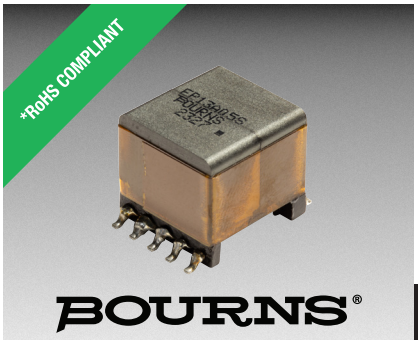


Features

- Power from 3 to 30 W
- Output voltage from 5 to 53 V
- Hi-Pot up to 4000 VAC
- Surface and through-hole mount
- RoHS compliant*

Applications

- High efficiency PoE interface and DC/DC controllers
- PoE PD controllers
- Synchronous flyback converters

BOURNS®

PDC-EP, PDC-EF & PDC-RM Series - DC to DC Transformers

General Specifications

Operating Temperature
PDC023-EP13A05S, PDC030-EP13A12S, PDC030-RM08A53T .... -40 °C to +125 °C
PDC003-EF13A04T ..... -40 °C to +100 °C
Storage Temperature .....-40 °C to 85 °C
Moisture Sensitivity Level 1

Additional Information

Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Electrical Specifications @ 25 °C

Bourns Part Number	Primary Inductance		Leakage Inductance		DC Resistance @ 0.3 V		Turns Ratio @ 100 kHz, 0.1 V_{rms}		Hi-Pot	
PDC023-EP13A05S[1]	(5-3) @ 10 kHz, 0.1 V_{rms}	37 µH ±10 %	(5-3) w/ (1,2,6,7,9,10 shorted) @ 10 kHz, 0.1 V_{rms}	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_{rms}	17.3 µH ±10 %	(1-2) w/ (4,5,6,7,9,10 shorted) @ 100 kHz, 0.1 V_{rms}	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.				
PDC003-EF13A04T	(2-1) @ 100 kHz, 0.1 V_{rms}	710 µH ±10 %	(2-1) w/ (4-5, 7-8 shorted) @ 100 kHz, 0.1 V_{rms}	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)	9.0 ±2 %		
					(8-7)	60 mΩ max.				
PDC030-RM08A53T	(3-1) @ 10 kHz, 0.1 V_{rms}	382 µH ±10 %	(3-1) w/ (10,11 short; Fly1, Fly2, Fly3, Fly4 short) @ 100 kHz, 0.1 V_{rms}	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.				

[1] Saturation current of PDC023-EP13A05S with 3 A condition is (5-3): 20 % rolloff ref.

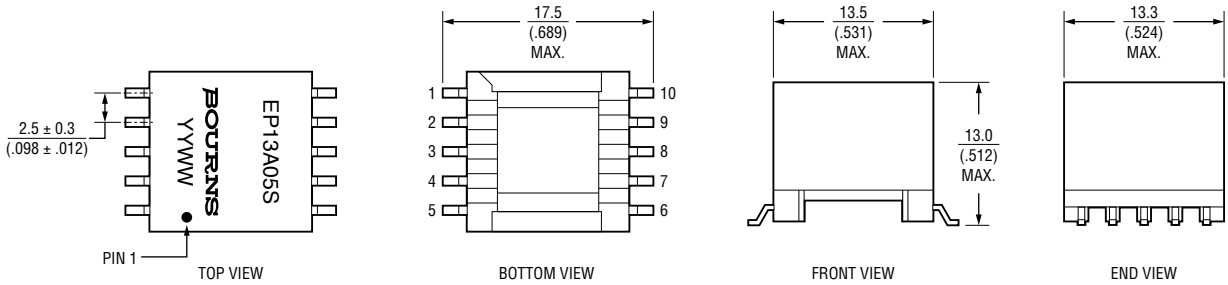
WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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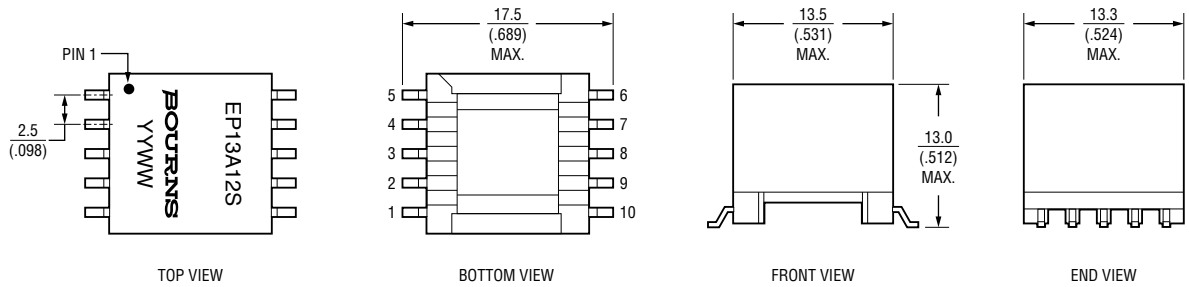
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Product Dimensions

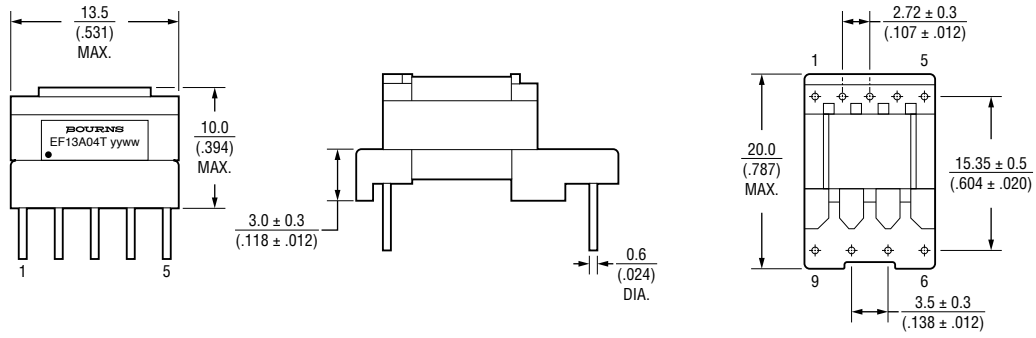
PDC023-EP13A05S



PDC030-EP13A12S



PDC003-EF13A04T



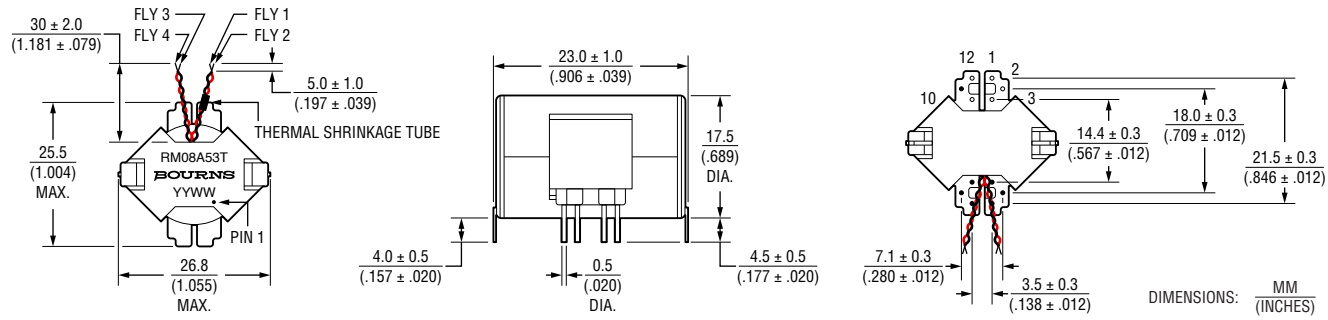
DIMENSIONS: MM / (INCHES)

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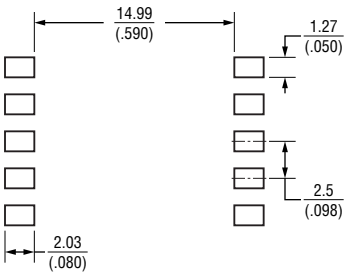
Product Dimensions (continued)

PDC030-RM08A53T

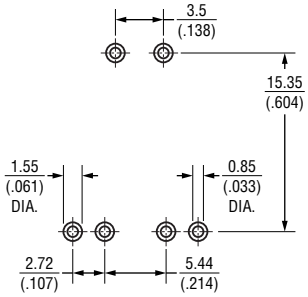


Recommended Layout

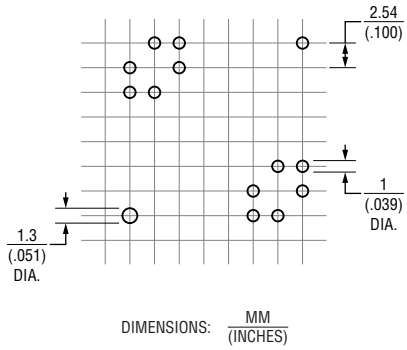
PDC023-EP13A05S
PDC030-EP13A12S



PDC003-EF13A04T



PDC030-RM08A53T

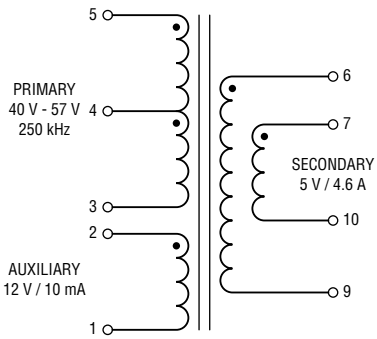


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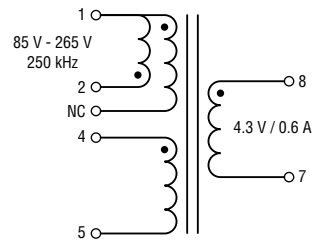
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Electrical Schematic

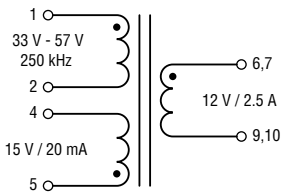
PDC023-EP13A05S



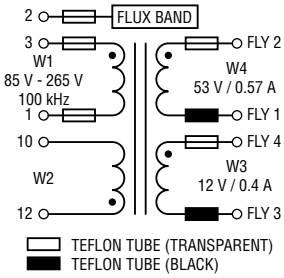
PDC003-EF13A04T



PDC030-EP13A12S



PDC030-RM08A53T



How To Order

PDC 010 - FD15 A 03 S

Model
PDC = DC to DC Transformer

Power Rating
010 = 10 W

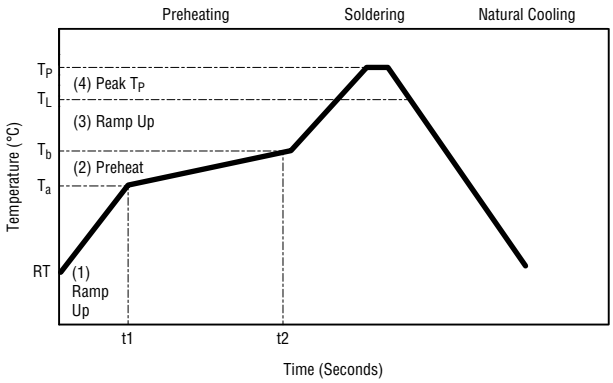
Core and Size
FD15 = EFD15
EP13 = EP13
EF13 = EF12.6
RM08 = RM8

Sub-series
A = Sub-series A

Output Voltage
03 = 3 V

PCB type
S = SMD T = THT

Solder Profile



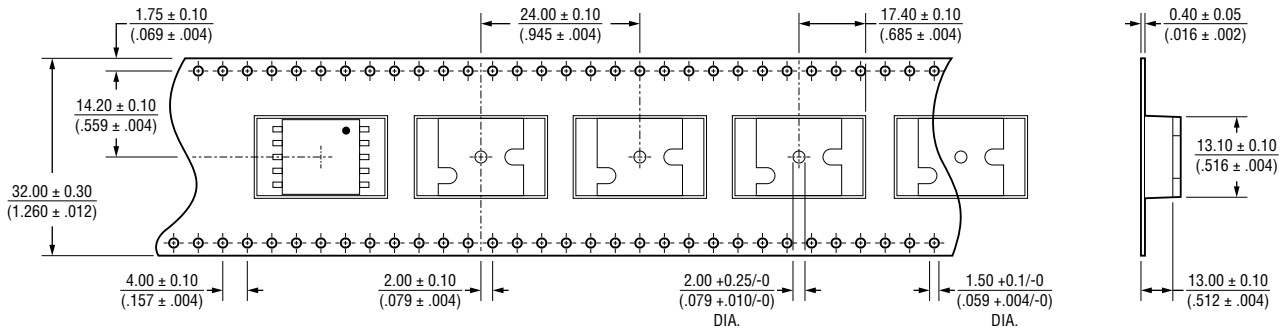
IR Reflow Profile		Pb-Free Assembly
Step #	**Profile Feature**	**Condition / Duration**
Step 1	Ramp Up Rate	3 °C / second max.
Step 2	Preheat 150 °C to 200 °C (T_a to T_b)	t1-t2: 60-120 seconds
Step 3	Ramp Up Rate (T_L to T_P)	3 °C / second max.
	Temperature Maintained Above 217 °C	60-150 seconds
Step 4	Peak Temperature (T_p)	260 +0/-5 °C
	Time Within 5 °C of Actual Peak Temperature	30 seconds max.
Ramp Down Rate (T_p to T_L)		6 °C/second max.

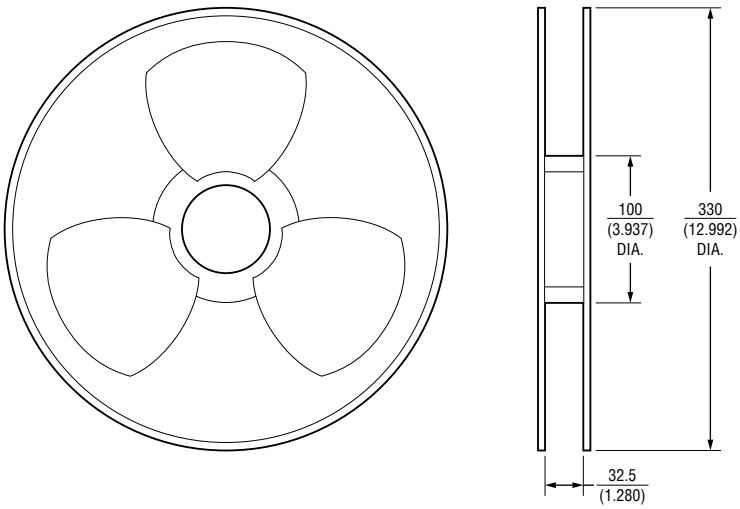
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Packaging Specifications

PDC023-EP13A05S, PDC030-EP13A12S: 200 pcs./reel, 3 reels/carton, 600 pcs.





DIMENSIONS: MM / (INCHES)

PDC003-EF13A04T: 47 pcs./tray, 4 trays/inner box, 6 boxes/carton, 1128 pcs.
PDC030-RM08A53T: 24 pcs./tray, 2 trays/inner box, 6 inner boxes/carton, 288 pcs.

BOURNS®

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