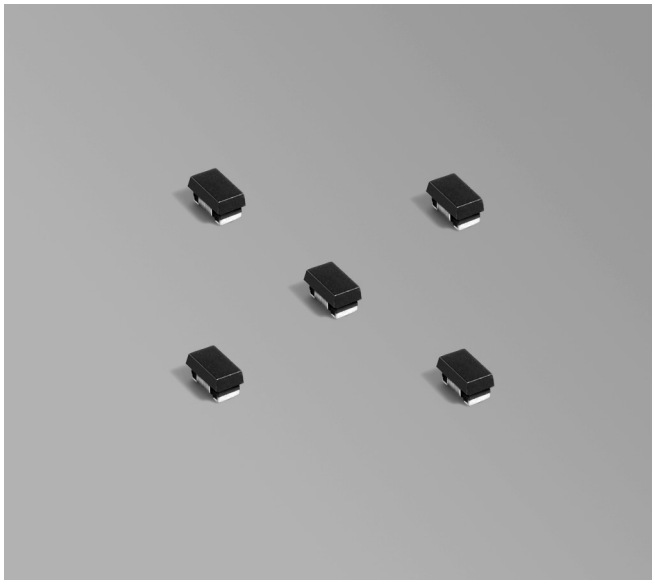
Shielded Power Inductors–PFL1609



- Low cost, low profile 0603 size power inductor
- Less than 1 mm high; requires less than 2 mm² of board space
- Lower DCR than other parts this size
- AEC-Q200 Grade 1 (–40°C to +125°C)

Designer's Kit C433 contains 20 of each PFL1609 and PFL2010 value
Core material Composite
Core and winding loss See www.coilcraft.com/coreloss
Environmental RoHS compliant, halogen free
Terminations RoHS compliant matte tin over nickel over silver-platinum-glass frit. Other terminations available at additional cost.
Weight 4.3 – 8.3 mg
Ambient temperature –40°C to +125°C.
Maximum part temperature +140°C (ambient + temp rise). Derating.
Storage temperature Component: –40°C to +125°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 2000 per 7″ reel Paper tape: 8 mm wide, 1.0 mm thick, 2 mm pocket spacing
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Part number[1]	Inductance[2] ±20% (µH)	DCR (mOhms)[3] typ	DCR (mOhms)[3] max	SRF typ[4] (MHz)	Isat (mA)[5] 10% drop	Isat (mA)[5] 20% drop	Isat (mA)[5] 30% drop	Irms (mA)[6] 20°C rise	Irms (mA)[6] 40°C rise
PFL1609-47NME_	0.047	30	50	1850	2200	2600	2800	2400	3400
PFL1609-471ME_	0.47	83	100	650	760	990	1200	1000	1300
PFL1609-561ME_	0.56	110	130	600	710	920	1100	1100	1400
PFL1609-681ME_	0.68	145	170	520	610	780	900	1100	1400
PFL1609-102ME_	1.0	200	230	445	480	690	760	650	850
PFL1609-222ME_	2.2	410	470	130	300	390	470	480	630
PFL1609-472ME_	4.7	620	700	60	240	300	370	380	500
PFL1609-682ME_	6.8	1000	1200	40	170	230	260	330	440
PFL1609-103ME_	10	1200	1400	35	130	185	215	320	420

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

PFL1609-103MEW

Packaging: **W** = 7″ machine-ready reel. EIA-481 punched paper tape. Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
(2000 parts per full reel).

U = 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 U to W.

2. Inductance tested at 7.9 MHz, 0.1 Vrms using a Coilcraft SMD-F test fixture with an Agilent/HP 4286A impedance analyzer and Coilcraft-provided correlation pieces.
3. DCR measured using a micro-ohmmeter.
4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
5. DC current at 25°C that causes the specified inductance drop from its value without current. Click for temperature derating information.
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Click for temperature derating information.
7. Electrical specifications at 25°C.

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

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Document 875-1 Revised 04/07/22

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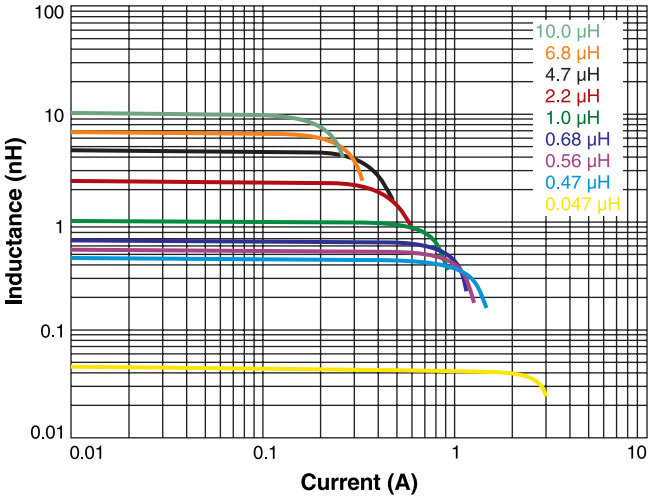
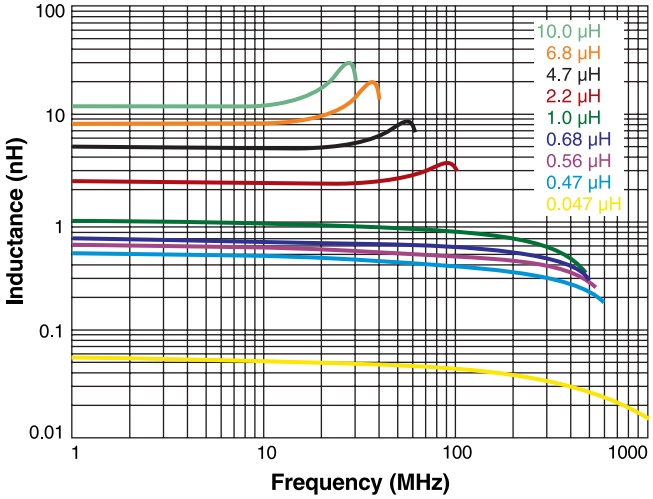
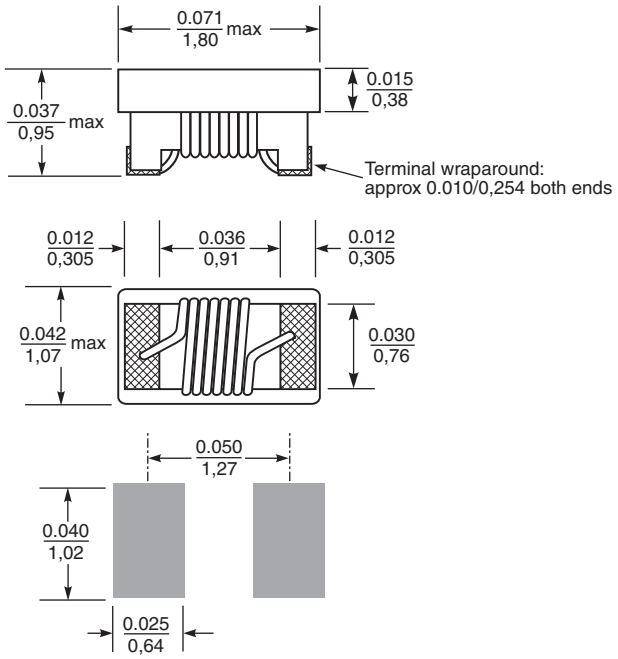
PFL1609 Series

L vs Current



L vs Frequency





Recommended Land Pattern

Dimensions are in $\frac{\text{inches}}{\text{mm}}$

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Coilcraft:

PFL1609-681MEW PFL1609-472MEW PFL1609-222MEW PFL1609-472MEU PFL1609-561MEW PFL1609-222MEU PFL1609-102MEW PFL1609-102MEU PFL1609-471MEU PFL1609-561MEU PFL1609-681MEU PFL1609-471MEW PFL1609-103MEW PFL1609-682MEW