



Features

- Excellent transmission characteristics
- Compact SMT housing
- PFBR45-ST is designed for functional insulation with a working voltage of 400 VDC
- PFBR45-SP is designed for reinforced insulation with a working voltage of 400 VDC
- Designed for ST Micro 8500 PLC System-on-Chip (SoC)
- Complies with EN 62368 and EN 61885
- RoHS compliant*

PFBR45 Series PLC Transformer

General Specifications

Operating Temperature (including self-temperature rise)..... -40 °C to +125 °C
 Storage Temperature (with packaging)..... -40 °C to +85 °C
 Moisture Sensitivity Level..... 1

Additional Information

Click these links for more information:



Electrical Specifications @ 25 °C

Bourns Part Number	Pri. Inductance @ 100 kHz / 1V		Leakage Inductance @ 100 kHz / 1V (All Sec. Pins Shorted)		Turns ratio		DCR Max.		Interwinding Capacitance @ 50 kHz		Hi-Pot 1 Sec / 1 mA	
	(1-4)	1 mH, +35 %, -30 %	(1-4)	1.5 μH Typ. (2 μH Max.)	(1-4):(7-5)	2:1 ±3 %	(1-4)	215 mΩ	(1,4-5,6,7,8)	30 pF Max.	(1-8) w/ (6,7) shorted	2000 Vac
PFBR45-ST13150S	(1-4)	1 mH, +35 %, -30 %	(1-4)	1.5 μH Typ. (2 μH Max.)	(1-4):(8-6)	2:1 ±3 %	(8-6)	105 mΩ				
					(1-4):(8-6)	2:1 ±3 %	(7-5)	115 mΩ				
PFBR45-SP13150S ¹	(9-6)	1.15 mH, ±30 %	(9-6)	1.3 μH Max.	(9-6):(1-4)	2:1 ±3 %	(9-6)	500 mΩ	(9,6-1,2,4,5)	30 pF Max.	(9-1) w/ (2,4) shorted	4500 Vac
					(9-6):(2-5)	2:1 ±3 %	(1-5) w/ (2,4) shorted	350 mΩ			(1-5)	625 Vac

¹ Volt-time: 11 (V-μSec)

How To Order

PFB R45 - ST13 150 S

Model _____
 PFB = PLC Transformer

Power Rating _____
 R45 = 0.45 W

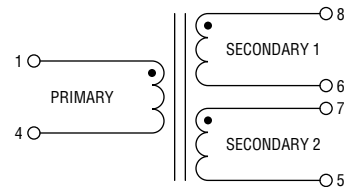
Core and Size _____
 ST13 = Standard EP13
 SP13 = Special EP13

Vout _____
 150 = 15 V

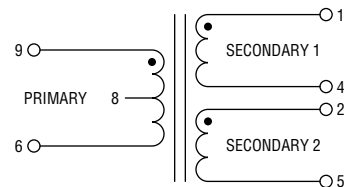
PCB type _____
 S = SMD

Electrical Schematic

PFBR45-ST13150S



PFBR45-SP13150S



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

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
 Specifications are subject to change without notice.
 Users should verify actual device performance in their specific applications.
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Applications

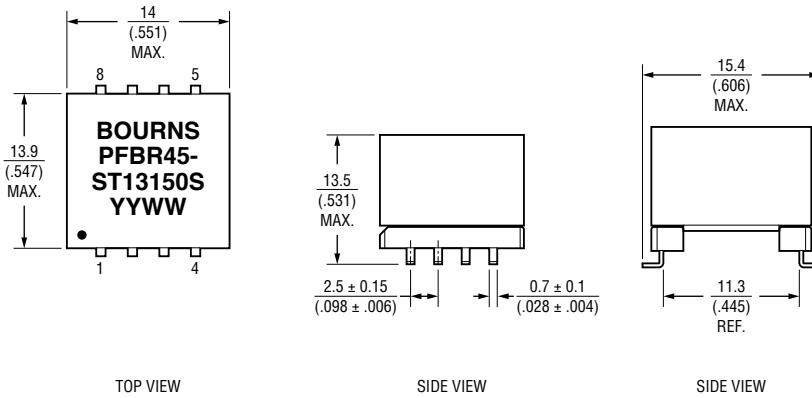
- Smart grids
- Automatic meter reading – energy, gas and water
- PC home network systems
- Street lighting systems
- Home automation systems
- CCTV cameras

PFBR45 Series PLC Transformer

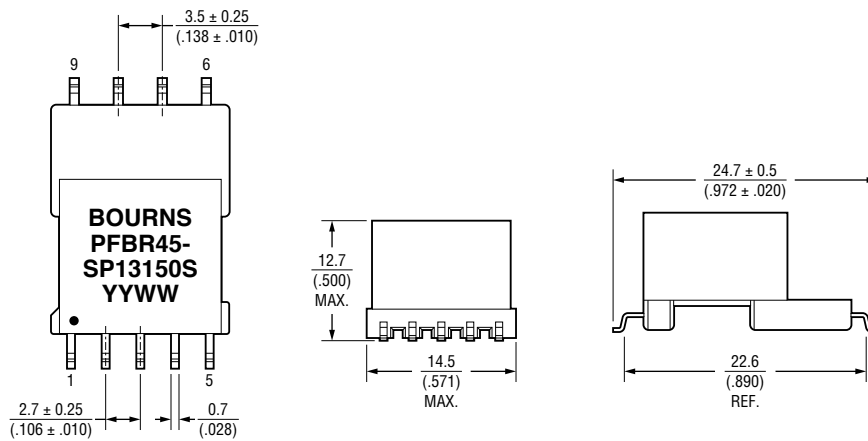
BOURNS®

Product Dimensions

PFBR45-ST13150S



PFBR45-SP13150S



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

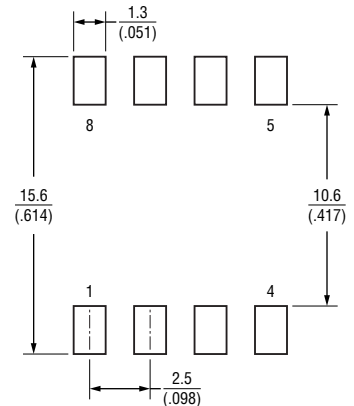
Unless otherwise specified, all tolerances are ± 0.25 / (.010)

Materials

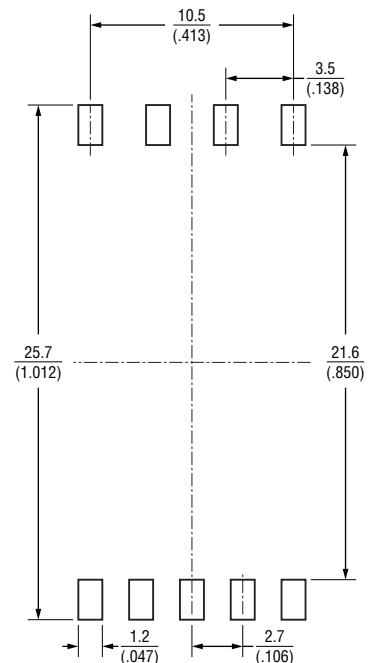
Bobbin Phenolic
 Wire Copper/Insulated
 Tape Polyester film
 Core Ferrite
 Glue Epoxy
 Terminal Phosphor Bronze Tin
 Solder Sn

Recommended Layout

PFBR45-ST13150S



PFBR45-SP13150S



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

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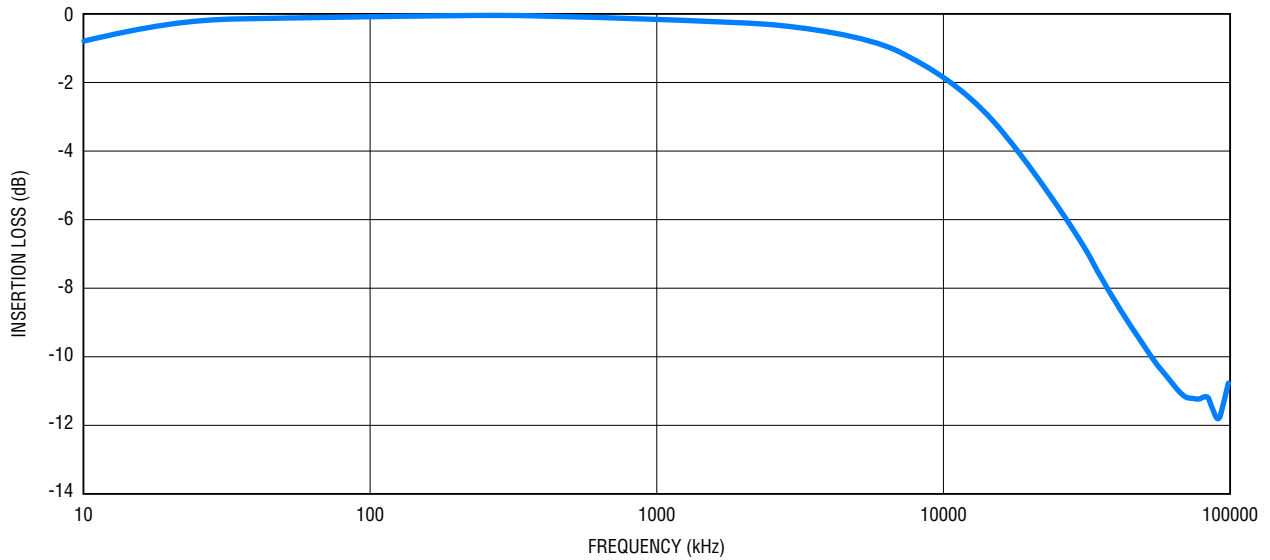
PFBR45 Series PLC Transformer

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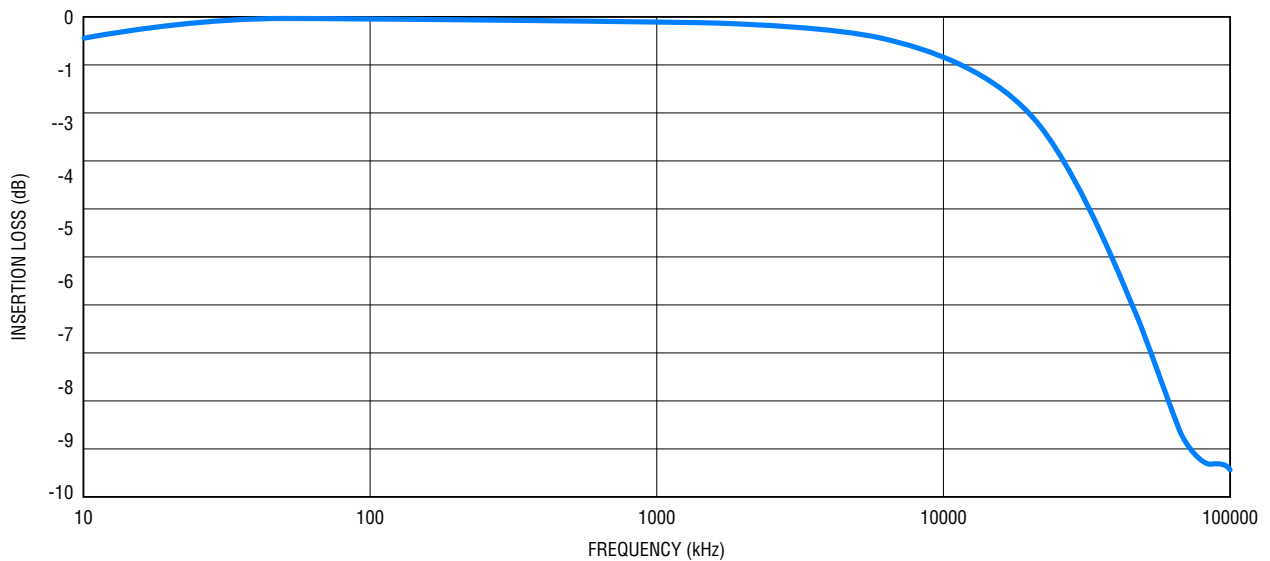
Characteristic Curves

Typical insertion loss based on a 50 ohm system

PFBR45-ST13150S



PFBR45-SP13150S



Specifications are subject to change without notice.

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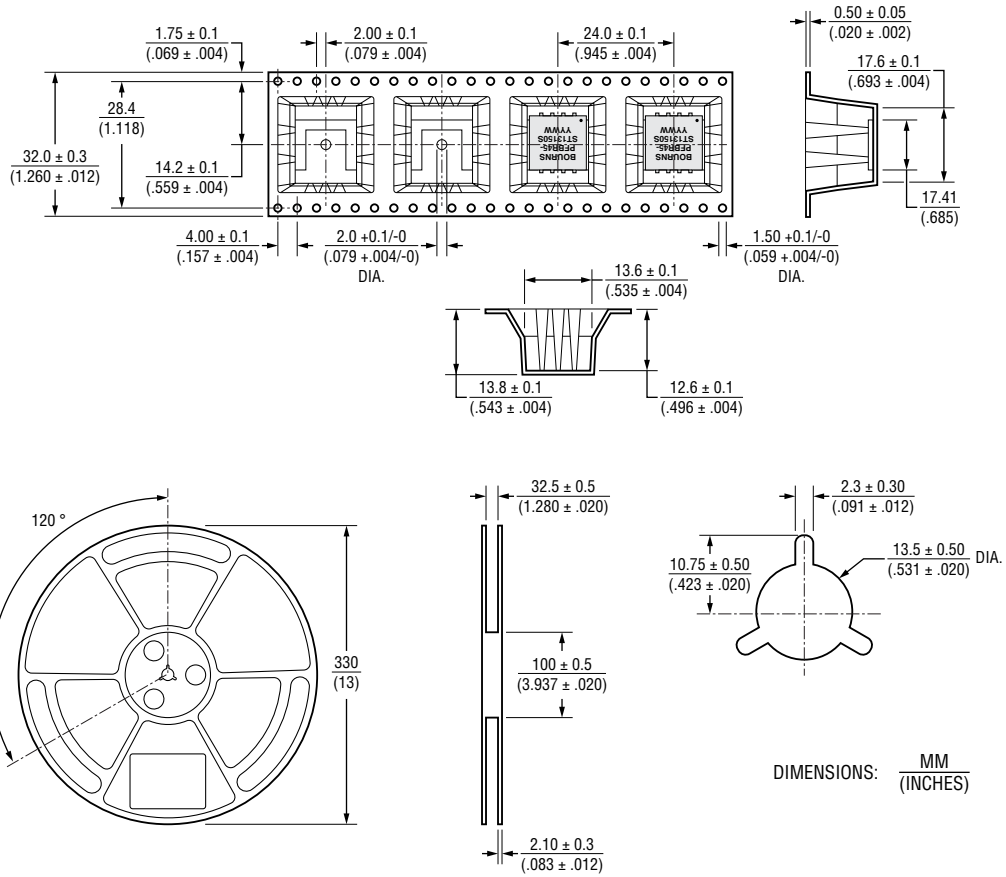
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PFBR45 Series PLC Transformer

BOURNS®

Packaging Specifications

PFBR45-ST13150S: 180 pcs/reel, 3 reels/carton



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Specifications are subject to change without notice.

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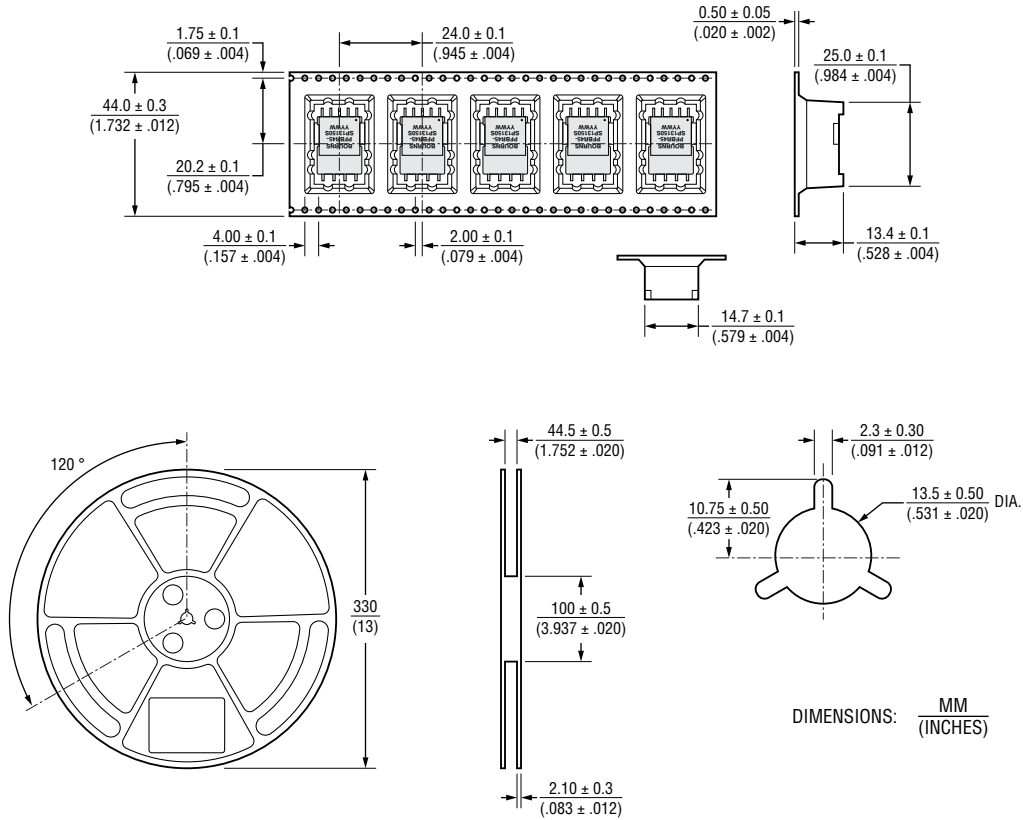
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PFBR45 Series PLC Transformer

BOURNS®

Packaging Specifications

PFBR45-SP13150S: 200 pcs/reel, 2 reels/carton



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