



**THE DATASHEET OF
PA4331.103NLT**





Pulse

A YAGEO Company



SHORT
FORM
CATALOG

POWER MAGNETICS

Pulse Electronics has become one of the world's most **trusted** electronic components partners. It's our mission to help our customers build the next **great product** by providing the needed technical solutions **simply** and **easily**.

● INDUCTORS

● CURRENT SENSE
MAGNETICS

● GATE DRIVE
TRANSFORMERS

● COMMON MODE
CHOKES

● SWITCH MODE
TRANSFORMERS

Distributors

North America:

Arrow, Avnet, DigiKey, Mouser, Sager, TTI, Master Electronics, Future Electronics, Newark Element14

Europe:

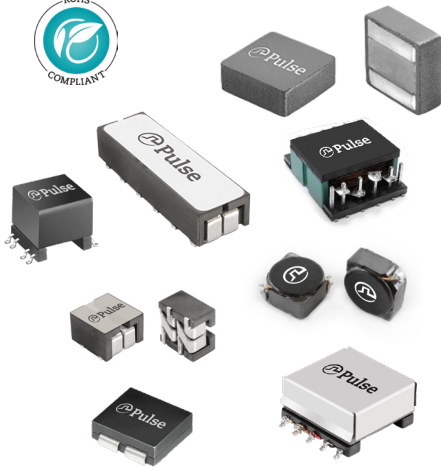
EMEA Partners: Arrow, Avnet Abacus, TTI, Rutronik

Local Partners:

Austria	Ineltro Halmer
Belgium	Alcom Electronics
France	UR Group
Ireland	FMG Electronics Ltd
Israel	RAM N.S Technologies
Italy	UR Group
Netherlands	Alcom Electronics
Norway	Hans Schive
Poland	Gamma
Russia	Macro Group, MT-System
Spain	UR Group
UK	Solid State Supplies Ltd

Asia:

China: Fortune, Avnet, Arrow, Lestina
Taiwan: Avnet, Arrow, Quadrep, Lestina, TTI
Japan: Avnet
Korea: Avnet, Arrow
India: Arrow, Avnet, TTI
South Asia: Avnet, Arrow, Quadrep, TTI



Pulse offers a complete range of magnetics for both high-frequency switching power supply applications, as well as 50/60Hz current sense applications. The switching power magnetics include power inductors, power transformers, current sense magnetics, gate drive transformers and common mode chokes. For complete product information, visit www.power.pulseelectronics.com

Pulse also designs and manufactures a wide array of custom and application specific magnetics. Contact Pulse Power Business Unit for [product support](#) or to request [design services](#) for your next unique product.

NOTE: For additional listings of Pulse Power magnetics, locate other Power data sheets at this URL: <http://www.power.pulseelectronics.com>

OVERVIEW: PULSE POWER MAGNETICS

Power Inductors

Surface Mount (SMT)

- Unshielded Drum Core Inductors (up to 30 A)
- Shielded Drum Core Inductors (up to 17 A)
- Power Bead Inductors (up to 98 A)
- Molded Powder Inductors (up to 55 A)
- Flat Coil Inductors (up to 40 A)
- Planar and Round Wire Coil Inductors (up to 73 A)
- Toroid Inductors (up to 40 A)

Through Hole (THT)

- Toroid Inductors (up to 48 A)
- Power Bead Inductors (up to 80 Apk)



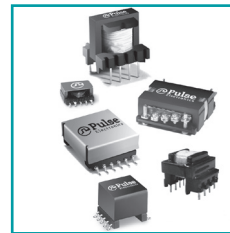
High-Frequency Switch Mode Transformers

Surface Mount (SMT)

- Planar Transformers (30 W, 75 W, 150 W, 300 W)
- Wirewound Transformers (Up to 200 W)
- High Isolation Transformers (up to 5kVrms)
- Custom transformers available upon request

Through Hole (THT)

- Wirewound Transformers (Up to 500 W)
- Custom transformers available upon request



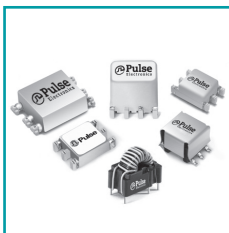
Gate Drive Transformers

Surface Mount (SMT)

- Operational, Basic and reinforced Insulation for DC/DC applications >5k VRMS)

Through Hole (THT)

- Reinforced Insulation for AC/DC applications (3000 Vrms)



Current Sense Magnetics

Surface Mount (SMT)

- Operational Insulation (500 VRMS)
- Five platforms (4 A, 10 A, 15 A, 20 A, 35 A)

Through Hole (THT)

- Reinforced Insulation (3000 VRMS)
- Multiple platforms (up to 30 A)

50/60Hz AC Current Sensing

- Sidewinder Product Line (1000A+)



Common Mode Chokes

Surface Mount (SMT)

- Up to 20 A
- 500 VRMS and 1500 VRMS Isolation
- Over 10 package sizes available
- Customer designs available upon request

Through Hole (THT)

- Up to 23 A
- 3000 VRMS Isolation
- Multiple package sizes available



Application Information, Modelling and Reliability Data

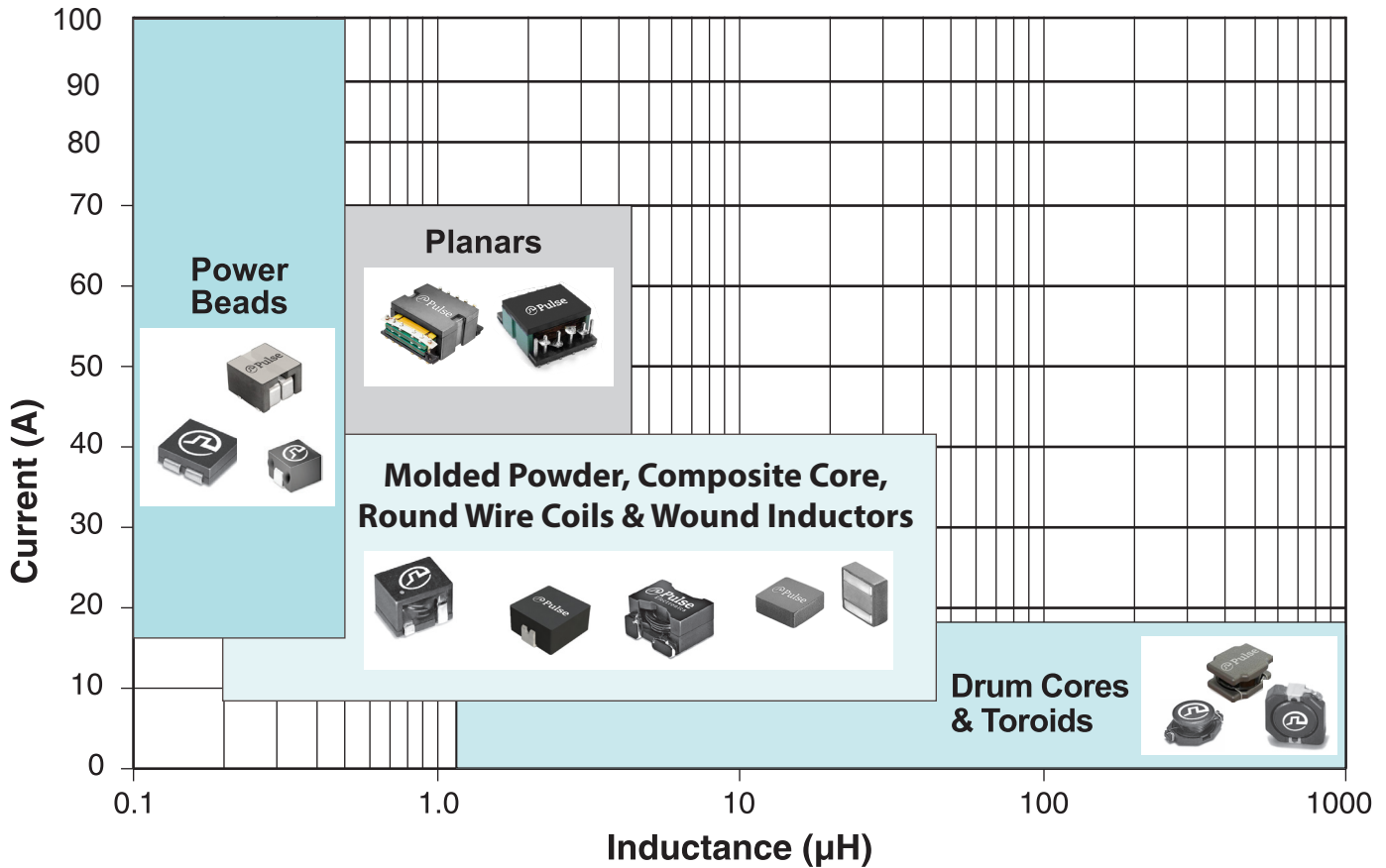
- Visit the Pulse Electronics website to view a wide range of technical papers
- Spice Models, 3D Step Files, Qualification Data and Reliability Numbers are all available upon request
- Faster time to market
- Finite element analysis for rapid prototyping
- AC loss modelling for size and shape optimizations

POWER MAGNETICS

PRODUCT OVERVIEW: SMT POWER INDUCTORS

Power Inductor Selection Charts, Surface Mount and Through-Hole

SMT Inductors



Unshielded Drum Core Inductors - typically for lower current application and less efficiency sensitive designs

Shielded Drum Core Inductors - typically for lower current applications, shielded designs helps with EMI

Toroid Inductors - versatile multi-use platforms for single and dual winding applications

Wire-wound Inductors - high-inductance (>5µH) - mid to high current (15-40 A) applications

Composite Core Inductors - mid inductance, (10µH to 17.7µH) mid to high current (.5 to 32A)

Molded Powder Inductors - mid-inductance (0.2 to 20 µH), wide current (5-55A), high saturation

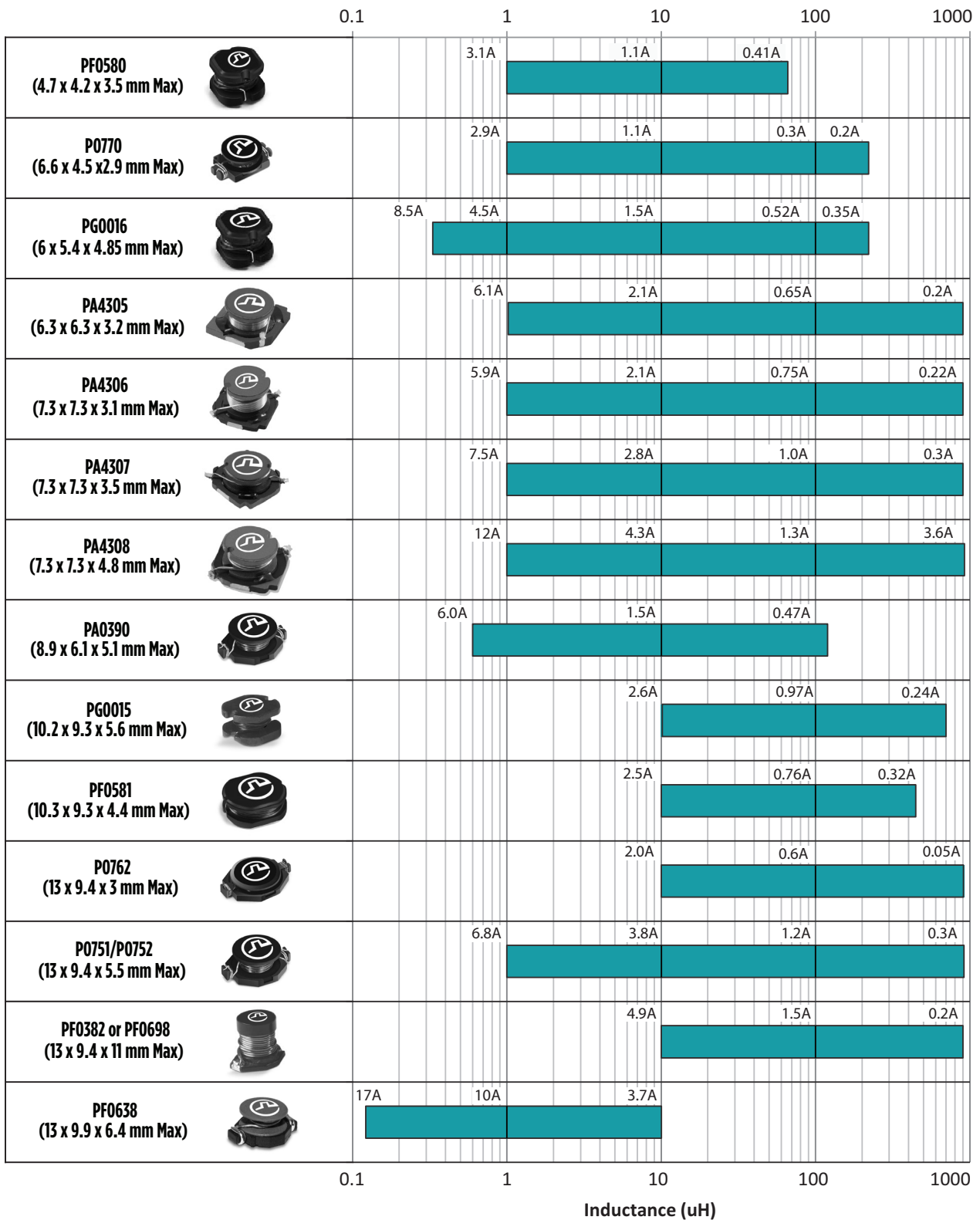
Round Wire Coil Inductors - mid-inductance, high-efficiency inductors (0.3 to 20µH) up to 50A

Power Bead Inductors - low-inductance (<0.5µH), high current (>100A) applications for single and multi-phase applications

Planar Inductors - mid-inductance (0.5 to 4uH), high current (>73A) applications

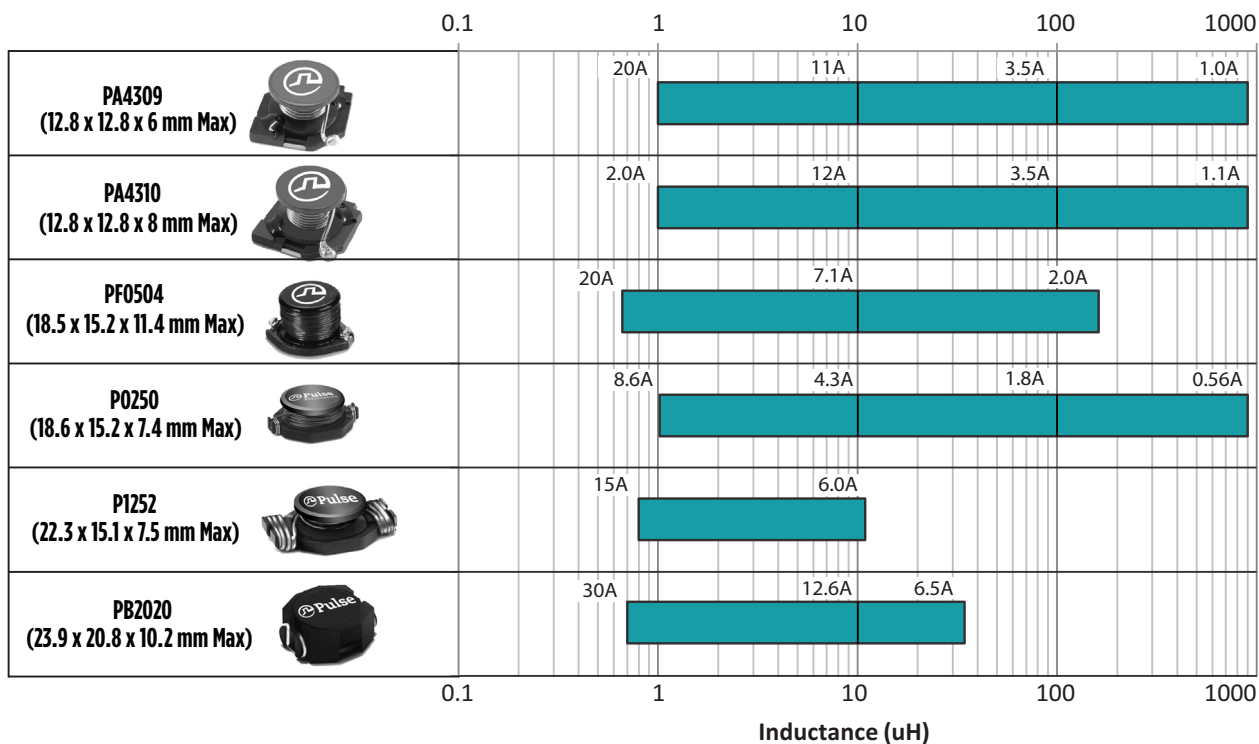
POWER MAGNETICS

PRODUCT OVERVIEW: SMT UNSHIELDED DRUM CORE INDUCTORS

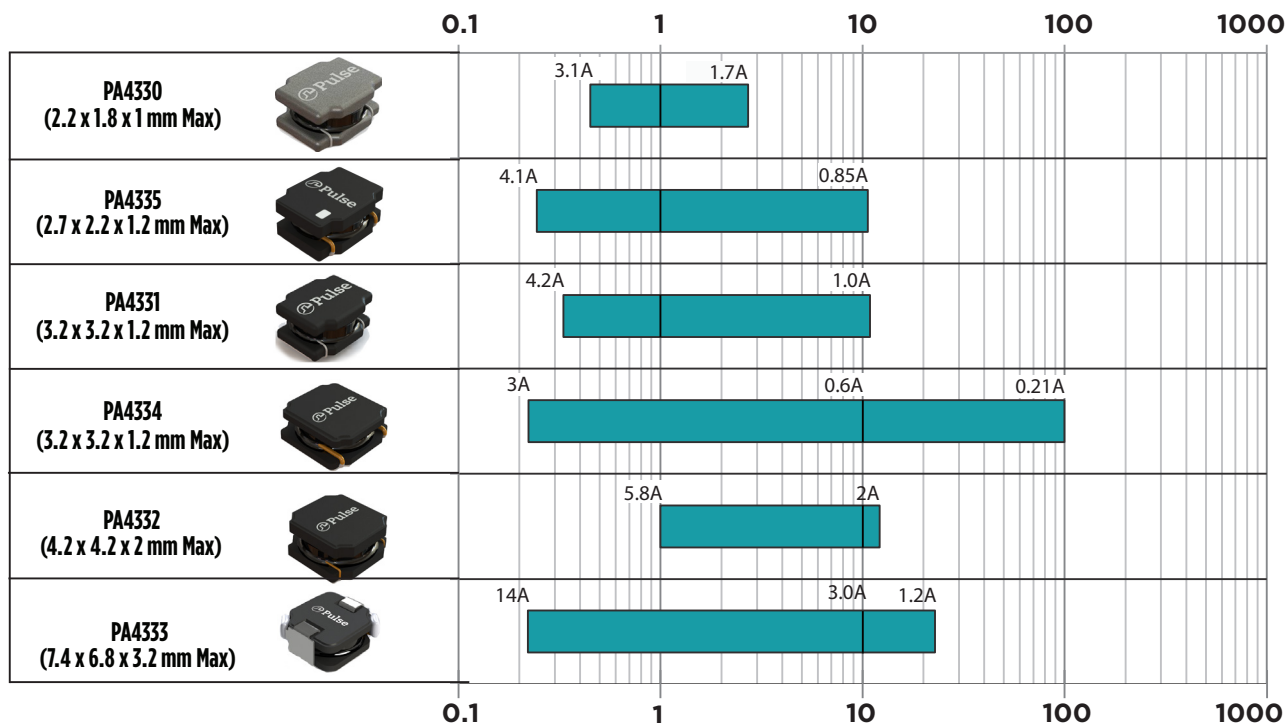


POWER MAGNETICS

PRODUCT OVERVIEW: SMT UNSHIELDED DRUM CORE INDUCTORS

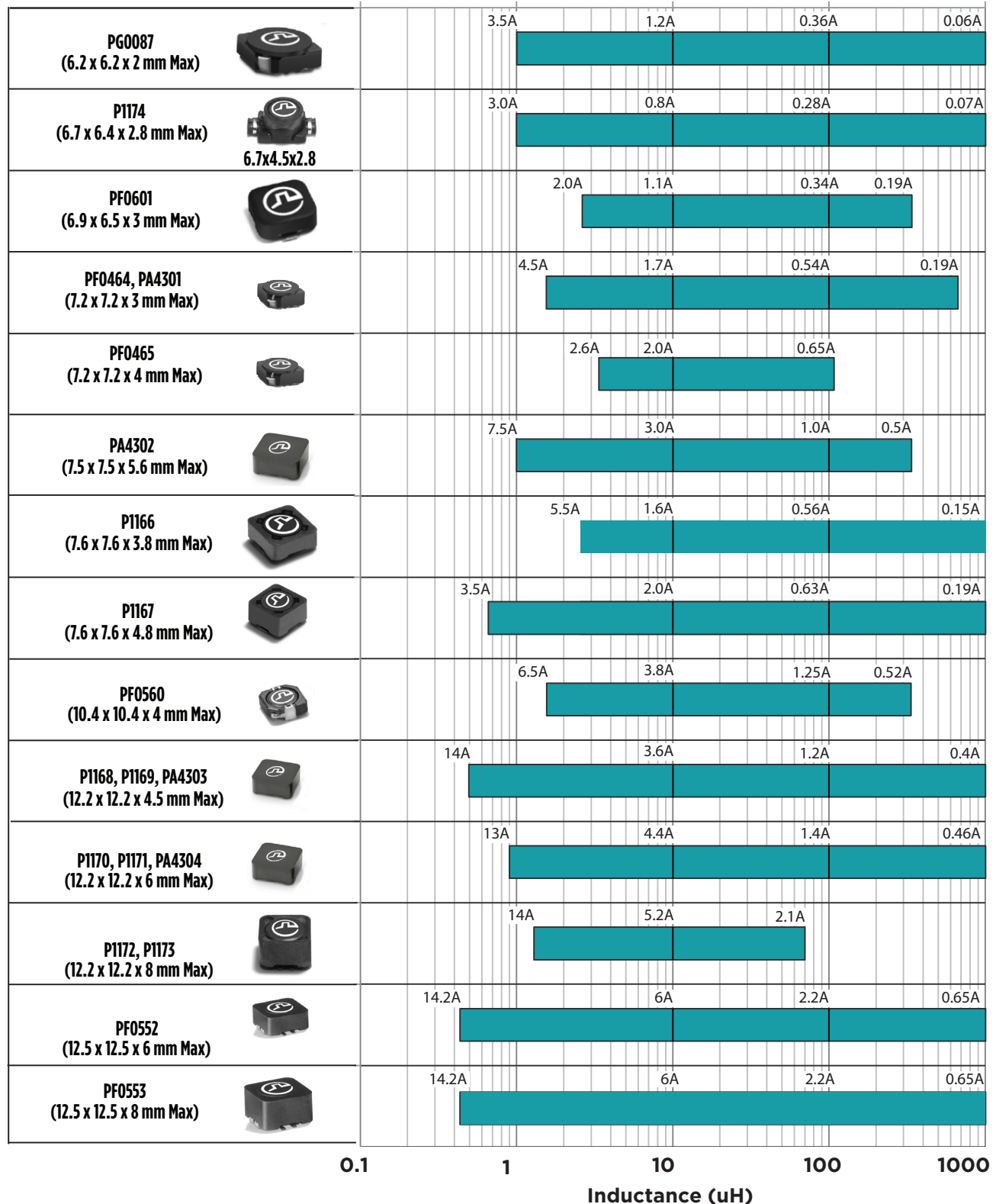


PRODUCT OVERVIEW: SMT FERRITE SHIELDED DRUM CORE INDUCTORS



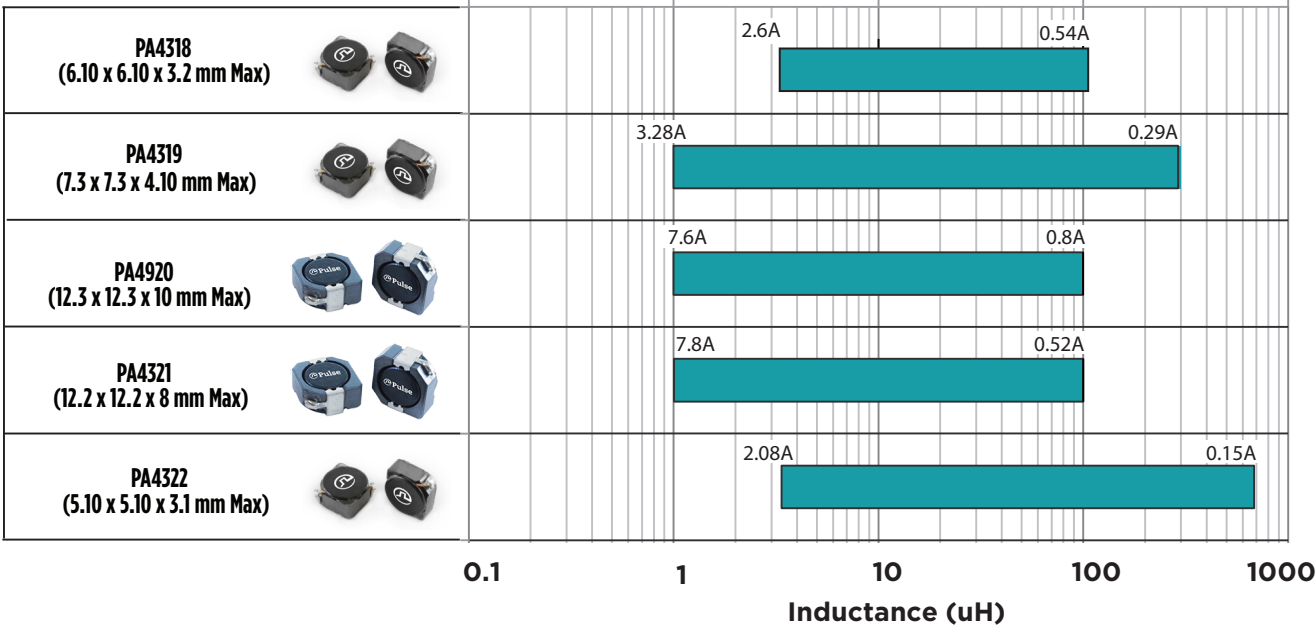
POWER MAGNETICS

PRODUCT OVERVIEW: SMT FERRITE SHIELDED DRUM CORE INDUCTORS










POWER MAGNETICS

PRODUCT OVERVIEW: SMT FERRITE SHIELDED DRUM CORE INDUCTORS



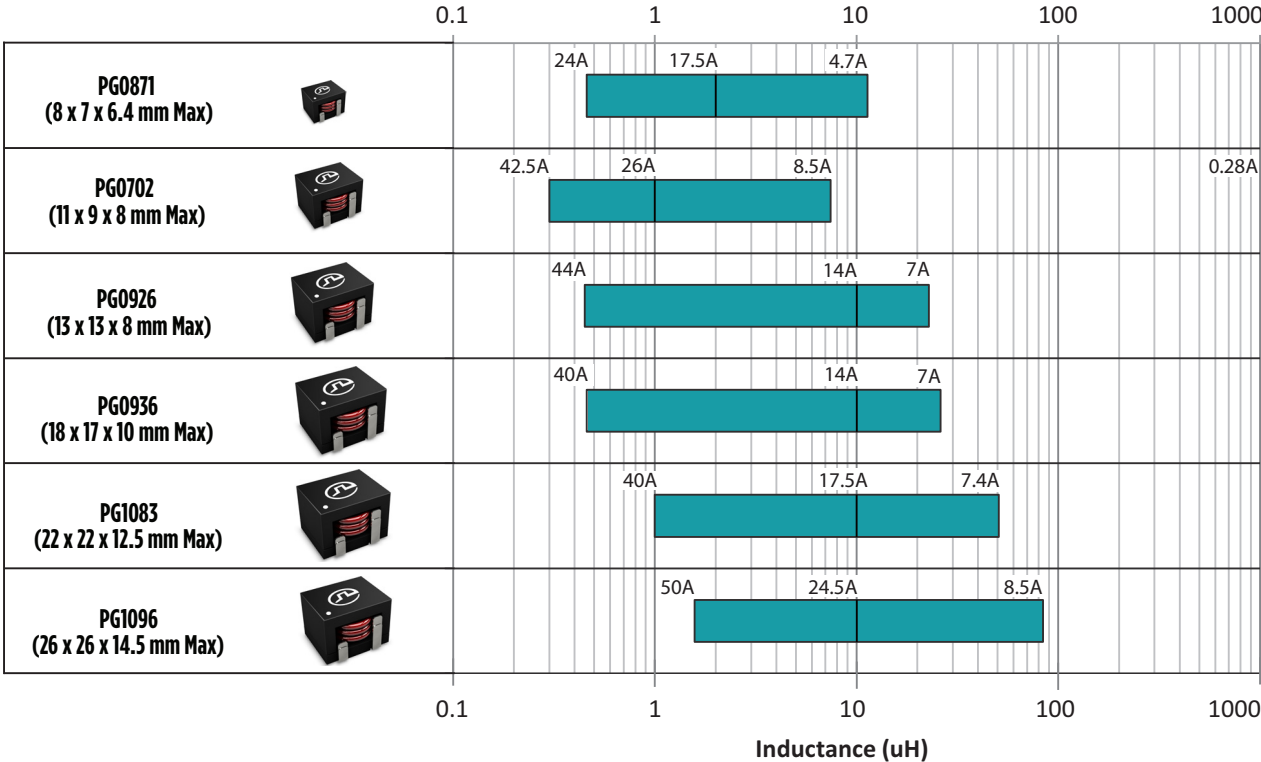
POWER MAGNETICS

PRODUCT OVERVIEW: SMT MOLDED POWDER INDUCTORS

Composite Core Inductors PA434X.XXXANLT Series -55°C to 125°C				      			
Part Number	Length	Width (mm MAX)	Height	Inductance (uH)			
				0.1	1	10	100
PA4340	6.0	5.4	3.0	18A		2.4A	
PA4341	7.6	6.9	3.0	30A		2.5A	
PA4342	11.5	10.3	4.0	44A			2.0A
PA4343	14.0	12.8	6.5	53A			5.8A
PA4344	17.7	17.2	7.0		60A		6.5A
PA4345	6.0	5.4	2.0	22A		1.9A	
PA4346	5.0	14.0	12.8	55A			4.3A
PA4349	13.0	24.0	22.3			62A	11A

POWER MAGNETICS

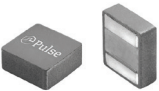
PRODUCT OVERVIEW: SMT ROUND WIRE COIL INDUCTORS



POWER MAGNETICS

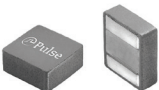
PRODUCT OVERVIEW: COMPOSITE INDUCTORS

Composite Core Inductors
PA500X.XXXNLT Series -40°C to 125°C



Part Number	Length	Width (mm MAX)	Height	Inductance (uH)		
				0.1	1	10
PA5001	4.3	4.3	2.1	18A	5.6A	
PA5002	5.5	5.7	2.1	18.8A	8.8A	
PA5003	5.5	5.7	3.1	22A	5.9A	
PA5004	6.6	6.8	3.1	32A	7A	
PA5005	6.8	5.0	5.0		21A	8.5A
PA5006	8.05	7.8	2.1	21A	11A	
PA5007	8.05	7.8	3.1		21.8A	5.9

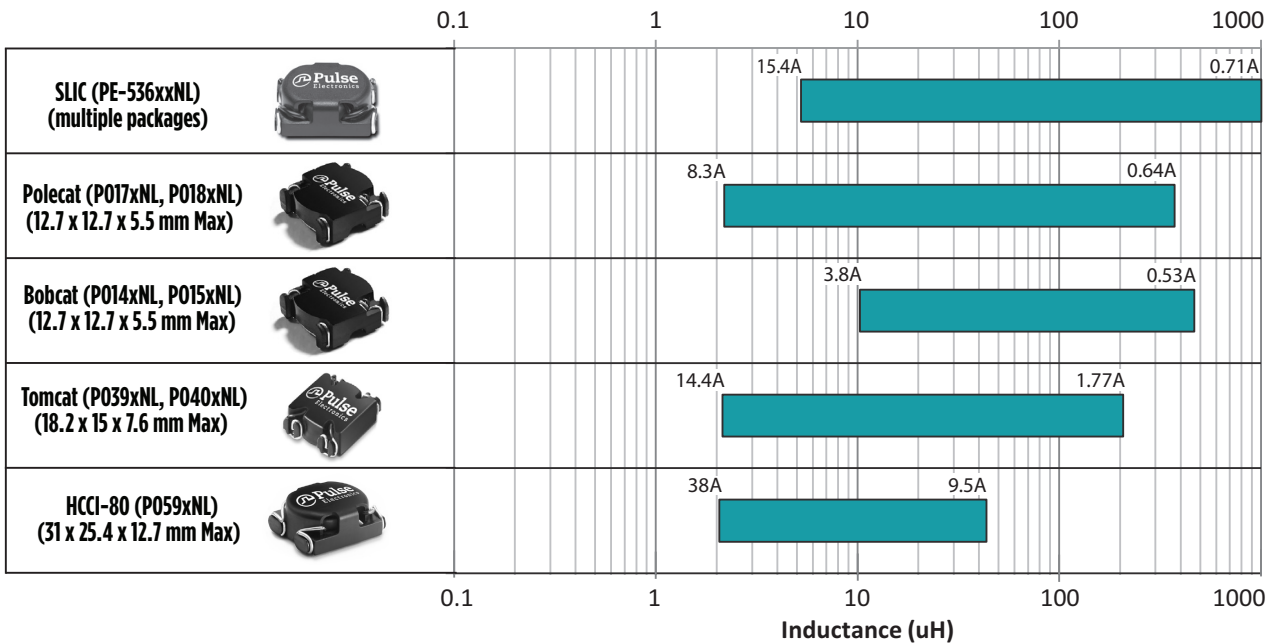
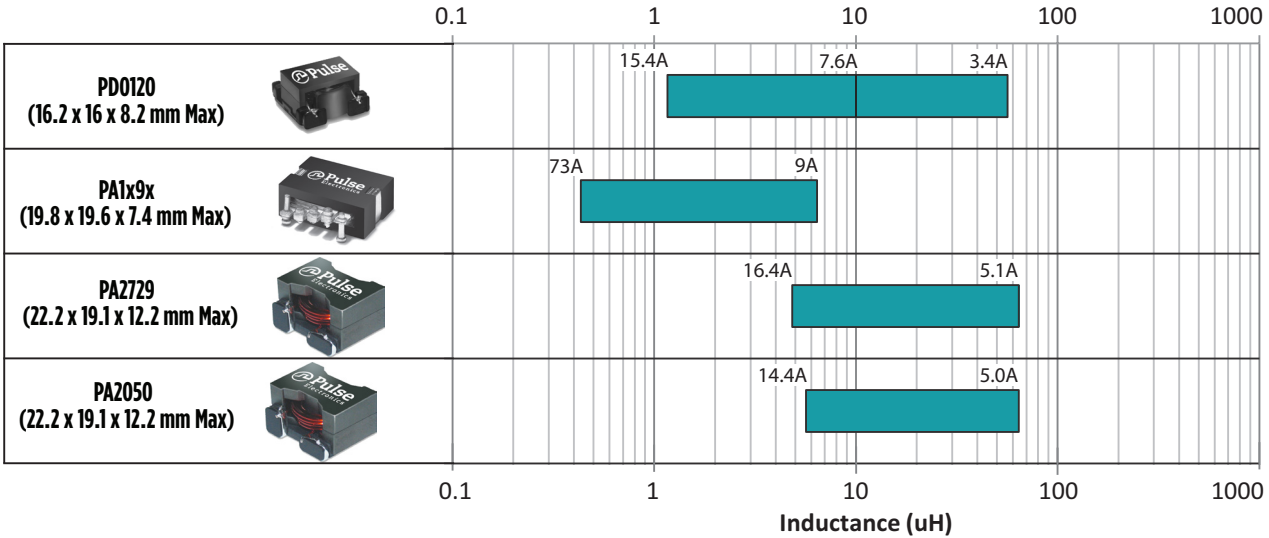
Composite Core Inductors
PM220X.XXXNLT Series -55°C to 155°C



Part Number	Length	Width (mm MAX)	Height	Inductance (uH)		
				0.1	1	10
PM2201	4.3	4.3	2.1	18A	5.6A	
PM2202	5.5	5.7	2.1	18.8A	8.8A	
PM2203	5.5	5.7	3.1	22A	5.9A	
PM2204	6.6	6.8	3.1	32A	7A	
PM2205	6.8	5.0	5.0		21A	8.5A
PM2206	8.05	7.8	2.1	21A	11A	
PM2207	8.05	7.8	3.1		21.8A	5.9

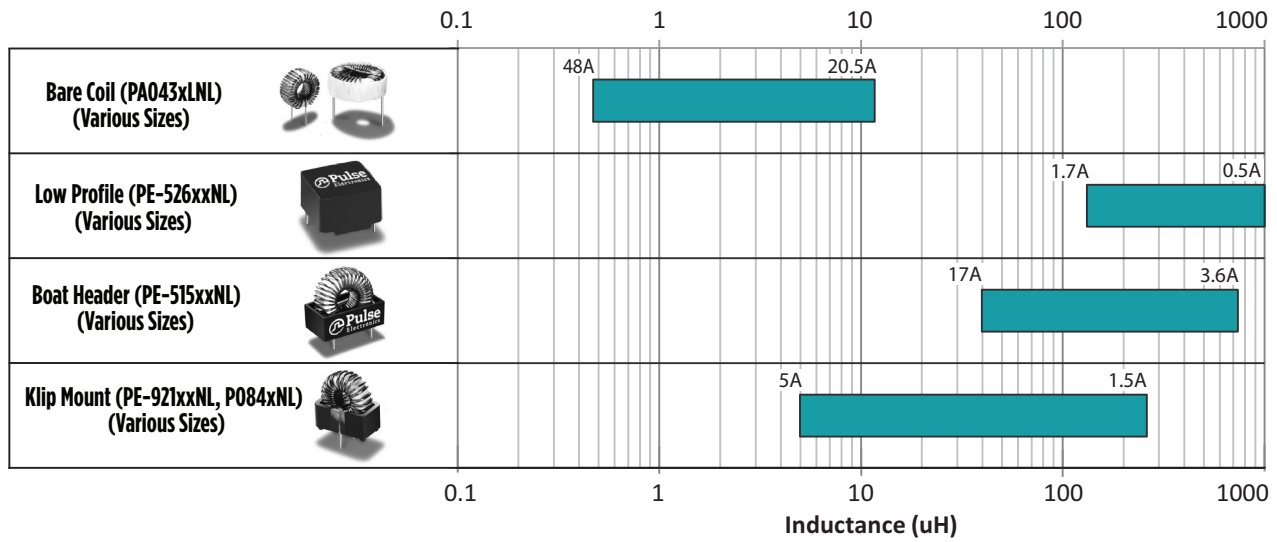
POWER MAGNETICS

PRODUCT OVERVIEW: SMT PLANAR AND WIRE WOUND COIL INDUCTORS



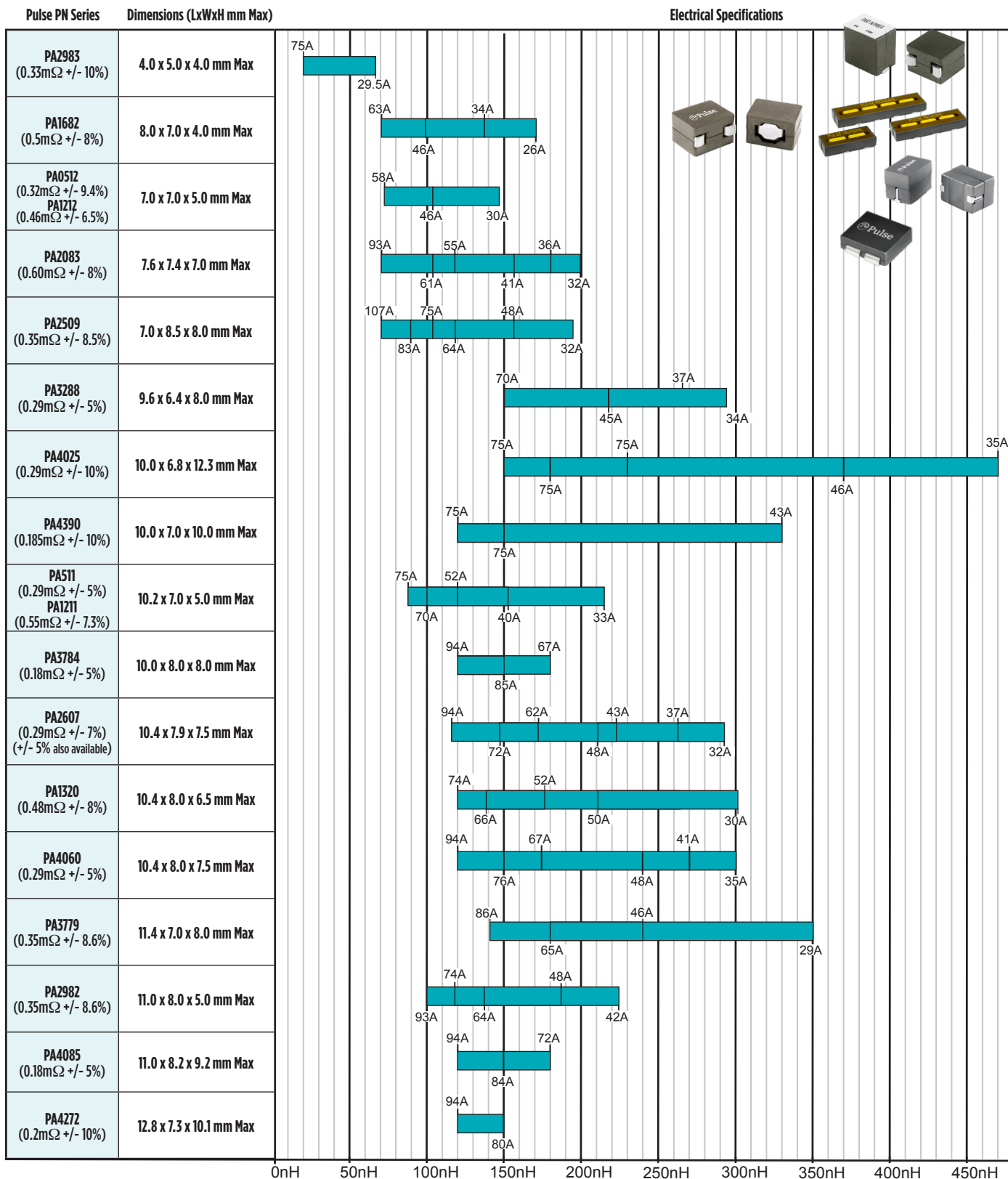
POWER MAGNETICS

PRODUCT OVERVIEW: SMT TOROID INDUCTORS



POWER MAGNETICS

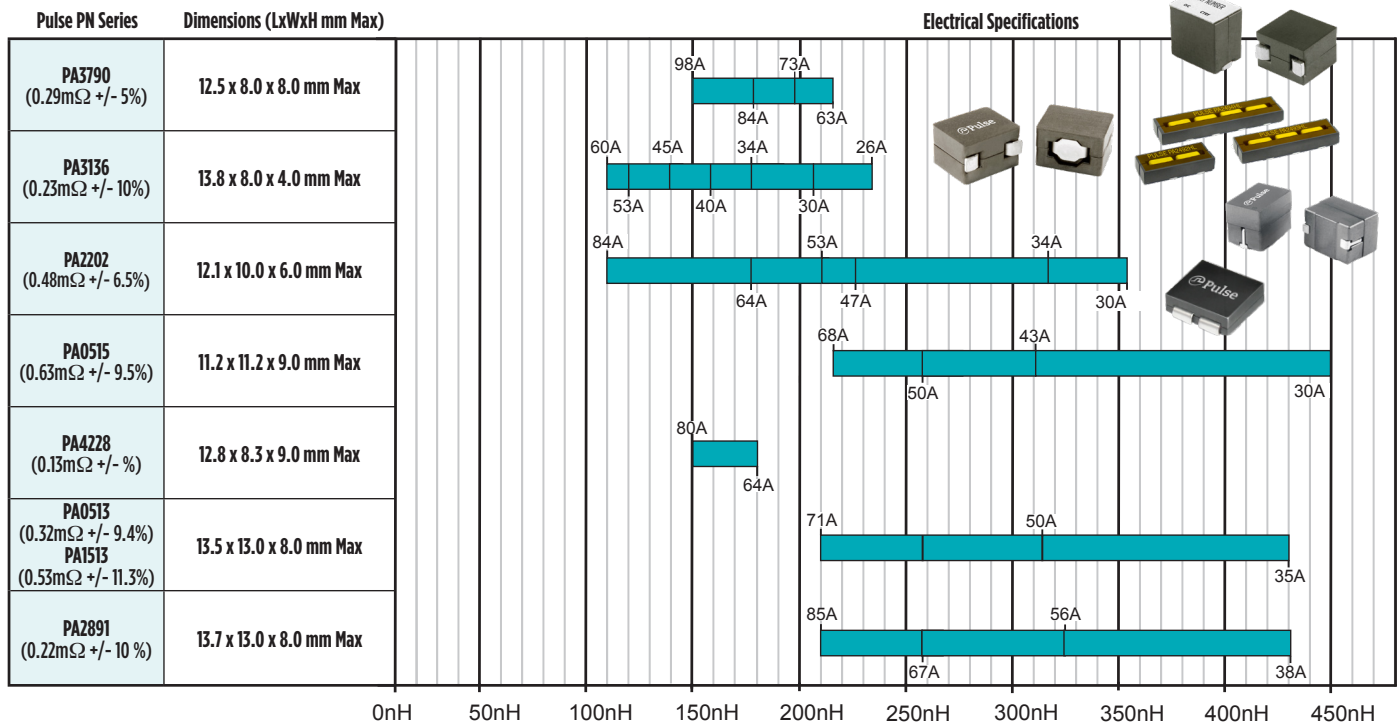
PRODUCT OVERVIEW: THT INDUCTORS



The peak currents listed are at 25°C. The complete datasheet for a given series should be reviewed to determine peak currents at other ambient temperatures.

POWER MAGNETICS

PRODUCT OVERVIEW: SMT POWER BEAD INDUCTORS (CON'T)

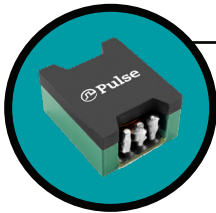


The peak currents listed are at 25°C. The complete datasheet for a given series should be reviewed to determine peak currents at other ambient temperatures.

POWER MAGNETICS

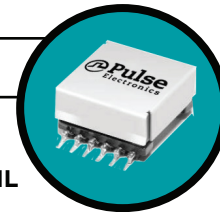
PRODUCT OVERVIEW: SMT POWER & ISOLATION TRANSFORMERS

Pulse offers custom transformer designs using standard cores and bobbins on the following SMT platforms. Refer to datasheets for below listed parts on Pulse website for further details. 10Kpcs annual demand typically required for custom development. Please contact the Pulse Power Business Unit for your specific needs where we can also offer a wide range of high efficiency magnetics for computing, data-communications and industrial applications.



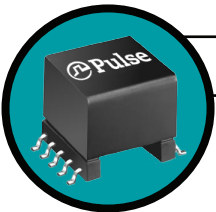
Planar Platforms - ER19, ER25 and ER25 Plus

- Up to 800W Forward and Full Bridge
- 1500Vdc Galvanic Isolation
- PH0801NL, PH0910.003CNL, PH9278NL



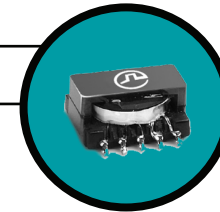
EFD Platforms - EFD15, EFD20, EFD25 and EFD30

- Up to 150W Forward and Flyback
- Functional and Basic Insulation
- PA1646NL, PA2398NL, PA2459NL, PA3524NL



EP Platforms - EP7, EP10, EP13 and EP13 Plus

- Up to 70W Forward and Flyback
- Up to 3x power of standard platform
- 7-PA5099.XXX & PA500.XXX, 10-PA5130.XXX & PA5131, 13 - PA3858.XXX & PA3836.XXX



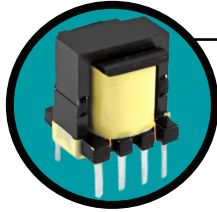
ER Platforms - ER9.5, ER11 and ER14.5

- Up to 10W Push-Pull and Flyback
- Functional Insulation
- PA0663NL, PA1032NL, PA1026NL

POWER MAGNETICS

PLATFORM OVERVIEW: THROUGH-HOLE POWER TRANSFORMERS

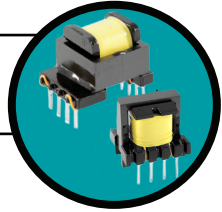
Pulse offers custom transformer designs using standard cores and bobbins on the following THT platforms. Refer to datasheets for below listed parts on Pulse website for further details.



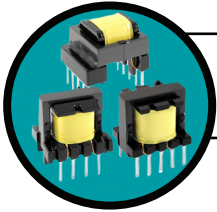
EE10 Platform - 8 Pins, THT, Vertical

- ➔ Typical Power Level: 5W (100kHz, Flyback)
- ➔ Size: 11.0 x 11.0 x 12.0 mm Max
- ➔ Custom part numbers available

EE13 Platform - 9 Pins, THT, Horizontal, Offset - 10 Pins, THT, Vertical, Offset



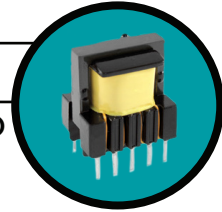
- ➔ Typical Power Level: 10W (100kHz, Flyback)
- ➔ Size: 19.5 x 13.5 x 15.0 mm Max
- ➔ PA2718NL



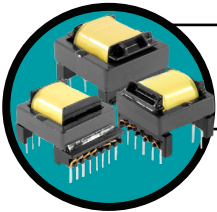
EE16 Platform - 10 Pins, THT, Horizontal, Offset - 10 Pins, THT, Vertical

- ➔ Typical Power Level: 15W (100kHz, Flyback)
- ➔ Size: 18.2 x 13.8 x 17.5 mm Max
- ➔ PA3050NL, PA2621NL

EE19 Platform - 10 Pins, THT, Vertical



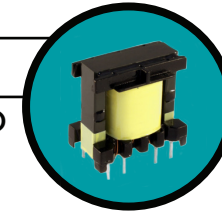
- ➔ Typical Power Level: 20W (100kHz, Flyback)
- ➔ Size: 21.0 x 16.50 x 24.0 mm Max
- ➔ Custom part numbers available



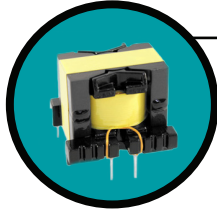
EF20 Platform - 8 Pins and 10 Pins, THT, Horizontal - 14 Pins, THT, Horizontal, Offset

- ➔ Typical Power Level: 25W (100kHz, Flyback)
- ➔ Size: 21.6 x 21.6 x 15.8 mm Max
- ➔ PA2872NL, PA2959NL, PA2979NL

EF25 Platform - 10 Pins, THT, Vertical



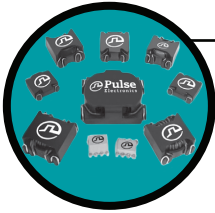
- ➔ Typical Power Level: 40W (100kHz, Flyback)
- ➔ Size: 28.5 x 18.8 x 30.5 mm Max
- ➔ PA2380NL, PA2942NL



PQ2016 Platform - 14 Pins, THT, Vertical

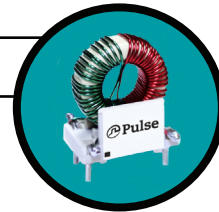
- ➔ Typical Power Level: 40W (100kHz, Flyback)
- ➔ Size: 23.5 x 23.5 x 18.7 mm Max
- ➔ Custom part numbers available

PLATFORM OVERVIEW: SMT AND THT COMMON MODE CHOKES



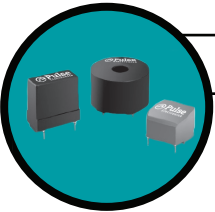
SMT Common Mode Chokes

- 9.1 x 8.9 x 3.8 mm to 31.0 x 25.4 x 12.7 mm Max
- 0.5Arms (13.2mH) to 14Arms (0.20mH)
- Hi-pot Voltage: 1500Vrms
- P0502NL, PA2741NL, PE-53912NL



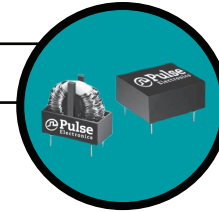
THT PA3747.xxxNL Series

- 19.3x18.2x22.9 mm Max
- 0.75A to 5.0A
- Hi-pot Voltage: 1500Vrms
- PA3747.105NL



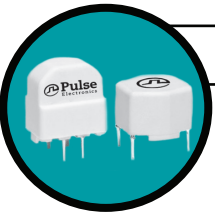
THT PE-961xxNL Series

- 33.0x18.3x34.0 mm to 43.2x43.2x26.2 mm Max
- 0.5Arms (33mH) to 15Arms(1mH)
- Hi-pot Voltage: 2500Vrms
- PE-96161NL



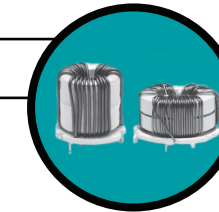
THT PE-62xxxNL Series

- 29.2x14.2x10.2 mm to 38.1x20.3x32.5 mm Max
- 1.8Arms (10mH) to 7.5Arms (2mH)
- Hi-pot Voltage: 2500Vrms
- PE-62891NL



THT FE 2X Series

- 17.9x17.9x12.9 mm to 43.4x42.4x25.4 mm Max
- 0.4Arms (47mH) to 8Arms (3.3mH)
- Hi-pot Voltage: 1500Vrms
- FE2X03-3-2NL

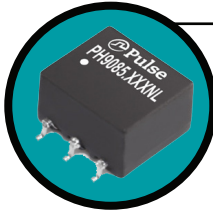


THT FE 3X Series

- 17.9x17.9x12.9 mm to 43.4x42.4x25.4 mm Max
- 0.4Arms (47mH) to 8Arms (3.3mH)
- Hi-pot Voltage: 1500Vrms
- FE3X050-10-7NL

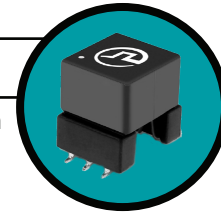
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PLATFORM OVERVIEW: SMT AND THT GATE DRIVE TRANSFORMERS



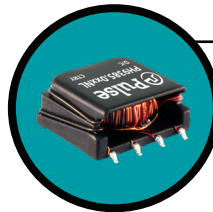
Functional Insulation Toroid Isolation Platform

- 2500Vrms Isolation, Class B insulation
- Communications interface applications
- PH9085



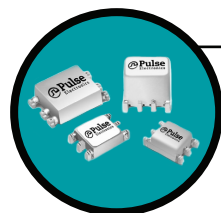
Reinforced Insulation EP7 Isolation Platform

- TUV Certified to EN60950, Class F insulation
- 8mm creepage/5000Vrms Isolation
- PH9185



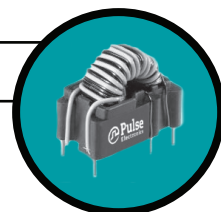
Extended Creepage Sidecar Isolation Platform

- 12mm Creepage in 7mm and 14mm heights
- 5000Vrms Isolation
- PH9385 and PA3965



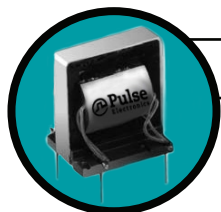
SMT Gate Drive Transformers

- 8.6mm x 6.7x2.5mm to 11.8mm x 8.8x4.0mm Max
- Functional and Basic Insulation
- Multiple Winding Configurations and Sizes
- Hi-pot Voltage: 1500Vrms
- PE-68386NL, PA2001NL



THT P058xxNL Series

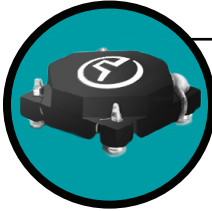
- 20.6mm x 12.2mm x 19.1 mm Max
- UL, C-UL, and TUV Approved Components
- Turns Ratio: 1:1:1 and 1:1:1:1:1
- Hi-pot Voltage: 4250Vrms
- P0584NL



THT PE-6388xNL Series

- 27.7mm x 27.4mm x 30.5mm Max
- VDE Approved
- Multiple Winding Configurations
- Hi-pot Voltage: 3750Vrms
- PE-63885NL

PLATFORM OVERVIEW: SMT CURRENT SENSE MAGNETICS (FOR SWITCHING POWER SUPPLIES)

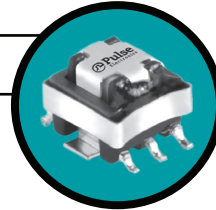


SMT PA0368.xxxNL Series

- ➔ 8.4mm x 8.4mm x 3.3mm Max
- ➔ Turns Ratio: 1:50 up to 1:125
- ➔ RMS current: 4Arms
- ➔ Hi-pot Voltage: 500Vrms

SMT PA1005.xxxNL Series

- ➔ 8.4mm x 7.2mm x 5.1mm Max
- ➔ Turns Ratio: 1:20 up to 1:125
- ➔ RMS current: 20Arms
- ➔ Hi-pot Voltage: 500Vrms
(higher current version of P82xNL series)

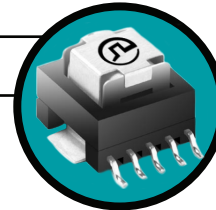


SMT PE-68xxxNL Series

- ➔ 18.2mm x 15.0mm x 7.6mm Max
- ➔ Turns Ratio: 1:1:50 up to 1:1:200
- ➔ RMS current: 15Arms
- ➔ Hi-pot Voltage: 500Vrms

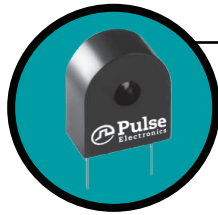
SMT PB002xNL Series

- ➔ 19.9mm x 14.5mm x 10.0mm Max
- ➔ Turns Ratio: 1:50 up to 1:200
- ➔ RMS current: 35Arms
- ➔ Hi-pot Voltage: 500Vrms



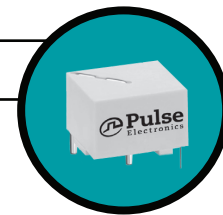
POWER MAGNETICS

PLATFORM OVERVIEW: THT CURRENT SENSE MAGNETICS (FOR SWITCHING POWER SUPPLIES)



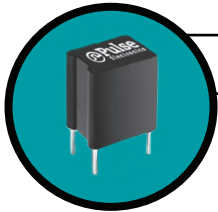
THT PE-51xxxNL Series

- 17.1mm x 9.9mm x 20.4mm Max
- VDE recognized component
- Turns Ratio: 50T to 200T CT
- RMS current: 20Arms
- Hi-pot Voltage: 3000Vrms
(available also as FIS1x1 Series)
- PE-51688NL, FIS101NL



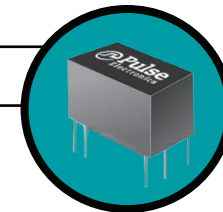
THT FIS 1x5NL Series

- 17.6mm x 15.0mm x 12.0mm Max
- Turns Ratio: 1:50 up to 1:500
- RMS current: 25Arms
- Hi-pot Voltage: 4000Vrms
- FIS105NL



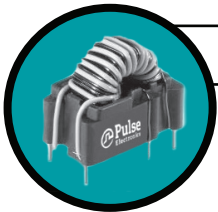
THT PE-67xxxNL Series

- 19.1mm x 14.4mm x 19.1mm Max
- Turns Ratio: 1:50 up to 1:300
- RMS current: 35Arms
- Hi-pot Voltage: 500Vrms
- PE-67050NL



THT PE-6xxxxNL Series

- 22.9mm x 17.8mm x 17.8mm Max
- VDE Approved
- Turns Ratio: 1:50 up to 1:300
- RMS current: 20Arms
- Hi-pot Voltage: 3000Vrms
- PE-63586NL



THT P058xNL Series

- 20.6mm x 14.7mm x 19.1mm Max
- UL/C-UL recognized component
- Turns Ratio: 1:1:50 up to 1:1:200
- RMS current: 35Arms
- Hi-pot Voltage: 3000Vrms
- P0581NL



POWER MAGNETICS

MARCH 2019 SHORT FORM CATALOG

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