E-Shield[™] for Low EMI Transformer Structure

Description

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

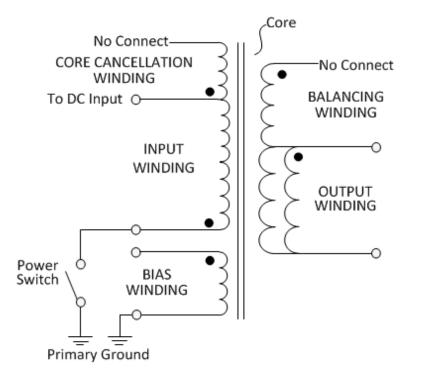


Figure 1. Electrical coupling of transformer windings with core cancellation winding and balancing winding

US 6,549,431; 6,762,946; 6,894,909; 6,992,903; 7,164,338; 7,276,999; 7,564,334 Rev: 1; DEC 2016; PI.0041

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World Headquarters 5245 Hellyer Avenue, San Jose, CA 95138, USA, Main: +1-408-414-9200 Customer Service Phone: +1-408-414-9665, Fax: +1-408-414-9765, Email: <u>info@power.com</u> On the Web <u>www.power.com</u>

E-Shield[™] for Low EMI Transformer Structure

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

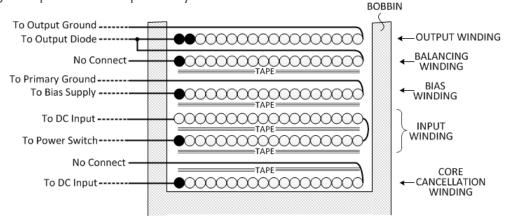


Figure 2. Transformer winding structure with multi core cancellation winding and balancing winding

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