

Switchmode Transformer Ferrite E Core Packages



- Cost effective designs
- Use of standardized components speeds delivery
- VDE, IEC, UL, CSA compatible
- Maximized winding area
- Frequency range: 10-250 kHz and higher
- Power range: 1-1,000 Watts
- UL approved Class 130°C insulation system available (UL File E83628)

Coilcraft offers a complete standard line of switching power transformer packages. Their reliable, cost effective magnetics design has been achieved using standard ferrite E cores and Coilcraft's own bobbin designs.

These transformer assemblies can be used for up to 1000 Watts output power over a wide frequency range. They're applicable in all types of switching power supply circuits including forward converter, flyback, and bridge types.

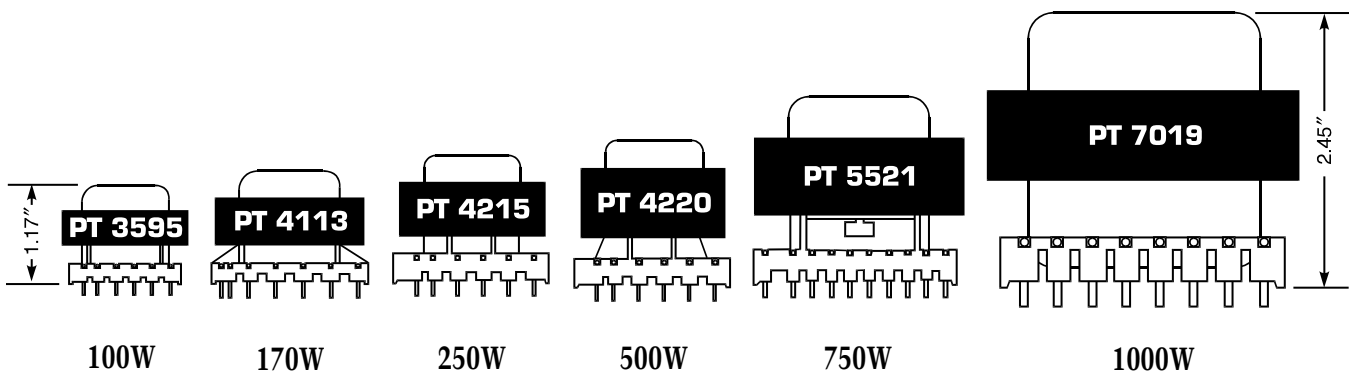
VDE, IEC, UL, and CSA safety specifications were a major consideration in the development of these transformer materials. The bobbins and cores have been developed to achieve straightforward designs that meet the full intent of all major international safety codes.

Also available in powdered iron

Powdered iron E cores are now available for all Coilcraft standard E core packages except the PT 7019. This has extended the versatility of these packages, making them an ideal choice for power inductors as well as switching power transformers.

Powdered iron cores are available in industry-wide standard materials ranging from 25 to 75 μ . The high saturation levels of powdered iron combine with the economy of the E core shape to provide inductors that have larger energy storage capacity and are straightforward to design.

For additional specifications and design information contact your Coilcraft representative.



Coilcraft

Specifications subject to change without notice. Document 128-1 Revised 2/21/97

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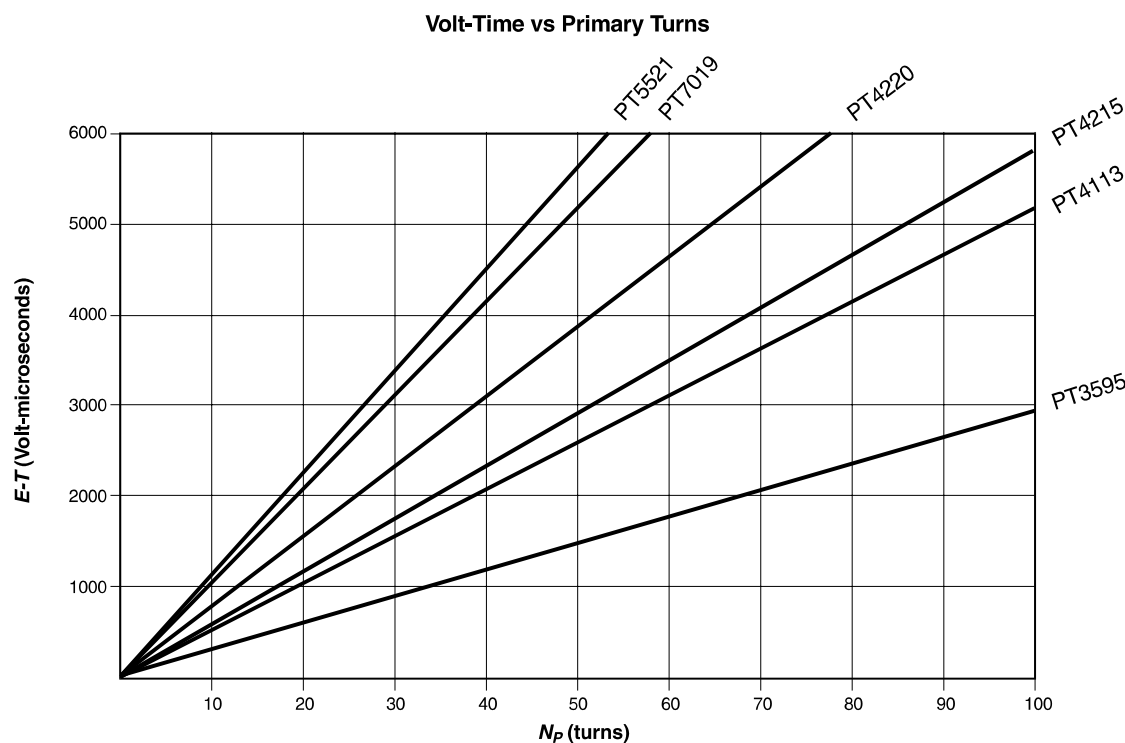
The following tables and charts should be used in conjunction with Coilcraft's application note "Structured Design of Switching Power Magnetics", Document 129.

	PT3595	PT4113	PT4215	PT4220	PT5521	PT7019
Power capacity @ 100 kHz*	100 W	170 W	250 W	500 W	750 W	1,000 W
a_e (eff. cross sectional area)	.89 cm ²	1.61 cm ²	1.84 cm ²	2.40 cm ²	3.46 cm ²	3.25 cm ²
l_e (mean mag. path length)	7.30 cm	8.27 cm	10.32 cm	10.32 cm	13.08 cm	16.97 cm
a_w (bobbin winding area)	.95 cm ²	1.24 cm ²	1.95 cm ²	1.95 cm ²	3.23 cm ²	6.39 cm ²
Required board space	1.47" x 1.30"	1.75" x 1.45"	1.83" x 2.10"	1.83" x 2.10"	2.05" x 2.35"	2.50" x 2.95"
Typical max. height	1.17"	1.30"	1.72"	1.82"	2.05"	2.45"
Average length per turn	2.9"	3.4"	3.7"	3.9"	4.4"	4.8"

NOTE: All bobbins are rated UL 94V-0, 130° C minimum.

*Typically power capacity increases linearly with frequency, and may vary depending on the specific converter configuration used.

Figure 1



NOTE: Chart based on $N_P = \frac{(E - T) \times 10^8}{B \times A_E}$

(For further reference, see Coilcraft's application note "Structured Design of Switching Power Magnetics," Document 129.)



Figure 2

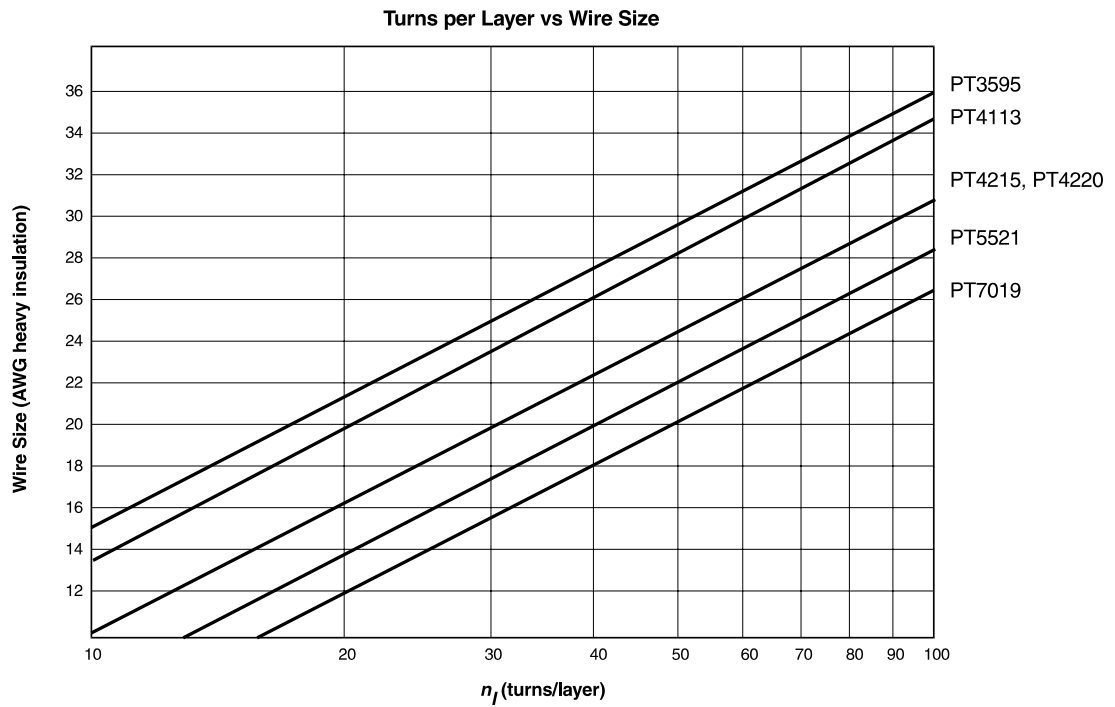
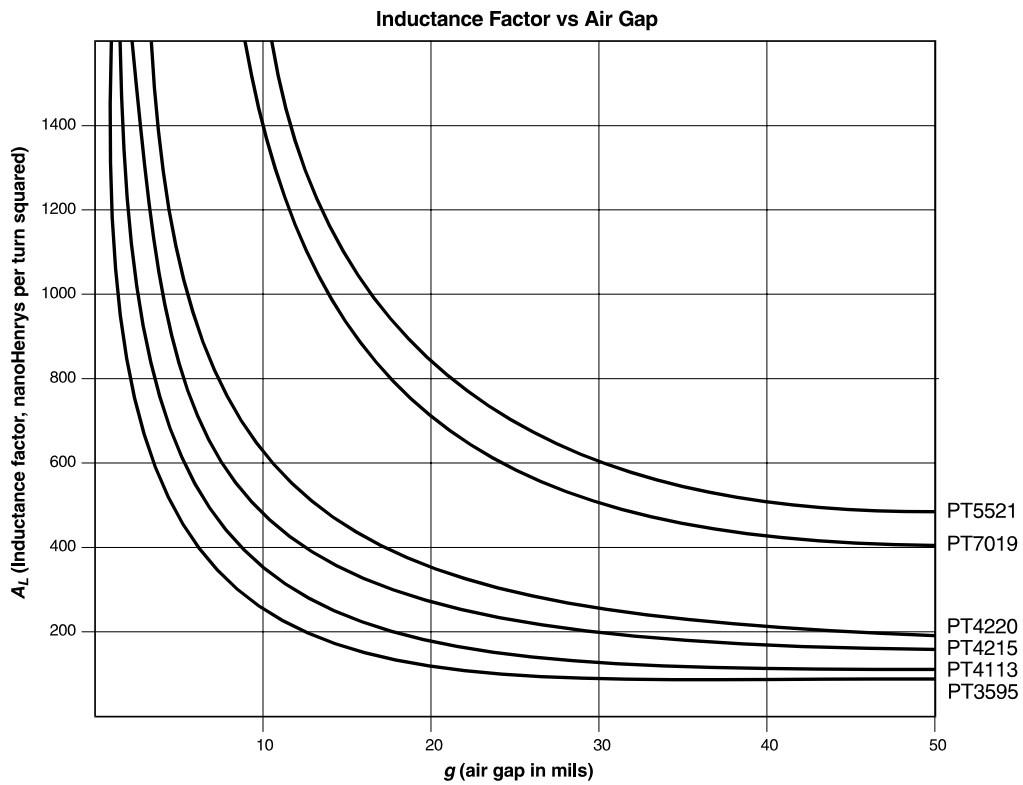
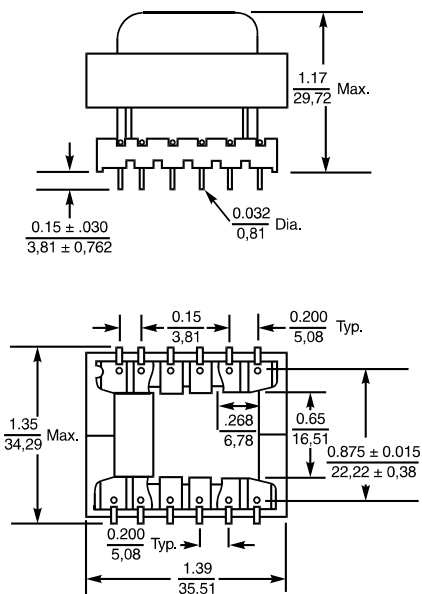


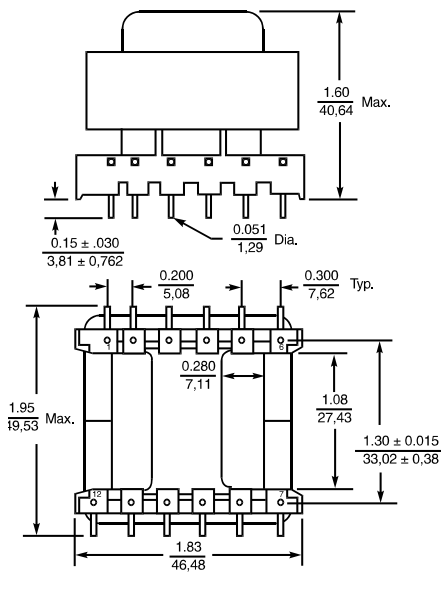
Figure 3



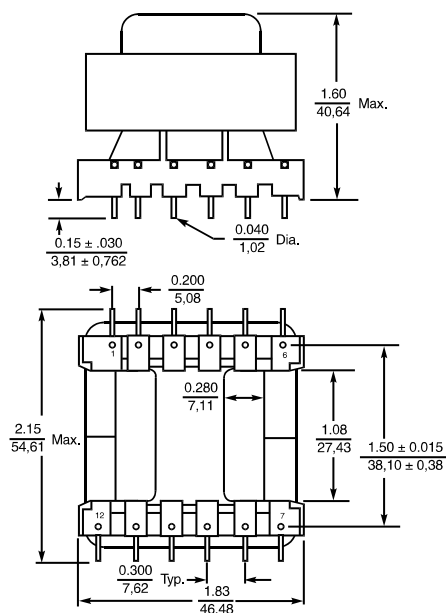
PT 3595



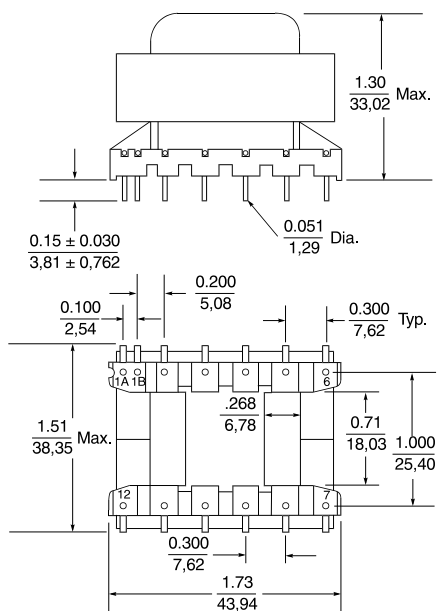
PT 4215-1



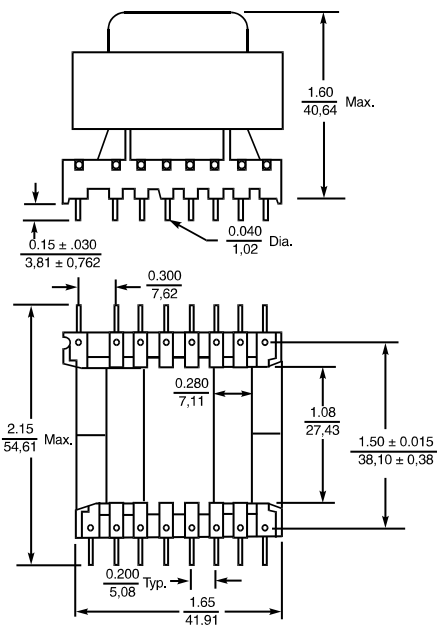
PT 4215-2



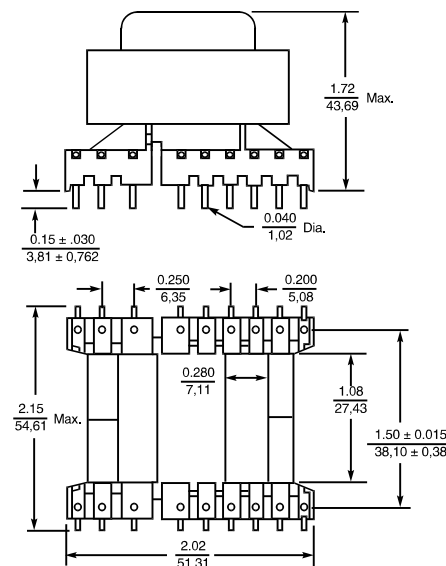
PT 4113



PT 4215-3



PT 4215-4



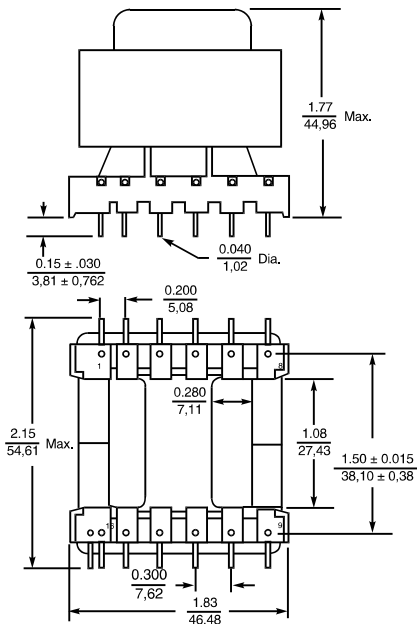
UNSPECIFIED TOLERANCE

.XXX ± .005" ± 0,13 mm

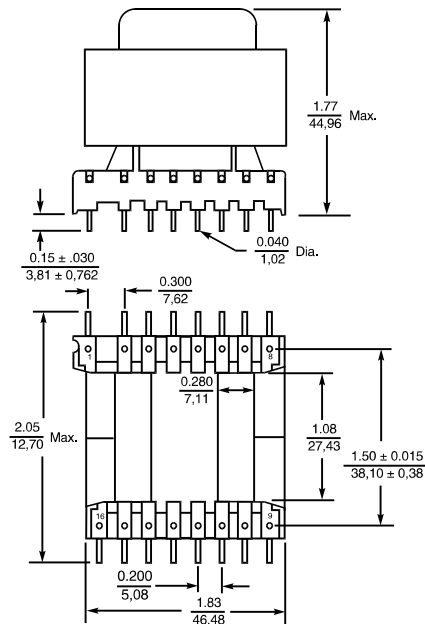
.XX ± .01" ± 0,25 mm



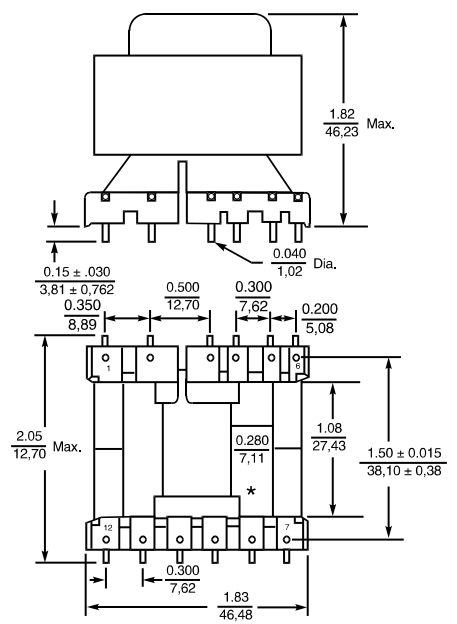
PT 4220-1



PT 4220-2

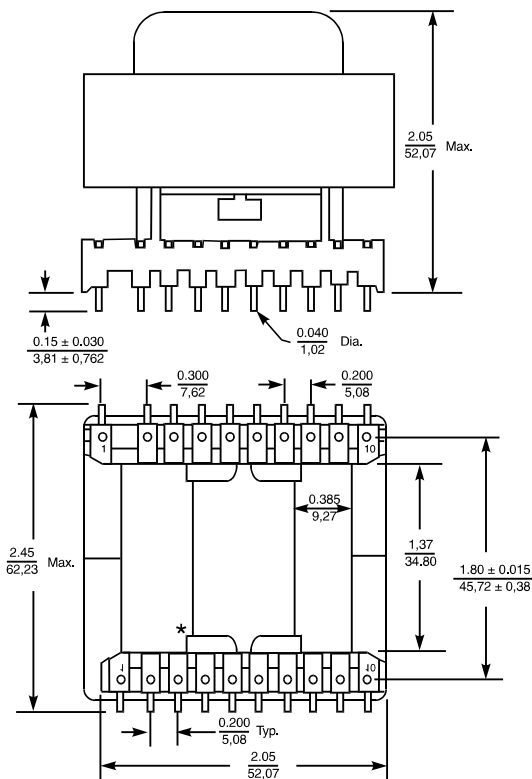


PT 4220-3



* A 4 mm VDE-IEC spacer

PT 5521



* Also available without 3 mm VDE-IEC spacer

PT 7019

