

SMT Power Inductors

Toroid - Polecat Series



-  **Height:** 5.5mm Max
-  **Footprint:** 12.7mm x 12.7mm Max
-  **Current Rating:** up to 8.3A
-  **Inductance Range:** 2.0 μ H to 364 μ H

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C¹¹

Part ^{9,10} Number	Inductance @ Irated (μ H MIN)	Irated (A)	DCR (MAX) (m Ω)	ET (V- μ sec)	Inductance @0Adc (μ H $\pm$ 10%)	100 Gauss ET ₁₀₀ (V- μ sec)	1 Amp DC H1 (Orsted)	Connection
P0174NL	2.0	8.30	7.6	7.31	2.2	1.20	5.43	Parallel
P0175NL	2.4	7.20	10.9	7.81	2.6	1.33	5.97	Parallel
P0176NL	5.0	5.20	19.0	11.72	5.5	1.93	8.69	Parallel
P0174NL	7.0	4.16	32.0	14.61	8.75	2.41	10.86	Series
P0177NL	9.3	3.80	29.8	16.12	10.4	2.65	11.95	Parallel
P0175NL	8.4	3.78	43.6	15.62	10.4	2.65	11.95	Series
P0178NL	14.1	3.10	45.3	19.73	15.7	3.25	14.66	Parallel
P0179NL	19.8	2.60	66.3	23.45	22.1	3.86	17.38	Parallel
P0176NL	17.9	2.60	76.0	23.43	22.45	3.86	17.38	Series
P0180NL	29.3	2.20	106	28.50	32.8	4.70	21.18	Parallel
P0177NL	33.8	1.89	120	32.25	41.7	5.30	23.89	Series
P0181NL	42.6	1.80	151	34.49	47.6	5.66	25.52	Parallel
P0178NL	50.9	1.54	182	39.46	62.8	6.51	29.32	Series
P0182NL	61.3	1.50	224	40.85	67.5	6.75	30.41	Parallel
P0179NL	71.5	1.30	266	46.90	88.2	7.71	34.75	Series
P0183NL	84.2	1.20	324	46.22	91.0	7.83	35.30	Parallel
P0180NL	106.1	1.07	404	57.00	131.0	9.40	42.36	Series
P0181NL	154.2	0.89	604	68.99	190.3	11.33	51.05	Series
P0182NL	218.9	0.74	888	81.70	270.2	13.50	60.82	Series
P0183NL	295.0	0.64	1272	92.43	364.0	15.66	70.59	Series

Notes:

- Temperature rise is 50°C in typical buck or boost circuits at 250kHz and with the reference ET applied to the inductor.
- Total loss in the inductor is 380mW for a 50°C temperature rise above ambient.
- To estimate temperature rise in a given application, determine copper and core losses, divide by 380 and multiply by 50.
- For the copper loss (mW), calculate $IDC^2 * RN$.
- For core loss (mW), using frequency (f in Hertz) and operating flux density (B in Gauss), calculate $6.11 * 10^{-18} * B2.7 * f2.04$.
- For flux density (B in Gauss), calculate ET (V-sec) for the application, divide by ET₁₀₀ from the table, and multiply by 100.
- Limit the DC bias (H) to 46 orsted. Calculate H by multiplying H1 from the table IDC of the application.
- The maximum DCR listed is approximately 17% over the nominal DCR.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. P0174NL becomes P0174NL^T).
- The "NL" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "NL" suffix, but an RoHS compliant version is required, please contact Pulse for availability.
- The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

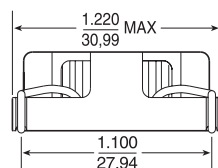
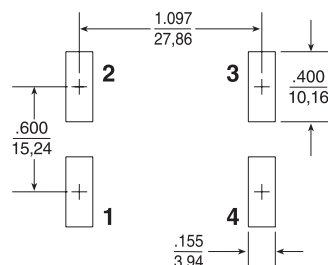
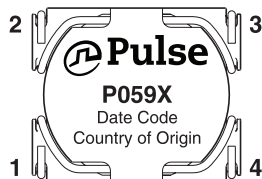
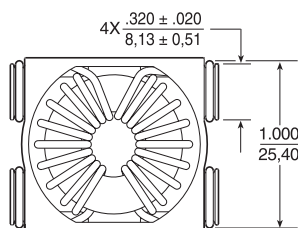
SMT Power Inductors

Toroid - Polecat Series

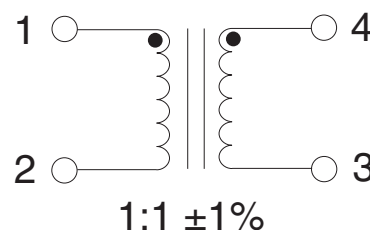
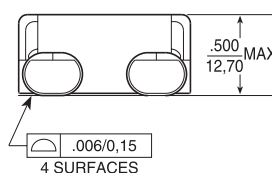
Mechanical

Schematic

P01XXNL



SUGGESTED PAD LAYOUT



Weight1.5grams
Tape & Reel500/reel
Tube35/tube
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are: $\pm \frac{0.10}{0.25}$

For More Information

Pulse Worldwide Headquarters

15255 Innovation Drive Ste 100
San Diego, CA 92128
U.S.A.

Pulse Europe

Pulse Electronics GmbH
Am Rottland 12
58540 Meinerzhagen
Germany

Pulse China Headquarters

Pulse Electronics (ShenZhen) CO., LTD
D708, Shenzhen Academy of
Aerospace Technology,
The 10th Keji South Road,
Nanshan District, Shenzhen,
P.R. China 518057

Pulse North China

Room 2704/2705
Super Ocean Finance Ctr.
2067 Yan An Road West
Shanghai 200336
China

Pulse South Asia

3 Fraser Street 0428
DUO Tower
Singapore 189352

Pulse North Asia

1F., No.111 Xiyuan Road
Zhongli District
Taoyuan City 32057
Taiwan (R.O.C)

Tel: 858 674 8100
Fax: 858 674 8262

Tel: 49 2354 777 100
Fax: 49 2354 777 168

Tel: 86 755 33966678
Fax: 86 755 33966700

Tel: 86 21 62787060
Fax: 86 21 62786973

Tel: 65 6287 8998
Fax: 65 6280 0080

Tel: 886 3 4356768
Fax: 886 3 4356820

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2019. Pulse Electronics, Inc. All rights reserved.

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9