Switching Power Transformer Magnetic details

Core Type	Core Material	Bobbin	Isolation Voltage	Quantity
EDR3909	CF139/N87	10Pin(Vertical)	2000V AC	1

Winding Details

Winding	No. of Turns	Wire Gauge	Start Pin	End Pin	Inductance
W1	35	30 AWG	3	1	1.2mH ± 10%
W2	11	26 AWG	8	6	~100µH
W3	6	34 AWG	4	5	~20uH

Electrical requirements

- > Leakage Inductance (Pin3-1) 36µH (max) with all other windings/pins shorted
- Insulation Voltage Between 3 1 pins shorted and to pins 7 & 8 shorted together -2000V AC for 1min

Transformer Construction -

Winding Procedure:

- \rightarrow Start with half Primary (W1) starting at Pin 3 and ending in Pin 2 in two layers
- \rightarrow Basic Insulation
- \rightarrow Secondary (W2) starting at Pin 8 and ending in Pin 6 in two layers
- \rightarrow Basic Insulation
- \rightarrow Bias (W3) in one layer, start at Pin 4, end at Pin5
- → Reinforced Insulation
- \rightarrow Wind half primary (W1) starting at pin 2 and ending at pin 1 in two layers
- \rightarrow Reinforced Insulation
- \rightarrow Gap core suitably to get required primary inductance
- \rightarrow Bond the core to avoid audible noise
- \rightarrow Vacuum impregnate with varnish
- \rightarrow Cut off Pin 2 without damaging the termination on it.

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