



## Bourns Releases DC to DC Transformers

### Model PDC Series

Riverside, California – **October 26, 2023** – Bourns Magnetics Product Line is introducing the new Model PDC Series DC to DC Transformers. Bourns’ ten PDC series models offer designers four different cores, and the [PDC-EP](#), [PDC-EF](#), [PDC-RM](#), and [PDC-FD](#) series transformers are rated from 3 to 60 watts.

These low profile, RoHS compliant\*, surface mount and through-hole components have an operating temperature range from -40 °C to +125 °C (with the exception of the PDC-EF13 model’s operating temperature range of -40 °C to +100 °C). The available output voltages are from 3.3 V to 53 V with output currents from 0.57 A to 5 A.

The new Model PDC Series Flyback DC-DC Transformers are suitable for use in a wide variety of applications such as high efficiency PoE interfaces and DC-DC controllers, PoE PD controllers and synchronous flyback converters.

### Model PDC-EP, PDC-EF & PDC-RM Series Specifications

Bourns Part Number	Primary Inductance		Leakage Inductance		DC Resistance @ 0.3 V		Turns Ratio @ 100 kHz, 0.1 V <sub>rms</sub>		Hi-Pot	
PDC023-EP13A05S <sup>1</sup>	(5-3) @ 10 kHz, 0.1 V <sub>rms</sub>	37 μH ±10 %	(5-3) w/ (1,2,6,7,9,10 shorted) @ 10 kHz, 0.1 V <sub>rms</sub>	0.6 μH max.	(6,7-9,10)	5 mΩ max.	(5-3:6-10)	4.5 ±1 %	(1-10) w/ tie (2-3,6,7) @ 5 mA, 1 sec.	3000 VAC ref.
					(5-3)	68 ±20 % mΩ	(5-3:2-1)	1.81 ±1 %		
					(2-1)	123 ±10 % mΩ	(5-4:4-3)	1 ±1 %	(1-5) @ 5 mA, 1 sec.	625 VAC ref.
PDC030-EP13A12S	(1-2) @ 100 kHz, 0.1 V <sub>rms</sub>	17.3 μH ±10 %	(1-2) w/ (4,5,6,7,9,10 shorted) @ 100 kHz, 0.1 V <sub>rms</sub>	0.4 μH max.	(6,7-9,10)	12.6 mΩ max.	(3,4-5,6:6, 7-9,10)	2 ±2 %	(1,4-6,7) @ 5 mA, 6 sec.	1500 VAC ref.
					(1-2)	42 mΩ max.	(1-2:5-4)	1.71 ±2 %		
					(5-4)	99 mΩ max.				

<sup>1</sup> Saturation current of PDC023-EP13A05S with 3 A condition is (5-3): 20 % rolloff ref.

**Model PDC-EP, PDC-EF & PDC-RM Series Specifications (Continued)**

Bourns Part Number	Primary Inductance		Leakage Inductance		DC Resistance @ 0.3 V		Turns Ratio @ 100 kHz, 0.1 V <sub>rms</sub>		Hi-Pot	
PDC003-EF13A04T	(2-1) @ 100 kHz, 0.1 V <sub>rms</sub>	710 μH ±10 %	(2-1) w/ (4-5, 7-8 shorted) @ 100 kHz, 0.1 V <sub>rms</sub>	30 μH max.	(2-1)	2.8 mΩ max.	(2-1:4-5)	4.09 ±2 %	(1,4-8) @ 2 mA, 2 sec.	4000 VAC ref.
					(4-5)	370 mΩ max.		(2-1:8-7)		
					(8-7)	60 mΩ max.				
PDC030-RM08A53T	(3-1) @ 10 kHz, 0.1 V <sub>rms</sub>	382 μH ±10 %	(3-1) w/ (10,11 short; Fly1, Fly2, Fly3, Fly4 short) @ 100 kHz, 0.1 V <sub>rms</sub>	15 μH max.	(3-1)	380 mΩ max.	(3-1:12-10)	6.1 ±2 %	(3,12-Fly2, Fly4) @ 2 mA, 2 sec.	3000 VAC ref.
					(12-10)	65 mΩ max.	(3-1:Fly2- Fly1)	1.54 ±2 %		
					(Fly2-Fly1)	300 mΩ max.	(3-1:Fly4- Fly3)	7.2 ±2 %		
					(Fly4-Fly3)	55 mΩ max.				

**Model PDC-FD Series Specifications**

Bourns Part Number	Primary Inductance		Leakage Inductance		DC Resistance @ 0.3 V		Turns Ratio @ 100 kHz, 0.1 V <sub>rms</sub> <sup>1</sup>		Hi-Pot	
PDC010-FD15A03S	(3-5) @ 100 kHz, 0.1 V <sub>rms</sub>	166.5 μH ±10 %	(3-5) Other terminals shorted @ 250 kHz, 0.1 V <sub>rms</sub>	2.5 μH max.	(1-2)	720 mΩ max.	(3-5:2-1)	2 ±2 %	(2,3-8,11,12) @ 2 mA, 1 sec.	1500 VAC ref.
					(3-5)	765 mΩ max.	(3-5:8-7)	3.7 ±2 %		
					(7-8) Secondary terminals shorted @ 250 kHz, 0.1 V <sub>rms</sub>	0.4 μH max.	(7-8)	380 mΩ max.		
PDC015-FD15A05S	(1,2-3,4) @ 250 kHz, 0.1 V <sub>rms</sub>	95 μH ±10 %	(1,2-3,4) Other terminals shorted @ 100 kHz, 0.1 V <sub>rms</sub>	1.5 μH max.	(1,2-3,4)	230 mΩ max.	(1-3:2-4)	1.0 ±2 %	(1,2,5-10,11,12) @ 2 mA, 1 sec.	1500 VAC ref.
					(4-6)	375 mΩ max.	(1-3:5-6)	2.25 ±2 %		
					(7,8,9-10,11,12)	10 mΩ max.	(1-3:10-7,11- 8,12-9)	5.4 ±2 %		
PDC020-FD15A12S	(3,4-5,6) @ 250 kHz, 0.1 V <sub>rms</sub>	200 μH ±10 %	(3,4-5,6) w/ (9,10- 11,12 shorted) @ 250 kHz, 0.1 V <sub>rms</sub>	1.8 μH max.	(3,4-5,6)	200 mΩ max.	(3,4-5,6:2-1)	4.0 ±2 %	(2,3,4-8,11,12) @ 5 mA, 1 sec.	1500 VAC ref.
					(9,10-11,12)	35 mΩ max.	(3,4-5,6:7-8)	6.66 ±2 %		
					(3,4-5,6) w/ (7-8 shorted) @ 250 kHz, 0.1 V <sub>rms</sub>	5.8 μH max.	(1-2)	250 mΩ max.		
(8-7)	160 mΩ max.									
PDC025-FD20A05S	1 - 3 (1,2 short 3,4 short) @ 250 kHz, 0.5 V <sub>rms</sub>	70 μH ±10 %	(1-3) w/ (1,2 short 3,4 short 5,6 short 7,8, 9,10,11,12 short) @ 250 kHz, 0.5 V <sub>rms</sub>	1.0 μH max.	(1-3) w/ (1,2 short 3,4 short)	70 mΩ max.	(1-3:5-6) w/ (1,2 short 3,4 short 7,8, 9 short 10,11,12 short)	2.444 ±5 %	(5-1) w/ (1,2 short 3,4 short 7,8, 9 short 10,11,12 short) @ 1mA, 2 sec.	1500 VAC ref.
					(12-7)					
					(11-8)	20 mΩ max.	(1-3:10-7) w/ (1,2 short 3,4 short 7,8,9 short 10,11,12 short)	5.5 ±5 %	5 - 7 (1,2 short 3,4 short 7,8,9 short 10,11,12 short) @ 1mA, 2 sec.	
					(10-9)					
(5-6)	310 mΩ max.									

<sup>1</sup> Turn ratio condition of PDC025-FD20A05S is 250 kHz, 0.5 V<sub>rms</sub>, other part numbers are 100 kHz, 0.1 V<sub>rms</sub>

**Model PDC-FD Series Specifications (Continued)**

Bourns Part Number	Primary Inductance		Leakage Inductance		DC Resistance @ 0.3 V		Turns Ratio @ 100 kHz, 0.1 V <sub>rms</sub> <sup>1</sup>		Hi-Pot	
PDC025-FD20A12S	(3,4-5,6) @ 250 kHz, 0.1 V <sub>rms</sub>	75 μH ±10 %	(3,4-5,6) w/ (9,10,11,12 shorted) @ 250 kHz, 0.1 V <sub>rms</sub>	0.76 μH max.	(3,4-5,6)	77 mΩ max.	(3,4-5,6:12,11-9,10)	4.0 ±2 %	(2,3,4-8,11,12) @ 5 mA, 2 sec.	1500 VAC ref.
					(9,10-11,12)	9.8 mΩ max.	(3,4-5,6:2-1)	4.0 ±2 %		
					(1-2)	96 mΩ max.	(3,4-5,6:8-7)	6.66 ±2 %		
					(8-7)	70 mΩ max.				
PDC060-FD20A12S	(1,2-3,4) @ 200 kHz, 1.0 V <sub>rms</sub>	20.5 μH ±5 %	(1,2-3,4) w/ (5,6,7,8,9,10,11,12 shorted) @ 100 kHz, 1.0 V <sub>rms</sub>	1.0 μH max.	(1,2-3,4)	45 mΩ max.	(1,2-3,4:10,11,12-7,8,9)	2.67 ±5 %	(1,2,5-10,11,12) @ 1 mA, 2 sec.	
					(10,11,12-7,8,9)	12 mΩ max.	(1,2-3,4:10,11,12-7,8,9)	2.28 ±5 %		
					(5-6)	250 mΩ max.				

Samples and production quantities are now available.

For additional details on Bourns® transformers, visit the Bourns website at [www.bourns.com/products/magnetic-products/transformers-power](http://www.bourns.com/products/magnetic-products/transformers-power).

If you have questions or need additional information, please feel free to contact [Bourns Customer Service / Inside Sales](#).

**Features**

- Power from 3 to 60 W
- Output voltage 3.3 to 53 V
- Hi-Pot up to 4000 VAC
- Surface mount and through-hole configurations
- RoHS compliant\*

**Applications**

- High efficiency PoE interfaces and DC-DC controllers
- PoE PD controllers
- Synchronous flyback converters

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.