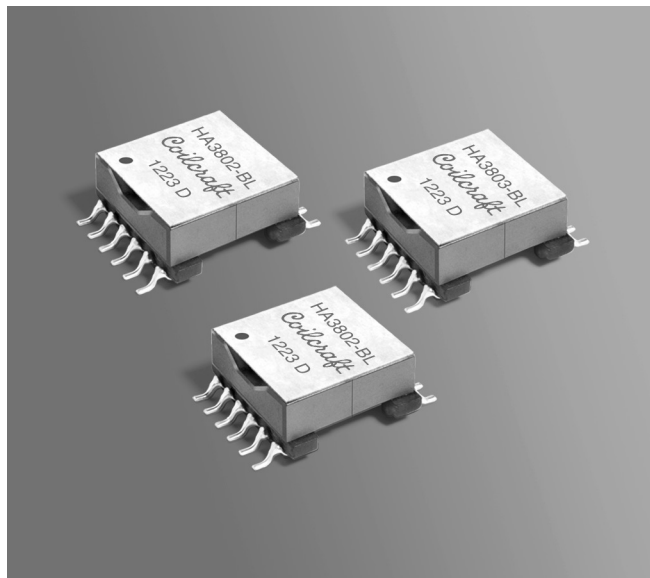




# Flyback Transformers

For TI TPS23753 PoE Interface and Converter Controller



These three parts are improved versions of the HA3801-AL, HA3802-AL and HA3803-AL, which are not recommended for new designs.

- Windings optimized for hiccup overload protection
- 1500 Vrms, one minute isolation primary and bias to secondary windings

**Core material** Ferrite

**Terminations** RoHS tin-silver (96.5/3.5) over tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 5.0 – 5.3 g

**Ambient temperature** –40°C to +125°C

**Storage temperature** Component: –40°C to +125°C.

Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**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** 200 per 13" reel Plastic tape: 44 mm wide, 0.4 mm thick, 28 mm pocket spacing, 9.6 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	L at 0A <sup>2</sup> ±10% (μH)	LatIpk <sup>3</sup> min (μH)	DCR max (Ohms)				Leakage L <sup>5</sup> max (μH)		Turns ratio			Ipk <sup>3</sup> (A)	Output <sup>7</sup>	Drive output
			pri	sec <sup>4</sup>	drive	bias	pri	drive	pri:sec <sup>6</sup>	pri:drive	pri:bias			
HA3801-BL	166.5	150.0	0.735	0.0270	0.510	1.05	2.50	0.41	1:0.154	1:0.27	1:0.50	1.2	3.3 V, 3 A	5.6 V, 10 mA
HA3802-BL	150.0	135.0	0.520	0.0275	0.560	0.88	1.90	0.40	1:0.25	1:0.31	1:0.44	1.2	5 V, 2 A	7.5 V, 10 mA
HA3803-BL	166.5	150.0	0.760	0.103	0.475	1.10	1.80	0.25	1:0.50	1:0.25	1:0.50	1.2	12 V, 0.83 A	6.0 V, 10 mA

1. When ordering, please specify **packaging** code:

**HA3803-BLD**

**Packaging:** D = 13" machine ready reel. EIA-481 embossed plastic tape (200 per full reel).

**B** = Less than full reel. In tape, but not machine ready.  
To have a leader and trailer added (\$25 charge), use code letter D instead.

2. Inductance is for the primary, measured at 100 kHz, 0.1 Vrms.

3. Peak primary current drawn at minimum input voltage.

4. DCR for secondary is with windings connected in parallel.

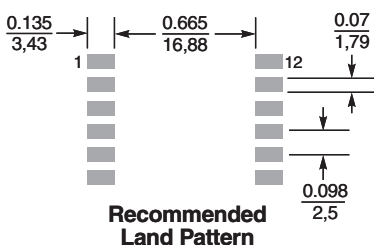
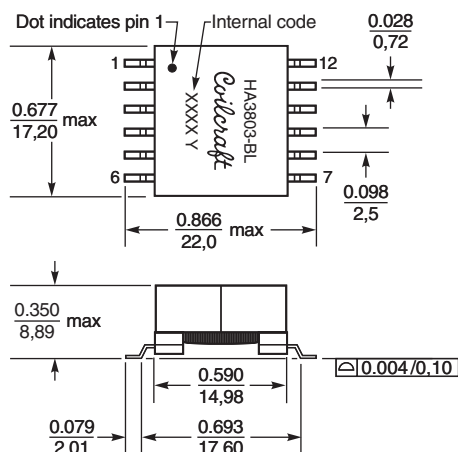
5. Leakage inductance for the primary is with the secondary and drive windings shorted; leakage inductance for the drive winding is with the secondary windings shorted.

6. Turns ratio is with both secondary windings connected in parallel.

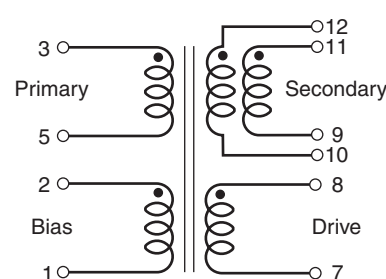
7. Output of the secondary is with the windings connected in parallel.  
10 W output from 36 – 57 V PoE input or 24 V adapter; 6 W output from 12 V adapter. Bias winding output is 12 V, 20 mA.

8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



Dimensions are in inches  
mm



The secondary windings are to be connected in parallel on the PC board.



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