

HIGH FREQUENCY PLANAR TRANSFORMERS

Spyglass Series (up to 140W)



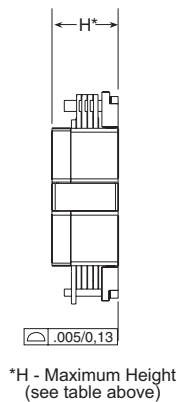
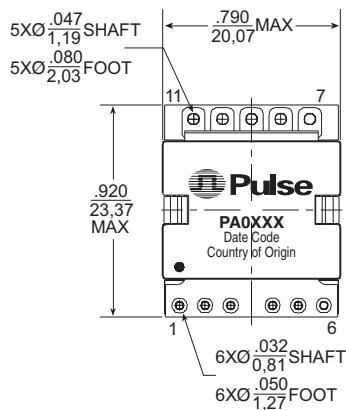
-  **Power Rating:** up to 140W
-  **Height:** 8.6mm Max
-  **Footprint:** 23.4mm x 20.1mm Max
-  **Frequency Range:** 200kHz to 700kHz

Electrical Specifications @ 25°C — Operating Temperature -40°C to 125°C

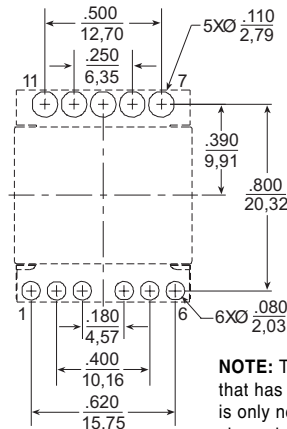
Part Number	Power Rating ^{1,4}	Turns Ratio (Pri:Sec)	Primary Secondary Isolation ²	Primary Inductance (μH MIN)	Leakage Inductance* (μH MAX)	DCR (mΩ MAX)			Maximum Height (mm)
						Primary	Primary Aux.	Secondary	
PA0168	100W 48v to 3.3v/30A	12:2	1500 Vdc Basic	320	0.75	45	N/A	1.30	8.6
PA0369	100W 48v to 3.3v/30A	6:1	1500 Vdc Basic	65	0.25	15	N/A	0.40	8.6
PA0423	140W 48v to 12v/11.7A	8:4 (w/4T Pri. Aux.)	1500 Vdc Basic	140	0.30	35	500	7.00	8.6
PA0463	50W 48v to 3.3v/15A	10:2 (w/9T Pri. Aux.)	1500 Vdc Basic	200	1.00	40	4885	2.50	8.6
PA0491	100W 48v to 5.0v/20A	8:2	1500 Vdc Basic	140	0.25	35	N/A	1.30	8.6
PA0634	100W 48v to 5v/20A	8:2 (w/5T Pri. Aux.)	1500 Vdc Basic	140	0.38	35	460	1.30	8.6

*Leakage inductance is measured at primary terminals with all other windings shorted.

Mechanicals



SUGGESTED PAD LAYOUT

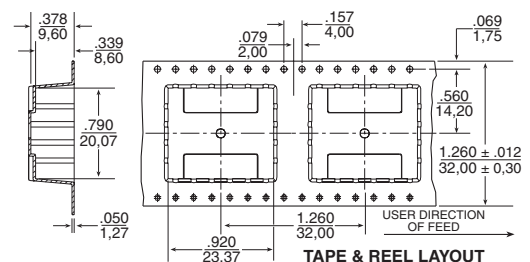
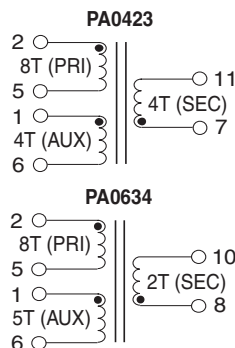
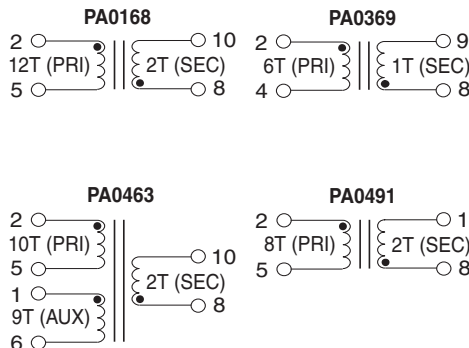


Weight11.0 grams
Tape & Reel180/reel
Tray40/tray

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

NOTE: The above is a universal footprint for a component that has all 11 pins populated. For a given part number it is only necessary to provide pads for the terminations shown in the schematic below.

Schematics



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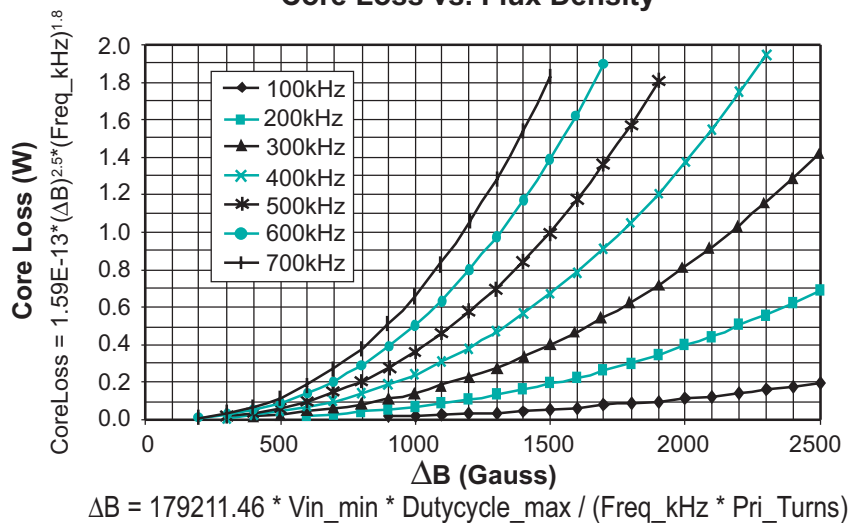
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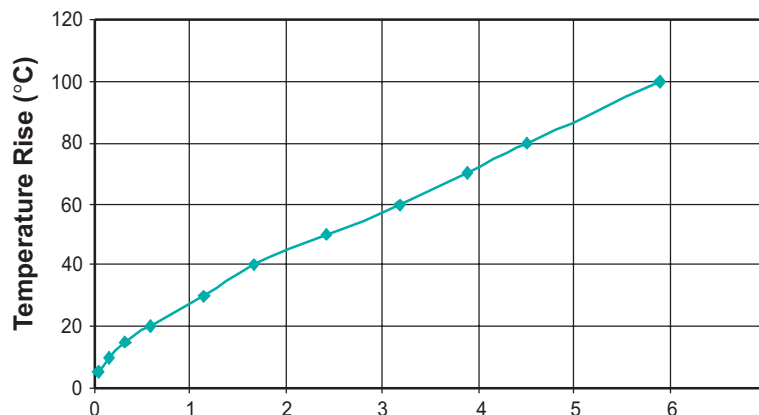
Notes from Tables

1. The above transformers have been tested and approved by Pulse's IC partners and are cited in the appropriate datasheet or evaluation board documentation at these companies. To determine which IC and IC companies are matched with the above transformers, please refer to the IC cross reference on the Pulse web page. See the Spyglass transformer matrix on the next page for other winding configurations that can be made available.
2. The listed transformers are designed to meet basic insulation (1.4mm creepage and clearance with 1500Vdc isolation). Lower cost transformers with operational insulation (1500Vdc isolation with no creepage and clearance spacings) are available. Please contact Pulse Power Applications Engineering for details.
3. To determine if the transformer is suitable for your application, it is necessary to ensure that the temperature rise of the component (ambient plus temperature rise) does not exceed its operating temperature. To determine the approximate temperature rise of the transformer, refer to the graphs below.
4. Add suffix "T" to part number for Tape & Reel package (i.e. PA0168T)

Core Loss vs. Flux Density



Temperature Rise vs. Power (W) Dissipation



Total Power (W) Dissipation

$$\text{Total Power Dissipation (W)} = .001 * (DCR_{primary} * I_{rms_primary}^2 + DCR_{secondary} * I_{rms_secondary}^2) + \text{Core Loss (W)}$$