

# SPFC Series

## High Frequency PFC Chokes

Signal's SPFC high frequency chokes are designed for active power factor correction in switch mode power supplies of universal mains voltages.

These through hole printed circuit board parts are available in multiple geometric configurations with horizontal and vertical mounting platforms. SPFC units exhibit excellent EMC performance offered in packages having the smallest available footprint and height, ideal for high density boards.



### General Features

- Horizontal & Vertical PCB THT mounting platforms:  
EE, EER, EFD, PQ, RM
- Smallest available footprint
- Height as low as 13 mm
- Suitable for mains voltages
- Excellent EMC performance

### Specifications

- Operating temperature:  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Storage temperature range (in tray):  $-20^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$ , max 75% RH
- Ambient temperature range (I-rated):  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Dielectric strength: 1.5 kV AC

### Applications

- LED Drivers
- SMPS 25 W - 250 W
- Active PFC Circuits

### Markets

- Lighting
- Consumer
- Industrial
- Telecom
- Security

## PRODUCT IDENTIFICATION

### SPFC - EFD30 - 150

**Type / Product Series**

SPFC = High Frequency Power Factor Correction Chokes

**Output Power**

150 = 150 W

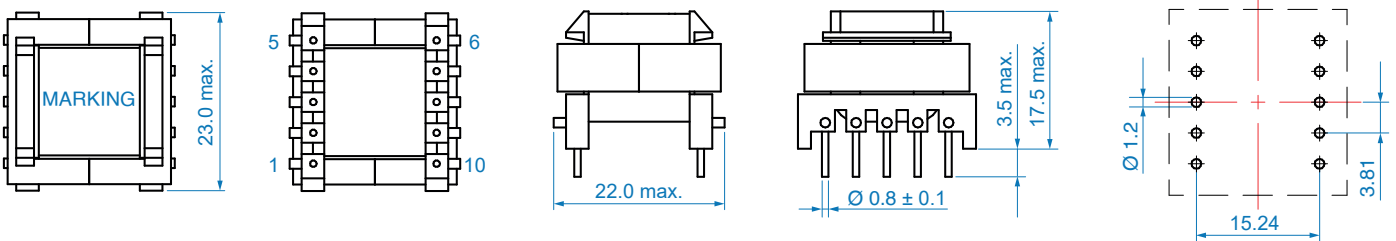
**Mounting Platforms**

- EE20
- EER28
- EFD25/30
- RM10/12/14
- PQ38

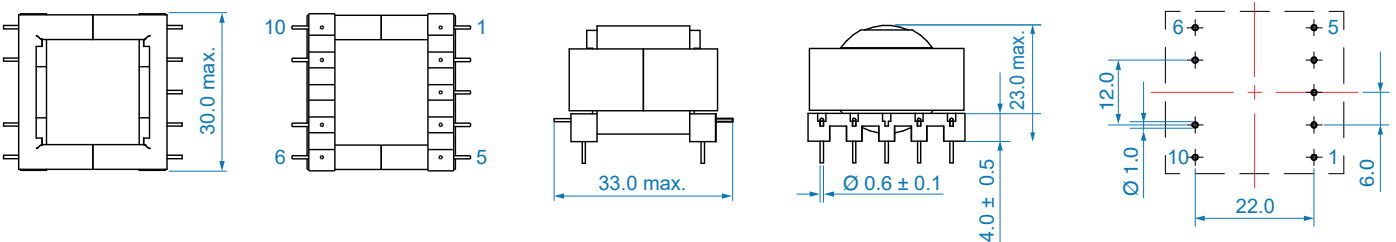
## MECHANICAL SPECIFICATIONS

Dimensions are in mm.

### SPFC-EE20



### SPFC-EER28



\* MARKING: e.g. SPFC-EFT25-50  
DATE CODE

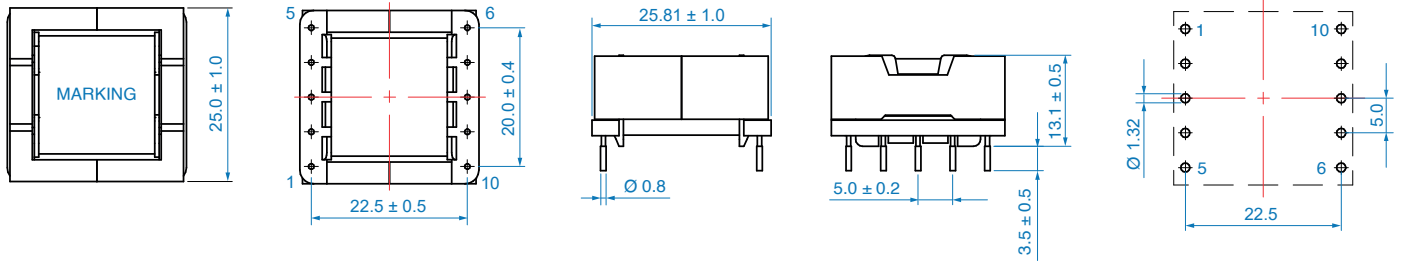
**Custom versions available upon request.**



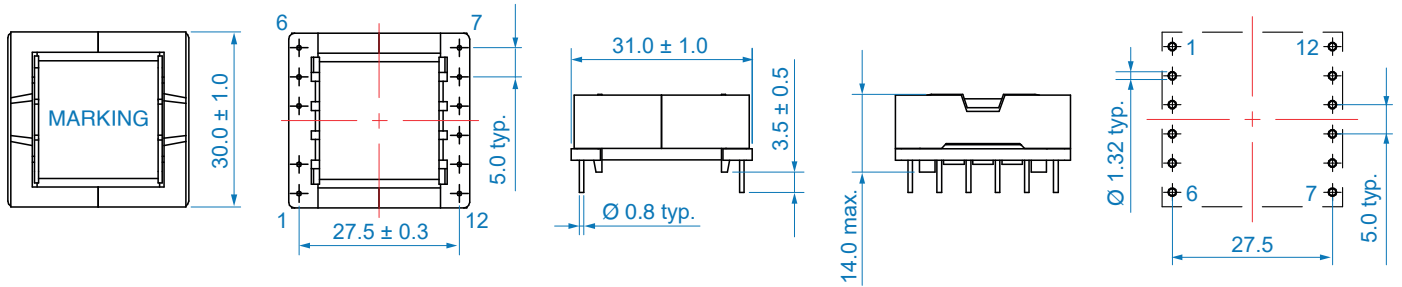
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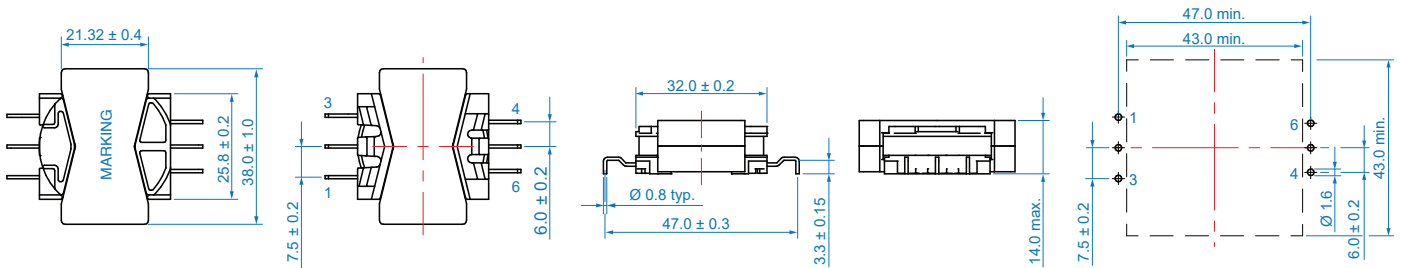
## SPFC-EFD25



## SPFC-EFD30



## SPFC-PQ38



\* MARKING: e.g. SPFC-PQ38-250  
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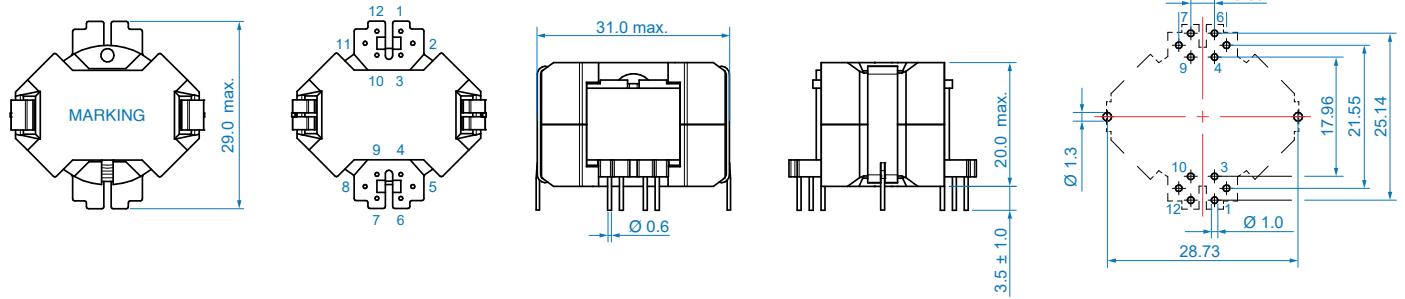
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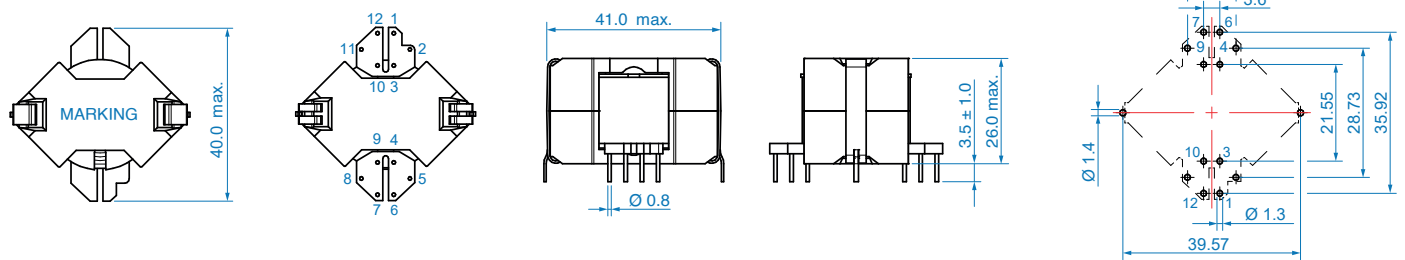
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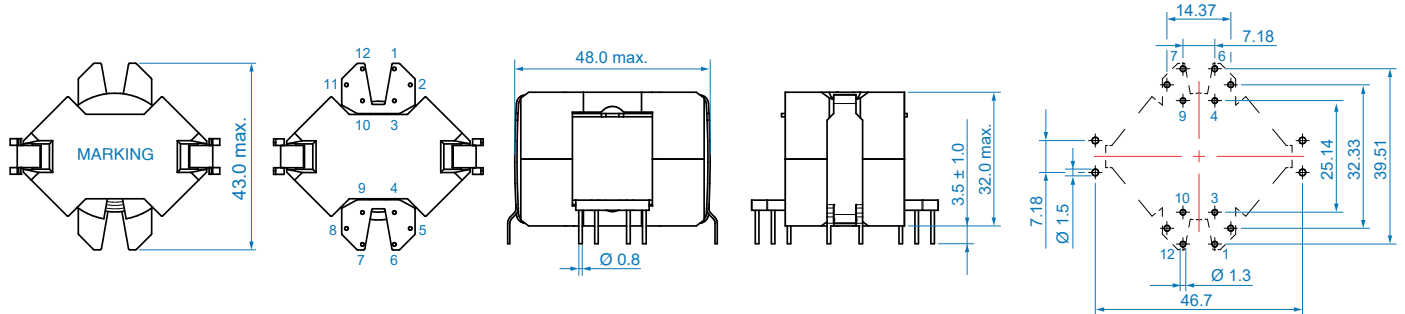
## SPFC-RM10



## SPFC-RM12



## SPFC-RM14



\* MARKING: e.g: SPFC-RM10-50  
DATE CODE

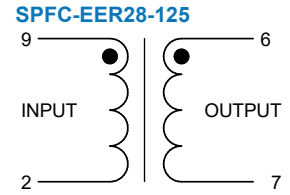
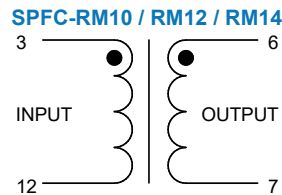
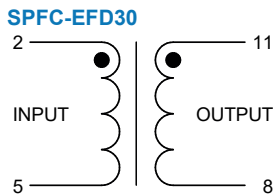
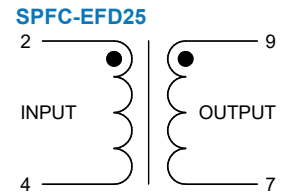
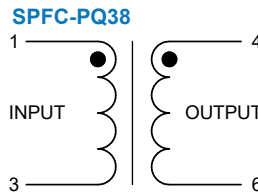
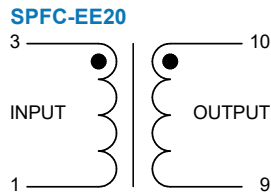
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## SCHEMATICS



## ELECTRICAL SPECIFICATIONS

Part Number	Input L <sup>2</sup> ± 10% (μH)	Input I-rated (Max) (A)	Input DCR (Max) (mΩ)	Output DCR (Max) (mΩ)	Input I <sub>SAT</sub> <sup>3</sup> (Typ) (A)	ΔT @ I-rated (Max) (°C)	Turns Ratio In : Out (± 3%)	Size & Pins	Output Power (W)	AC Input Range (V)
SPFC-EE20-25	1800	0.30	1550	1200	1.0	40	12.9:1	EE20 5+5	25	85-265
SPFC-EFD25-50	650	0.40	1020	460	2.6	40	90:8	EFD25 5+5	50-75	195-265
SPFC-EFD30-75	750	0.90	950	580	3.3	40	34:3	EFD30 5+6	75	85-265
SPFC-EFD30-100	500	0.60	620	540	4.2	40	21:2	EFD30 5+6	75-100	195-265
SPFC-EFD30-150	375	0.80	470	390	4.0	40	65:6	EFD30 5+6	100-150	195-265
SPFC-EFD30-200	250	1.10	300	350	4.8	40	50:5	EFD30 5+6	150-200	195-265
SPFC-EFD30-225	200	1.40	300	350	6.0	40	50:5	EFD30 5+6	200-250	195-265
SPFC-EFD30-250	150	1.40	190	350	6.8	40	42:5	EFD30 5+6	250	195-265
SPFC-RM10-50	750	0.90	720	320	3.9	40	90:8	RM10 6+6	50-75	85-265
SPFC-RM10-75	650	0.40	480	260	3.9	40	75:7	RM10 6+6	75	195-265
SPFC-RM10-100	500	0.60	360	180	4.0	40	12:1	RM10 6+6	75-100	195-265
SPFC-RM10-150	375	0.80	360	180	5.4	40	12:1	RM10 6+6	100-150	195-265
SPFC-RM10-200	250	1.1	150	200	5.6	40	44:5	RM10 6+6	159-200	195-265
SPFC-RM12-100	450	1.2	330	200	5.6	40	10:1	RM12 6+6	100	85-265
SPFC-RM12-150	300	2.4	170	250	7.4	40	52:5	RM12 6+6	150-200	85-265
SPFC-RM12-200	200	1.4	120	250	8.4	40	39:5	RM12 6+6	200-250	195-265
SPFC-RM12-250	150	1.4	80	180	11.0	40	33:4	RM12 6+6	250	195-265
SPFC-RM14-200	225	2.4	87	200	12.4	40	39:4	RM14 6+6	200	85-265
SPFC-RM14-250	180	3.0	78	200	13.2	40	9:1	RM14 6+6	250	85-265
SPFC-PQ38-250	300	3.0	197	310	5.1	40	8.75:1	PQ38 3+3	250	85-265
SPFC-EER28-125	150	1.5	190	140	12.0	40	9.17:1	EER28 5+4	125	85-265

<sup>1</sup> Electrical specifications at 20°C and 33% relative humidity.

<sup>2</sup> "L" test conditions: 100 kHz, 100 mV, 0 ADC

<sup>3</sup> "I<sub>SAT</sub>" is the saturation current at which "L" drops by 20%

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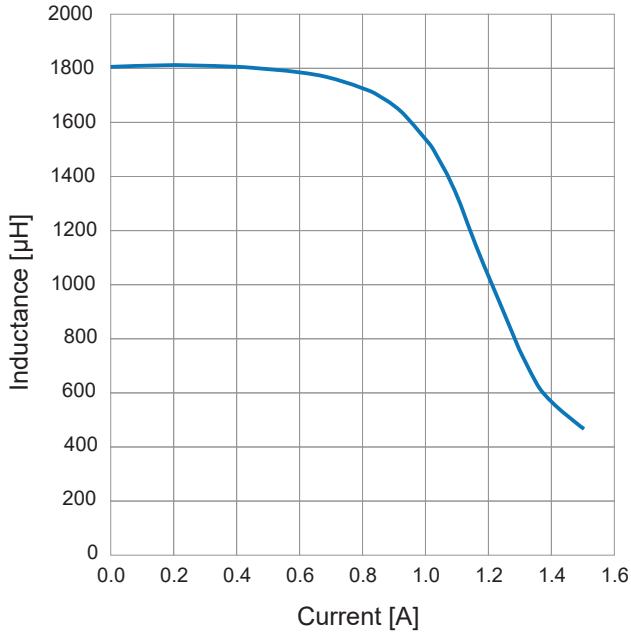


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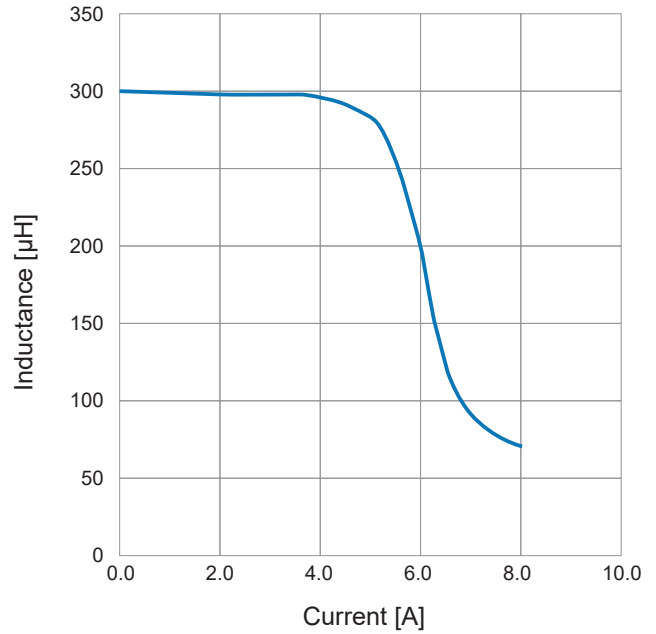
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## TYPICAL INDUCTANCE VS CURRENT CHARACTERISTICS

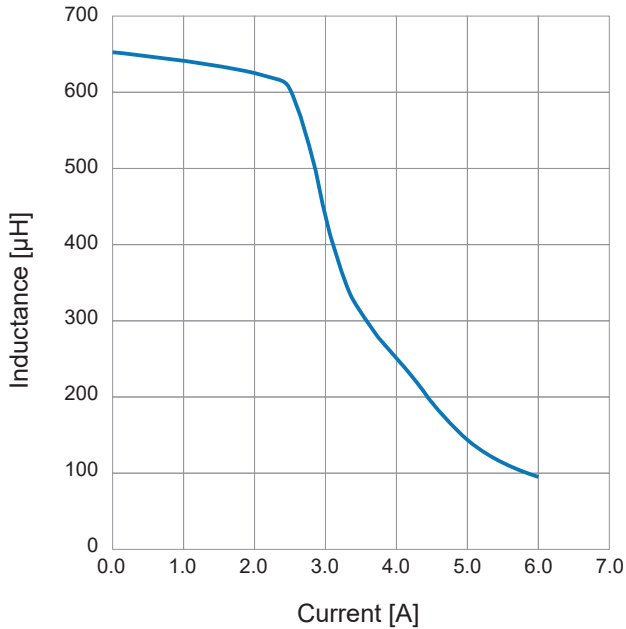
**SPFC-EE20-25**



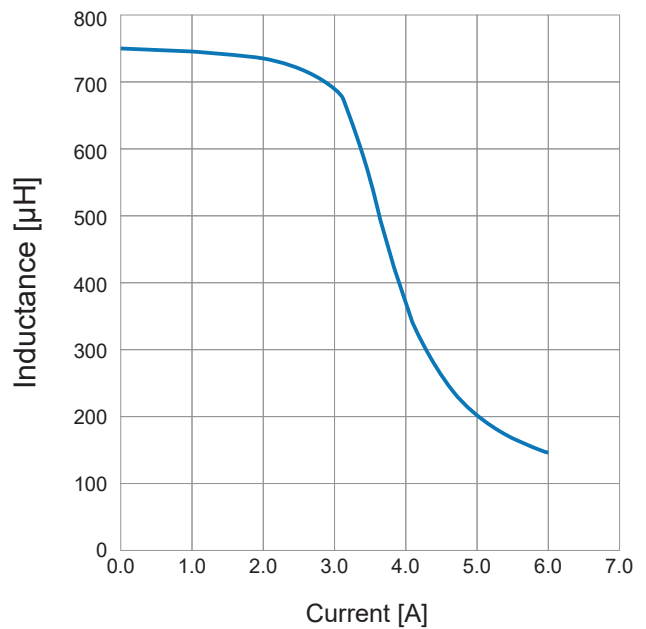
**SPFC-PQ38-250**



**SPFC-EFD25-50**



**SPFC-EFD30-75**



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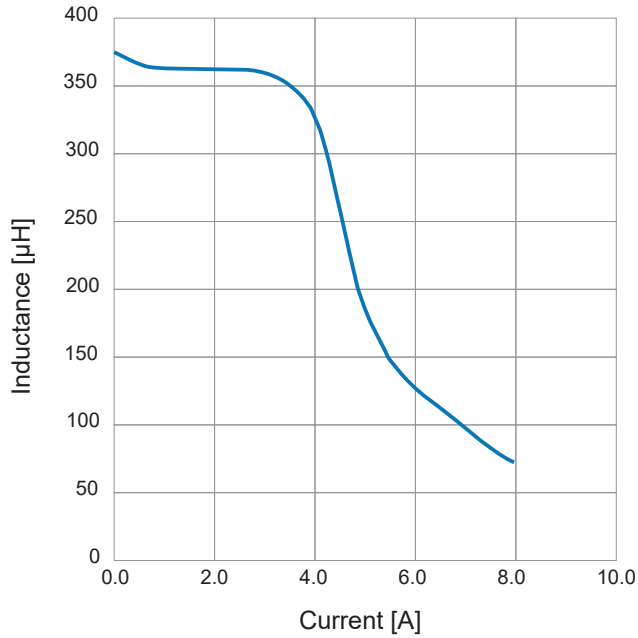


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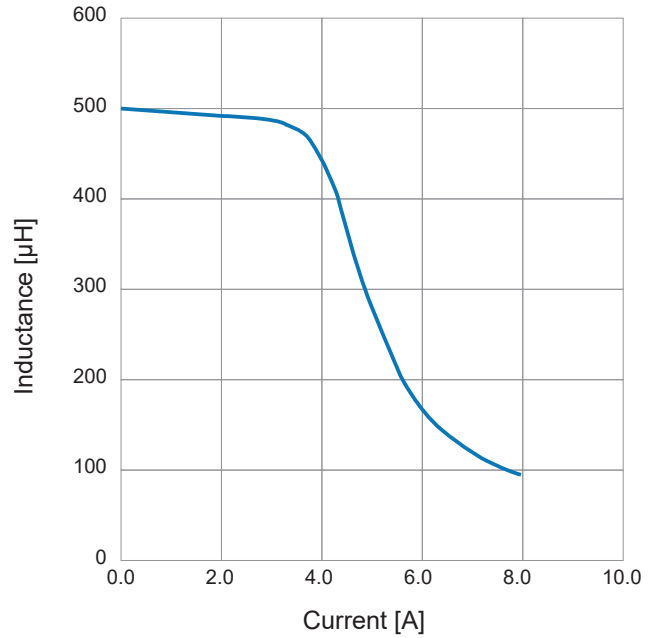
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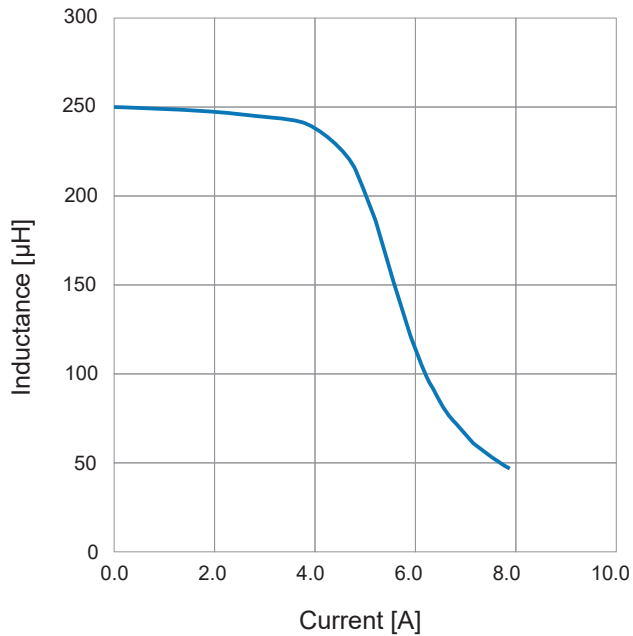
**SPFC-EFD30-100**



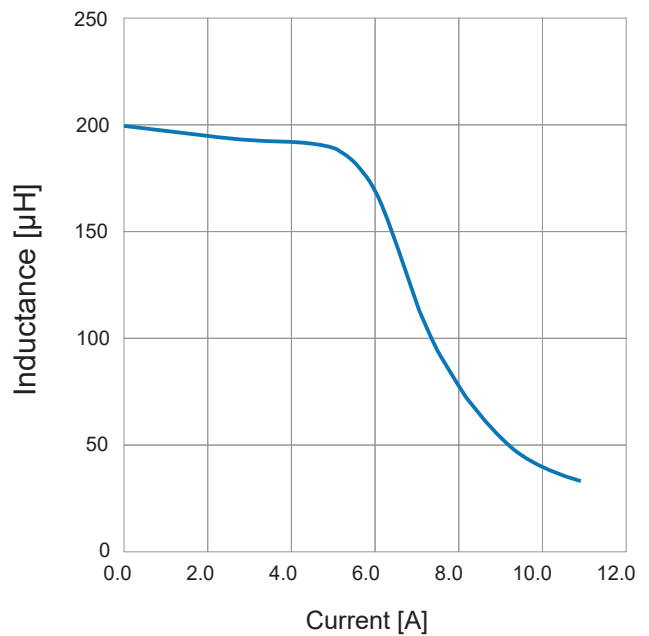
**SPFC-EFD30-150**



**SPFC-EFD30-200**



**SPFC-EFD30-225**



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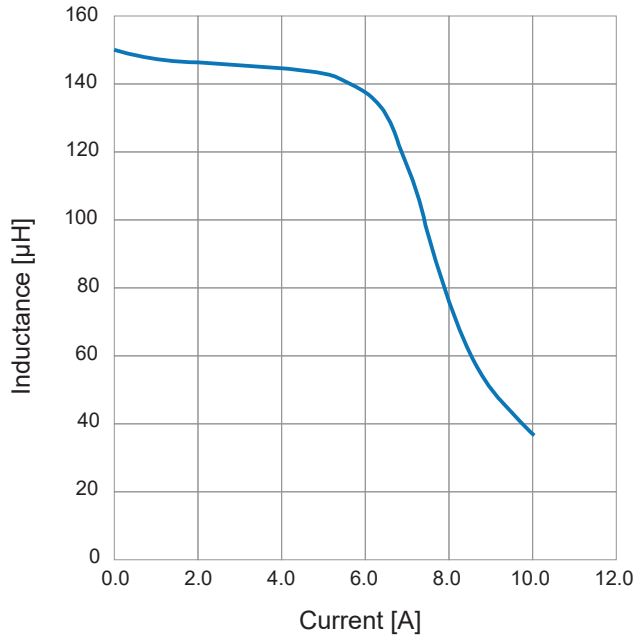


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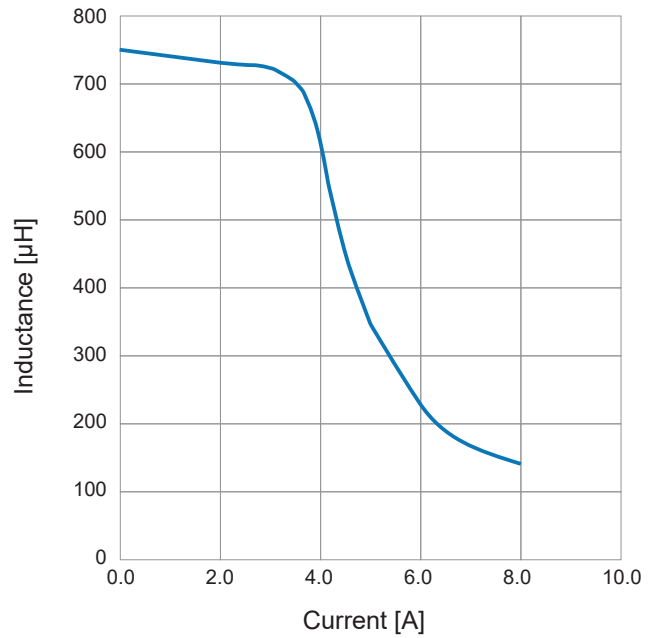
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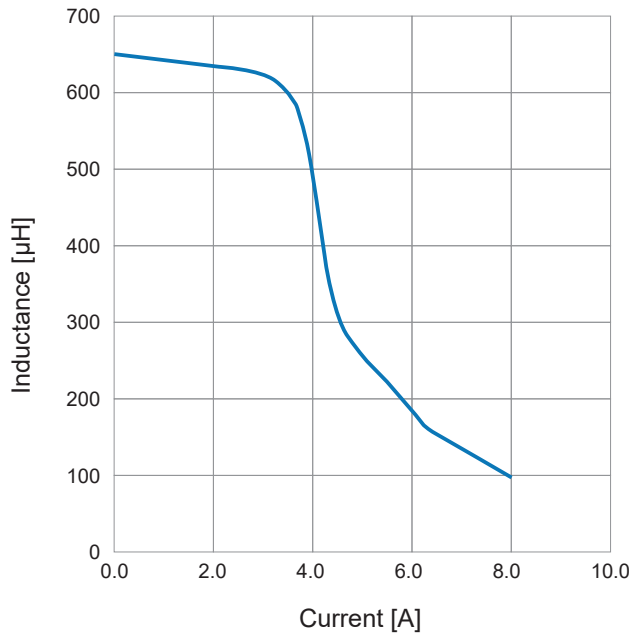
**SPFC-EFD30-250**



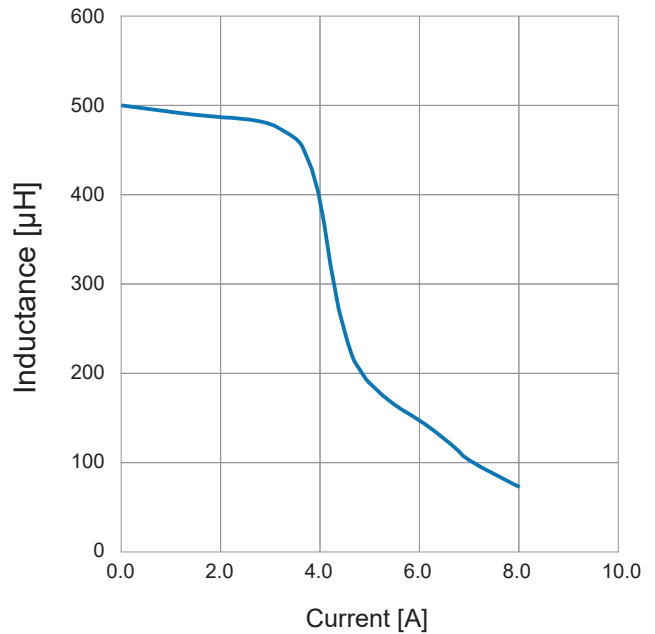
**SPFC-RM10-50**



**SPFC-RM10-75**



**SPFC-RM10-100**



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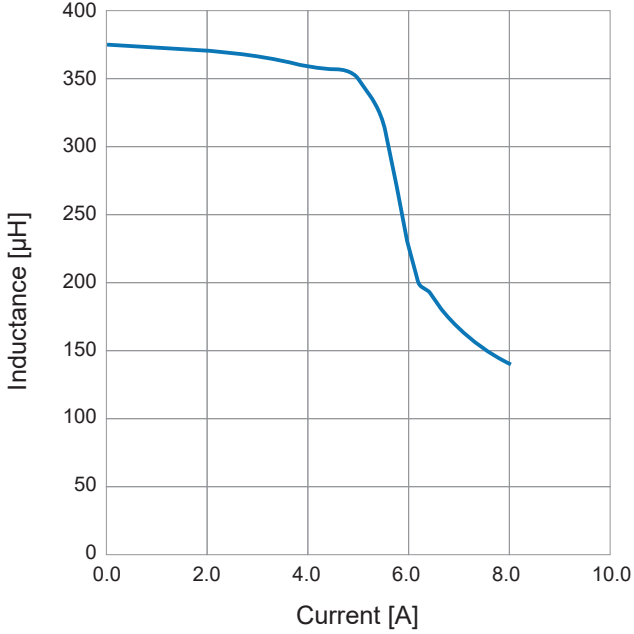
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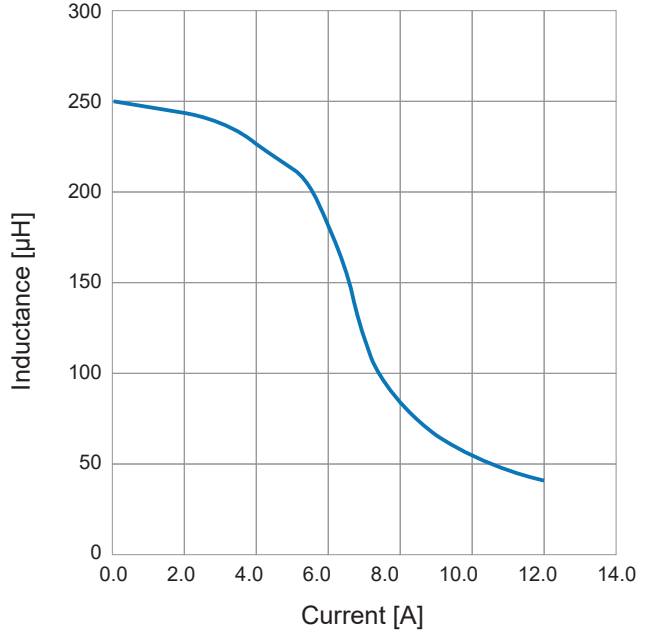


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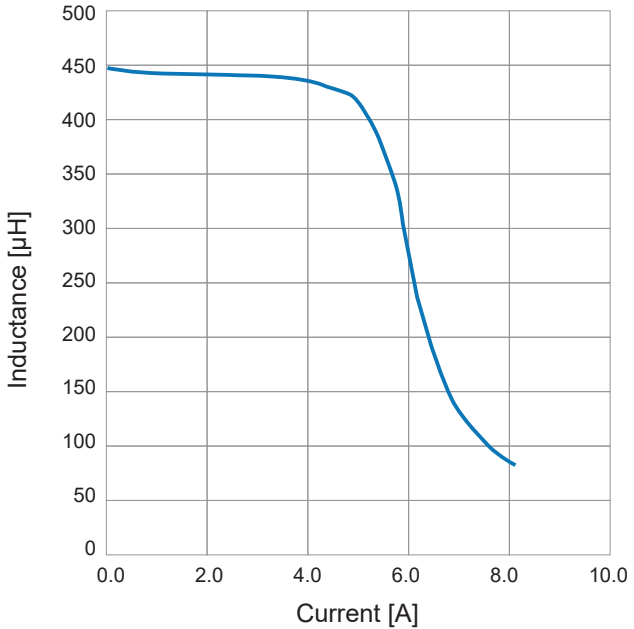
**SPFC-RM10-150**



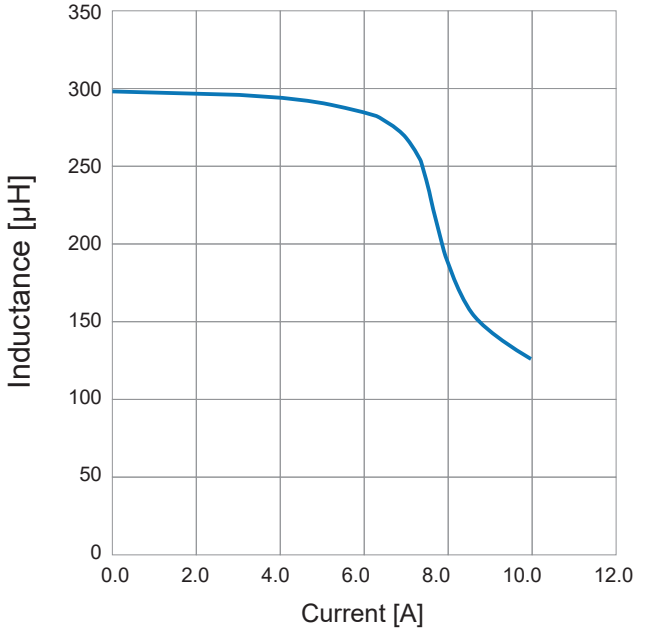
**SPFC-RM10-200**



**SPFC-RM12-100**



**SPFC-RM12-150**



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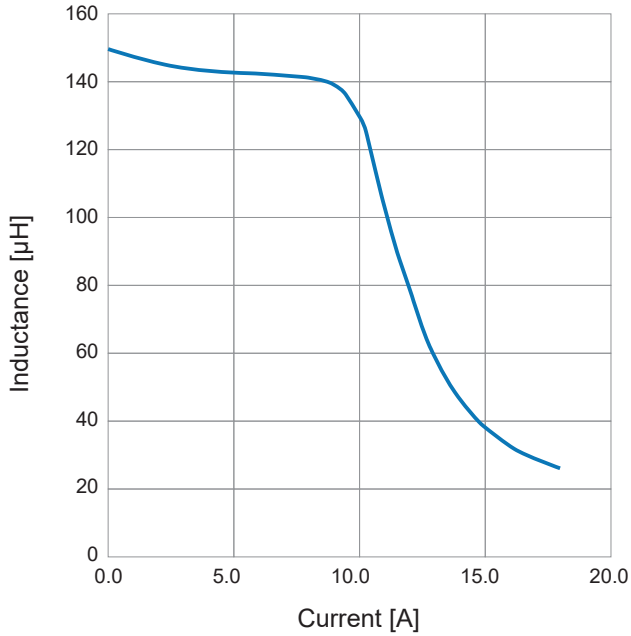


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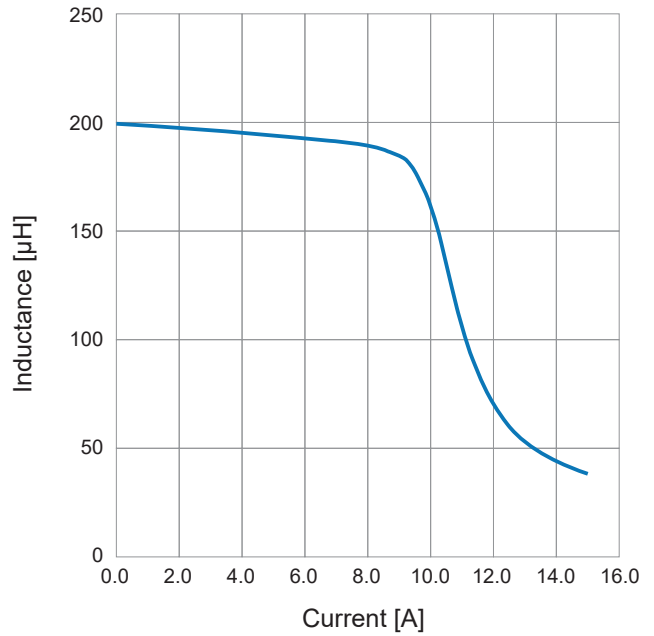
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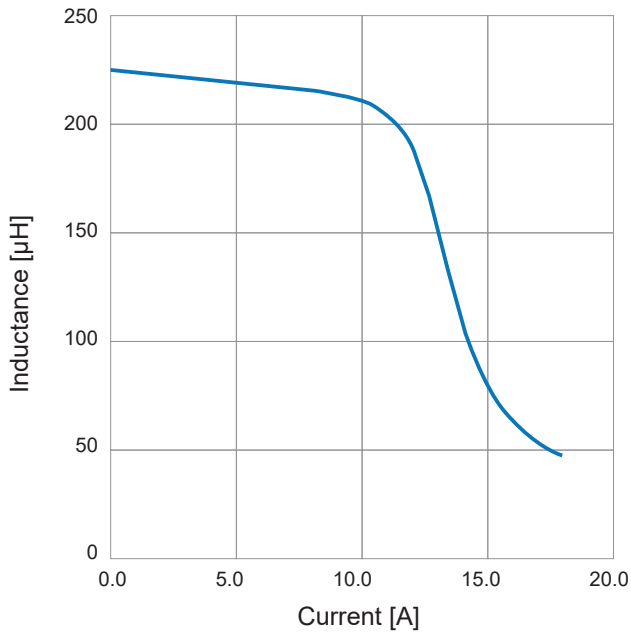
**SPFC-RM12-200**



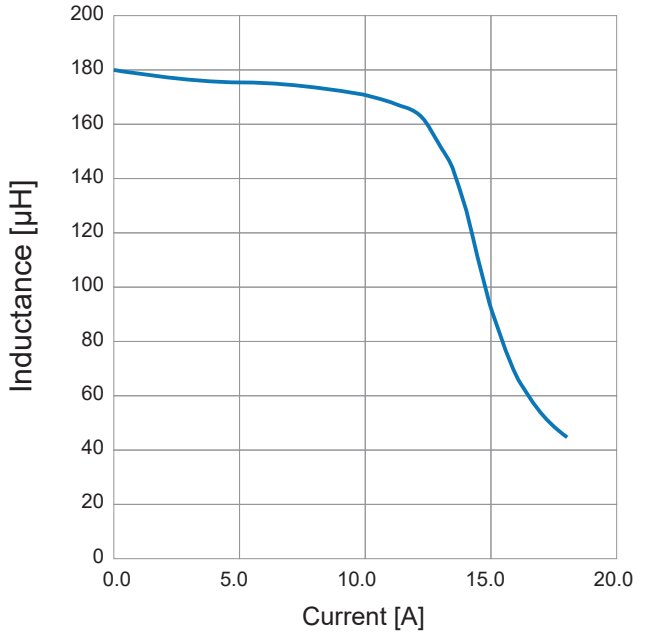
**SPFC-RM12-250**



**SPFC-RM14-200**



**SPFC-RM14-250**



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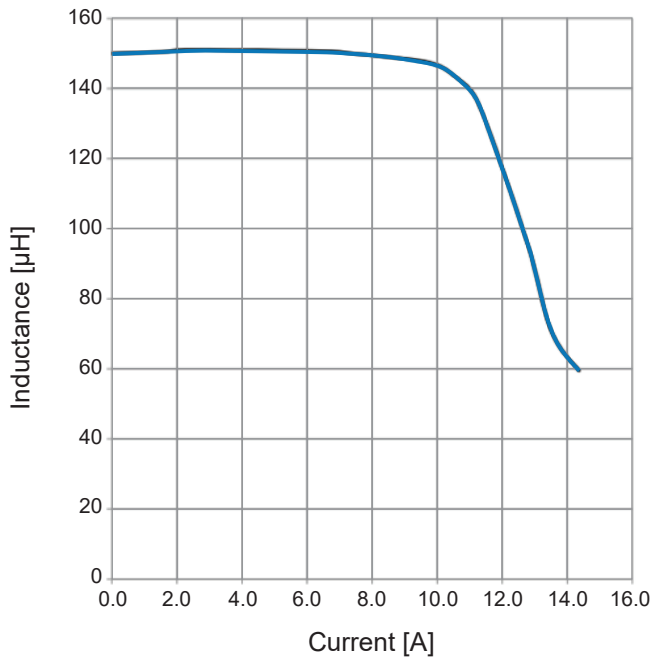


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## TYPICAL INDUCTANCE VS CURRENT CHARACTERISTICS

SPFC-EER28-125

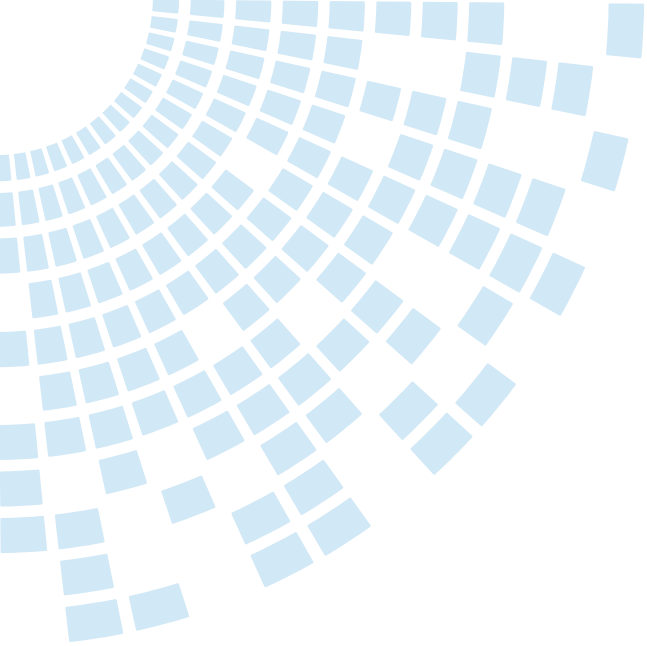


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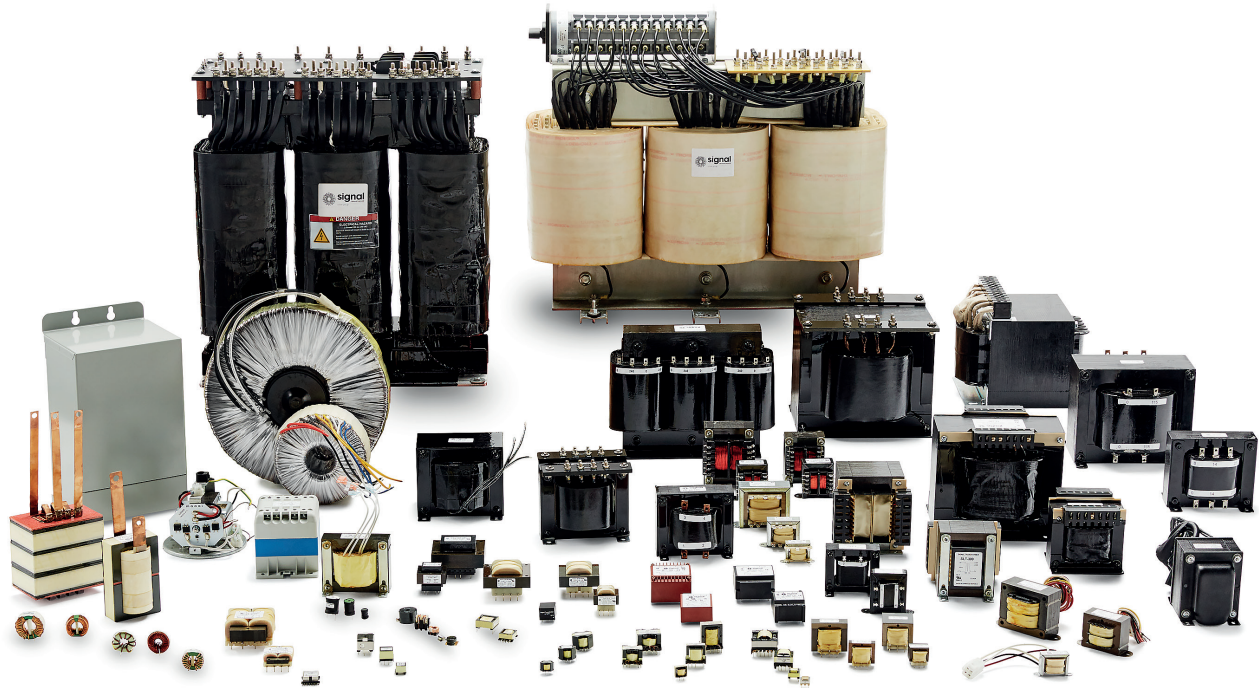
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## About Signal Transformer

Signal Transformer is known as the world's leader of wire wound magnetic solutions since 1959. With over 50 years of experience manufacturing transformers, chokes, inductors and custom or modified standard products. Signal offers not only the most comprehensive line of certified standard power conversion products, with our vast engineering, manufacturing and regulatory resources; Signal Transformer excels in the design and manufacturer of cost effective, specialized platforms.



**For more information,  
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