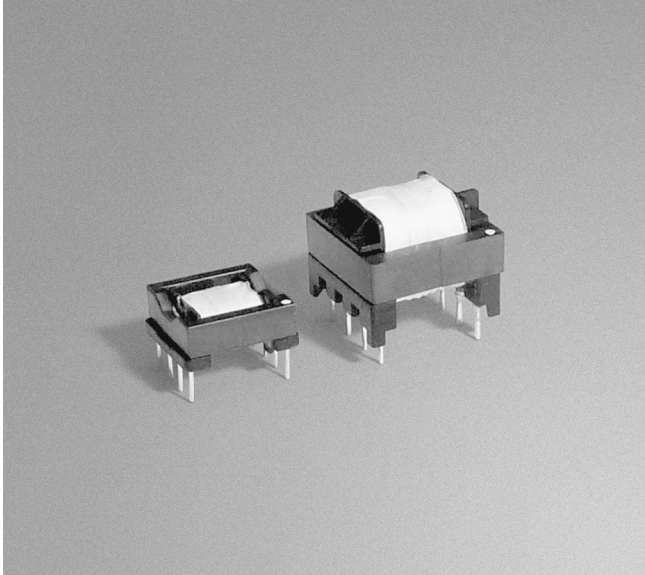




Magnetics for 300 W Power Supply with PFC



- Specified by Texas Instruments in Reference Design SLUU341 for 300 Watt Isolated PFC Power Supply
- HA3950-AL, Flyback transformer (T201) for 5 W bias supply operates with an input voltage range of 100 – 450 V.
- HA3858-AL, Gate drive transformer (T301)

Core material Ferrite

Terminations RoHS compliant tin-silver over tin over copper. Other terminations available at additional cost.

Weight HA3950-AL: 13.5 g; HA3858-AL: 4.1 g

Ambient temperature –40°C to +85°C

Storage temperature Component: –40°C to +85°C.
Tray packaging: –40°C to +80°C

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

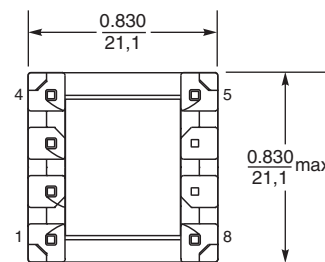
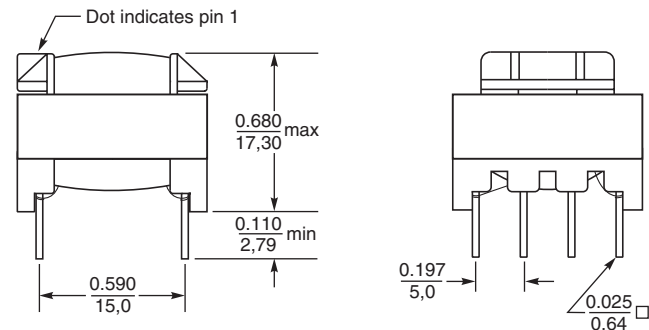
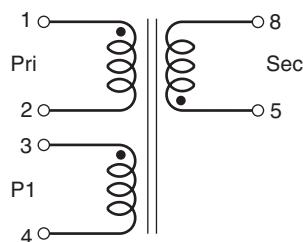
Packaging 100 per tray

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

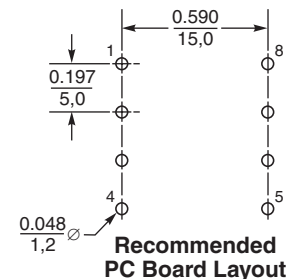
HA3950-AL Flyback Transformer

Part number	Inductance at 0 A ¹ ±10% (mH)	Inductance at I _{pk} ² (mH)	DCR max (Ohms)	Leakage inductance max (μH) ³	Turns ratio Pri:Sec:P1	I _{pk} ² (A)	Output ⁴
HA3950-AL	2.3	1.61	0.860 (pri) 0.109 (sec) 0.080 (P1)	16.5	1 : 0.16 : 0.11	0.3	15 V, 0.33 A

- Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/ HP 4263B impedance analyzer or equivalent.
- Peak primary current drawn at minimum input voltage.
- Leakage inductance is for the primary and is measured with the secondary shorted.
- Output of the P1 winding is 10 V, 20 mA.
- Isolation: 3000 Vrms, one minute primary to secondary; 500 Vrms, one minute windings to core
- Electrical specifications at 25°C.



Dimensions are in $\frac{\text{inches}}{\text{mm}}$



Recommended PC Board Layout



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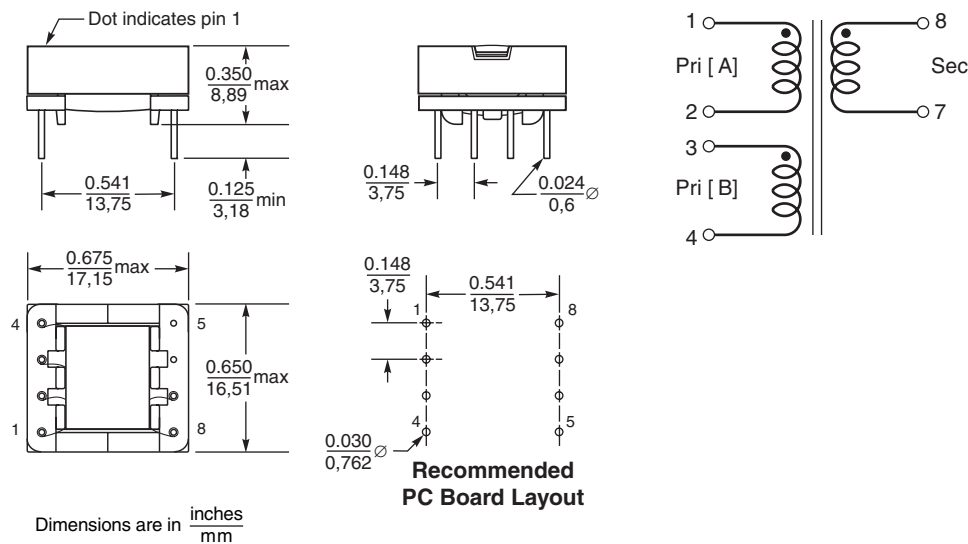


Magnetics for 300 W PFC Power Supply

HA3858-AL Gate Drive Transformer

Part number	Turns ratio	Primary inductance ¹ ±25% (μH)	Leakage inductance ² max (μH)	DCR max (Ohms)	Volt-time product (V-μsec)	SRF typ ³ (MHz)	Capacitance max (pF)
HA3858-AL	1 : 1 : 1	460	1.87 (1 – 2) 2.06 (3 – 4)	0.380 (Pri [A]) 0.472 ((Pri [B]) 0.424 (sec)	150	1.15	8.48 (pri) 28.66 (sec)

1. Inductance is for each winding, measured at 200 kHz, 0.4 Vrms, 0 Adc.
2. Leakage inductance is for each primary, measured at 200 kHz, 0.4 Vrms with secondary pins shorted.
3. SRF measured with coils connected in series using an Agilent/HP 4192 or equivalent.
4. Operating temperature range –40°C to +85°C.
5. Isolation: 3000 Vrms, one minute primary to secondary; 500 Vrms, one minute windings to core
6. Electrical specifications at 25°C.



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