	20.8 (2-3), 20.8 (3-4)	0.5 (6-7), 0.5 (9-10)
PL140-108L_	11	–	D	227.0	0.50	48.8 (2-4)	0.5 (6-7), 0.5 (9-10)
PL140-109L_	6	6	C	270.0	0.60	28.0 (2-3), 28.0 (3-4)	0.5 (6-7), 0.5 (9-10)
PL140-110L_	4	4	E	120.0	0.35	12.0 (2-3), 12.0 (3-4)	1.0 (6-8), 1.0 (9-10)
PL140-111L_	9	–	F	152.0	0.35	32.8 (2-4)	1.0 (6-8), 1.0 (9-10)
PL140-112L_	5	5	E	188.0	0.35	20.8 (2-3), 20.8 (3-4)	1.0 (6-8), 1.0 (9-10)
PL140-113L_	11	–	F	227.0	0.35	48.8 (2-4)	1.0 (6-8), 1.0 (9-10)
PL140-114L_	6	6	E	270.0	0.45	28.0 (2-3), 28.0 (3-4)	1.0 (6-8), 1.0 (9-10)

Schematics



1. When ordering, please specify **packaging** code:

   PL140-114LD

   Packaging: D = 13″ machine-ready reel. EIA-481 embossed plastic tape (200 parts 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.

   To order a transformer with an optional **auxiliary winding**, add an "X" and the turn count after the PL140, e.g. PL140**X3**-100LB. Turn counts of 2, 3, 4, 5, 7 and 9 are available for the auxiliary winding. Transformers with auxiliary windings are not stocked.
2. Inductance measured on an Agilent/HP 4284 between pins 2 and 4 at 200 kHz, 0.1 Vrms, 0 Adc.
3. Leakage inductance measured between pins 2 and 4 at 100 kHz, 0.1 Vrms, 0 Adc with all secondary pins shorted.
4. Storage and ambient operating temperature range: –40°C to +85°C.
5. Electrical specifications at 25°C.

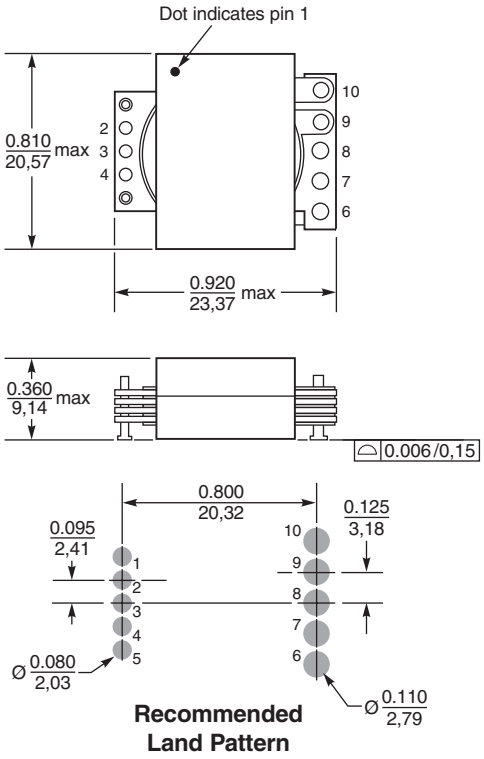
Coilcraft
www.coilcraft.com

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 417-1 Revised 05/02/22

PL140 Series SMT Planar Transformers

Dimensions



Note: Pad for pin 3 not necessary for schematics B, D and F. Pad for pin 8 is not necessary for schematics C and D. Pads 1 and 5 are only needed for optional auxiliary winding.

Core material Ferrite

Terminations Matte tin over nickel over brass.

Weight 10.9 – 12 g

Ambient temperature –40°C to +85°C

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

Storage temperature Component: –40°C to +85°C.
Tape and reel 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)

Packaging 200/13″ reel Plastic tape: 44 mm wide, 0.37 mm thick, 32 mm pocket spacing, 9.35 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Coilcraft
www.coilcraft.com

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