

E-Shield™ for Low EMI Transformer Structure

■ Description

- ▶ Two extra windings are added to the transformer structure
 - Core Cancellation Winding added between the core and the input winding; one end connected to the input winding and other end is floating
 - Balancing Winding added next to the output winding

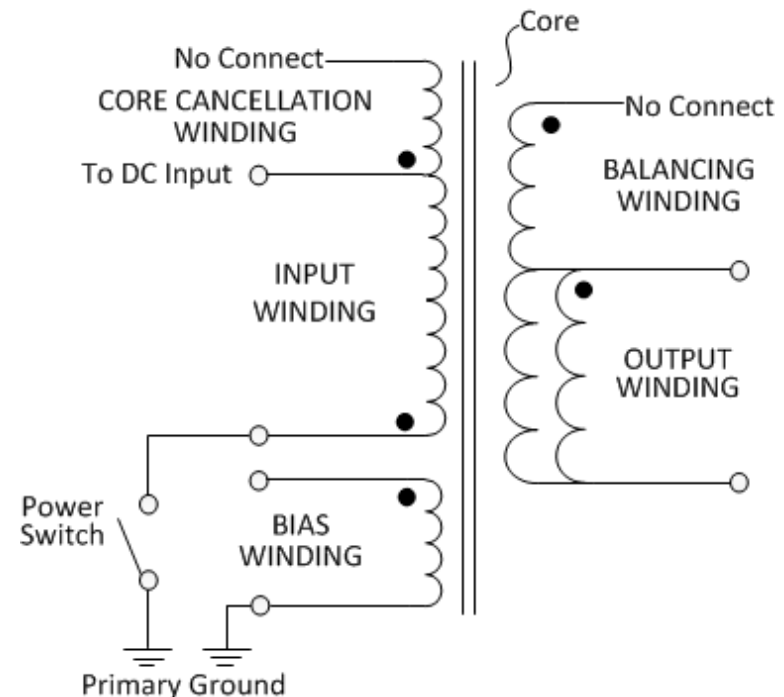


Figure 1. Electrical coupling of transformer windings with core cancellation winding and balancing winding

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■ Benefits

- ▶ Saves on space, size and cost of the printed circuit board (PCB) compared to conventional alternative solutions with external electromagnetic interference (EMI) filters by:
 - Eliminating external EMI filter components (common mode choke or X-capacitor)
 - Eliminating Y-capacitor and possibly two resistors

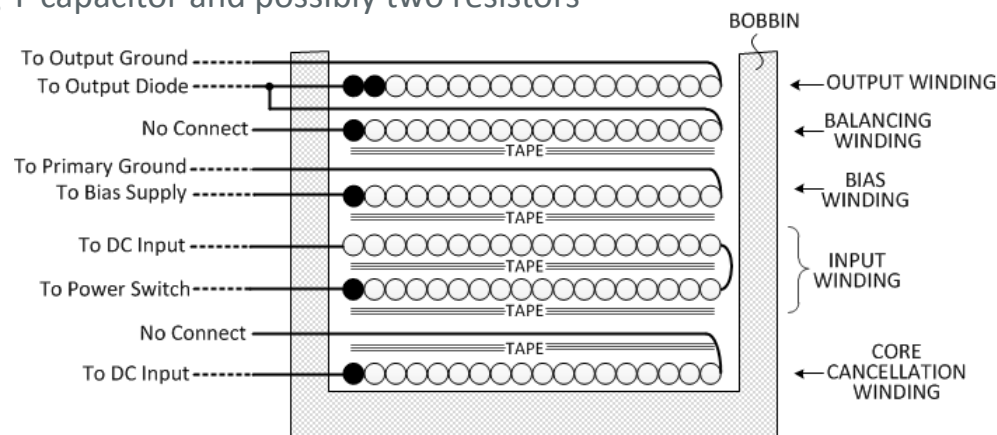


Figure 2. Transformer winding structure with multi core cancellation winding and balancing winding