

**Output Filtering for the PF600-1**

In this application note, you will find information on output filtering of the PF600-1.

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The circuit shown in Figure 1 below will reduce both common-mode and differential noise at the output.

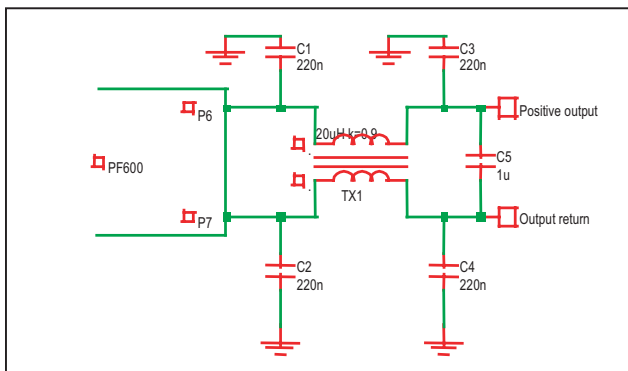


Figure 1: PF600-1 Output Filter Circuit

Note that the inductor, which has the same number of turns on both windings, is connected to present a high impedance to common-mode. Its leakage inductance provides differential-mode filtering. Although the output ripple is mostly at 600kHz, ensure that any trace of 300kHz is not magnified by being close to a leakage-inductance resonance of the filter. All resonant frequencies should be below about 100kHz. C5 will help to achieve this.

TX1 can be wound on a ring core or ferrite E or U core. The two windings should be single-layer, to minimize their self-capacitance, and separated as far as possible. On a ring core, they can be wound on opposite sides of the ring. Neither this inductance nor the other component values are prescriptive: they are suggested initial values that may be altered to suit specific applications.

The four capacitors C1 to C4 must be returned very directly to chassis potential, to which the baseplate is secured. Lead lengths of more than a very few millimeters will increase the high-frequency noise that escapes the filter. The layout is critical to obtaining good performance from the filter.