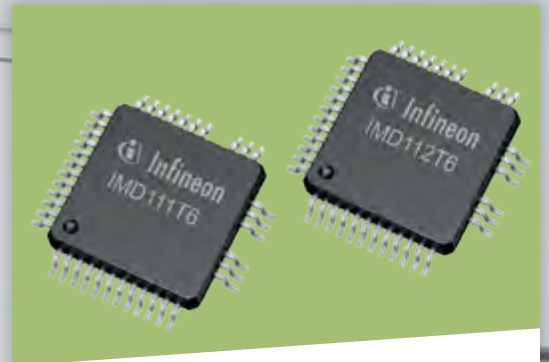


# **Bodo's** *POWER* **Systems**®

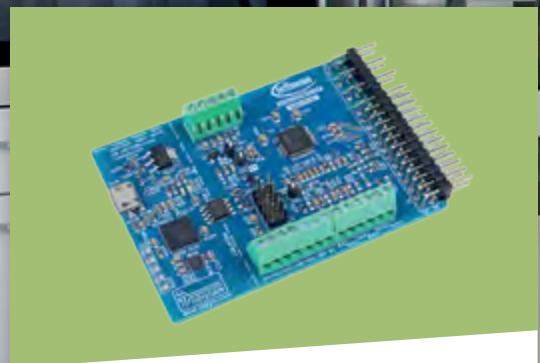
**Electronics in Motion and Conversion**

**April 2021**

## Integration meets Flexibility – SmartDriver IMD110 for Variable Speed Drives



Ready to use motor and  
(optional) PFC controller with SOI  
gate driver and voltage regulator



Easy time to market by using  
iMOTION™ Modular Application  
Design Kits



## Modular System for Power Converter Design

Mankel Engineering develops and manufactures everything for power electronics from SMPS, Fast charging, OBC and DC-DC converters. They do the same for all kinds of AC-DC, AC-AC, DC-AC- converters for drive technology solutions in all performance areas with their modular system which results in short development times with significantly lower costs. The team of hardware developers (with direct access to semiconductor manufacturers as well as manufacturers of passive components), software developers (with many years of experience for concepts in the electric car and industry), designers (for construction as well as external design) hold a number of patents to back it up. The platform can be used to serve large projects as well



as smaller ones that would otherwise not be economical. In addition to the electronic hardware, Mankel also supplies an adapted software GUI (Graphical User Interface), e.g. as an operating and parameterization interface. You benefit directly from a modular system and receive solutions with an adjustable vertical range of manufacture based on decades of practical experience in Germany and abroad such as Europe / USA / Korea / China and Japan. For the typical power classes of 60-100kW / 150kW / 250kW - there are modular concepts that form the basis - for both 400V and 800V - and Si-IGBT as well as SiC-MOSFET.

[www.mankel-engineering.de](http://www.mankel-engineering.de)

## European Silicon Design Center in Munich

Apple will make Munich its European Silicon Design Center, adding hundreds of employees and a new facility focused on connectivity and wireless technologies. Munich is already Apple's largest engineer-



ing hub in Europe, with close to 1,500 engineers from 40 countries working in a variety of areas including power management design, application processors, and wireless technologies. The expansion in Munich, together with additional investment in R&D, will exceed 1 billion euros in the next three years alone. "I couldn't be more excited for everything our Munich engineering teams will discover — from exploring the new frontiers of 5G technology, to a new generation of technologies that bring power, speed, and connectivity to the world," said Tim Cook, Apple's CEO. "Munich has been a home to Apple for four decades, and we're grateful to this community and to Germany for being a part of our journey." This expansion is the latest step in Apple's longstanding effort to build a world-class team of engineers in Munich and across Germany. In 2019, the company added silicon engineering sites in Nabern, Kirchheim unter Teck. Today, about half of Apple's global power management design team is located in Germany, and Apple also has teams in Munich working on application processor SoCs, and analog and mixed signal solutions for iPhone.

[www.apple.com](http://www.apple.com)

## Full Production Ramp of Flyback PWM Controllers

Silanna Semiconductor announced the full production release of the expanded portfolio of Active Clamp Flyback Controllers (ACF). First announced in April 2020, Silanna Semiconductor has achieved full production release of the SZ1110, a 33W Integrated Active Clamp Flyback Controller, delivering on the customer expectations and market penetration by dominating the ACF market.

The SZ1110 devices are Active Clamp Flyback PWM Controllers that are rated for up to 33W output power and integrate an adaptive

digital PWM controller and the following Ultra High-Voltage (UHV) components: An Active Clamp FET, Active Clamp Gate Driver and a Startup Regulator. This unprecedented level of integration facilitates designing efficient, high-power-density adapters with low BoM cost to satisfy power-hungry mobile phones, tablets, notebooks and video game consoles.

The SZ1110 (33W) alongside the SZ1130 (65W) which was announced in full production last year has seen exceptional customer demand and continues to grow. The technical sales team has been working directly with customers' designs demonstrating the ACF controllers, delivering over 94% efficiency from an all-silicon design, while achieving 30W/in<sup>3</sup> power density at 65W using SZ1130 and 21.5 W/in<sup>3</sup> power density at 30W using SZ1110, for universal input AC/DC power adapters.

"In last September we announced the full production of the SZ1130 and after an incredible customer and industry response we focused on adding full production availability of the SZ1110," said Mark Drucker, CEO of Silanna Semiconductor.

<https://powerdensity.com>