



## New Magnetics Solutions Support E-Bike Charging Reference Designs

*Eight new Premier Magnetics devices added to Power Integrations Design Example Reports BOM*

**Lake Forest, California, May 8, 2018** – Premier Magnetics has been chosen as a preferred source for eight new magnets solutions that support Power Integrations’ recently developed reference designs for fast, reliable and efficient e-bike charging. Fueled by the combination of advances in lithium-ion technology used to power portable devices and a burgeoning global demand for e-bikes, power designer engineers are in search for ever more efficient charging solutions. In response, Power Integrations has published two Design Example Reports, DER-580 and DER-484, on their e-bike microsite. Both DERs specify BOM components developed by Premier Magnetics specifically to support these reference designs.

The first design example report, [DER-580](#), provides guidance to build a 118W high line input non-PFC CV/CC flyback charger. This charger outputs 59V, making it appropriate for charging Li-ion batteries that power both ebikes and power tools. DER-580's BOM specifies using two Premier Magnetics components: TSD-4010 a 9mH 2A common mode choke (L2), and a custom transformer TSD-4011 (T1).

The second reference design, [DER-484](#), is for building a 300W forward power supply with dual outputs of 61V and 5V. This design is useful for powering e-bikes, power tools, and portable devices such as tablets and mobile phones. Premier Magnetics has developed six components listed by Power Integrations to support DER-484. **Table 1** lists the Premier Magnetics components included in the BOM for both DER-580 and DER-484.

**Table 1**

Premier Magnetics Part #	Description
TSD-4010	9mH 2A common mode choke
TSD-4011	Custom transformer
VTK-00037	330µH, 3.3A vertical toroid
TSD-4013	PFC Inductor, 221µH, PQ32/20, vertical
TSD-4014	880µH, constructed on core AllStar
TSD-4015	2.2µH, 6.0A
TSD-4016	Transformer, EER35
TSD-4017	Transformer, EF25/13/7

As global e-bike revenues are projected to grow from \$15.7B in 2016 to \$24.3B in 2025\*, the companies that respond by providing more reliable, faster, and more efficient charging solutions will be positioned to gain a significant competitive advantage. Premier Magnetics is dedicated to designing new magnetics solutions that help power engineers to meet the challenges of continually developing charging solutions that exceed the performance exhibited by previous designs.

Dennis Earley, Vice President of Premier Magnetics, commenting on this development said, “We’re pleased that our components have been added to the BOM by Power Integrations for use in their improved ebike charging reference designs. By augmenting Power Integrations’ evolution of mid-range power conversion solutions, we are helping to provide design engineers with the highest efficiency and lowest component count solutions for charging Li-ion batteries.”

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\* Source: <https://www.statista.com/statistics/674381/size-global-market-electric-bicycles/>

### **About Premier Magnetics**

Incorporated in 1991, [Premier Magnetics](http://www.premiermag.com) (www.premiermag.com) is a multinational company designing, producing, and marketing a broad range of electromagnetic components. Premier Magnetics designs high-quality components used in the Aerospace, Audio/Video, Lighting, Commercial, Industrial, and Medical Industries, and supports various Government and Military agencies around the world. Premier’s team of world-class engineers provide our clients with magnetics solutions using 25+ years of design and manufacturing expertise coupled with custom solutions and a wide range of standard product offerings including hundreds of UL and CSA recognized transformers. Sales and distribution locations are worldwide and backed by manufacturing locations in Southern California, Taiwan, and China.