

FutureHorizons



The Global Semiconductor Industry Analysts

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Silanna Semiconductor & Transphorm
Develop GaN Adapter Reference Design

Transphorm Inc. and Silanna Semiconductor have developed an open frame, 65W USB-C Power Delivery (PD) charger that combines Transphorm's SuperGaN Gen IV platform with Silanna Semiconductor's proprietary Active Clamp Flyback (ACF) PWM controller.

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2W and 3W will Lead
India's EV Journey

The global automobile industry is witnessing major technological transitions, with a shift from conventional powertrains to the electric powertrain. This transition will not only impact OEMs and their vendors within the auto industry but other stakeholders like oil producers, refineries, financiers, and others

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Fab Capacity Soars to Meet
Surging Demand

Global chip makers are forecast to produce a record 6.6 million wafers per month by 2024, according to a fab survey released this week by the industry group SEMI. That works out to a 17 percent increase in 200-mm semiconductor capacity and fab count through the forecast period, SEMI said this week

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TALK TO US



Samsung chose Infineon for its
first MOSFET-based refrigerator
inverter design

Infineon Technologies supplied Samsung Electronics with power devices to couple the highest energy efficiency with lowest audible noise. They have been integrated in Samsung's brand new one-door fridge (RR23A2J3XWX, RR23A2G3WDX) and FDR (French Door Fridge: RF18A5101SR) inverterized refrigerator.

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EVENTS

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iXblue Acquires Kylia and
Muquans

iXblue is strengthening its position in the photonics market with the acquisition of Kylia and Muquans. Founded in 2003, Kylia develops and manufactures optical components and instruments based on ultra-precise assembly technology. The products marketed by Kylia are used by industrial manufacturers in the fields of fiber-optic telecommunications, metrology

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Silanna Semiconductor and Transphorm Develop GaN Adapter Reference Design

Transphorm Inc. and Silanna Semiconductor have developed an open frame, 65W USB-C Power Delivery (PD) charger that combines Transphorm's SuperGaN Gen IV platform with Silanna Semiconductor's proprietary Active Clamp Flyback (ACF) PWM controller.

Together, the technologies yield an unprecedented peak efficiency of 94.5 percent with an uncased power density of 30W/in³. These performance levels outpace the currently available competing solutions using silicon superjunction MOSFETs or e-mode GaN transistors, and furthermore utilize a smaller GaN FET from Transphorm. Silanna Semiconductor and Transphorm's universal GaN adapter design is ideal for powering laptops, tablets, smartphones and other IoT devices.

2W and 3W will Lead India's EV Journey

The global automobile industry is witnessing major technological transitions, with a shift from conventional powertrains to the electric powertrain. This transition will not only impact OEMs and their vendors within the auto industry but other stakeholders like oil producers, refineries, financiers, and others. While global automotive demand declined during CY2020 due to Covid-19 related impact, EVs remained the bright spot with approximately 40% growth over the previous years. Globally, EVs now account for 4.4% of new car sales during CY2020 and their share is likely to cross 5% level in CY2021. ICRA believes that while the transition to EVs is inevitable, the pace of penetration will be relatively gradual in India unlike global markets like China, Europe, and the United States.

Fab Capacity Soars to Meet Surging Demand

Global chip makers are forecast to produce a record 6.6 million wafers per month by 2024, according to a fab survey released this week by the industry group SEMI.

That works out to a 17 percent increase in 200-mm semiconductor capacity and fab count through the forecast period, SEMI said this week. That forecast reflects heavy investment in 200-mm fab equipment, which is expected to approach \$4 billion this year, nearly doubling since hovering above \$2 billion between 2012 and 2019.

Equipment and other capital investments reflect the global chip industry's efforts to overcome the current IC shortage that has fueled capacity utilization at 200-mm fabs. Other industry surveys have found the silicon shortage extends beyond the automotive sector to other hard-hit sectors like industrial machinery and electrical equipment as well as servers and other IT hardware.

Samsung Chose Infineon For Its First MOSFET-Based Refrigerator Inverter Design

Infineon Technologies supplied Samsung Electronics with power devices to couple the highest energy efficiency with lowest audible noise. They have been integrated in Samsung's brand new one-door fridge (RR23A2J3XWX, RR23A2G3WDX) and FDR (French Door Fridge: RF18A5101SR) inverterized refrigerator. Inverterization is an emerging DC to AC conversion trend in contemporary inverter designs. It helps the application run more quietly and smoothly while the average power consumption is reduced compared to a traditional on/off control.

To meet Samsung's requirements towards improved efficiency and lower system cost together with a lower noise level, the Digi Touch Cool™, Curd Maestro™ features multiple power solutions from Infineon – EiceDRIVER™ gate-driver IC, CoolSET™ Gen 5 for AC/DC conversion, and 600 V CoolMOS™ PFD7 for compressor drives. This is Samsung's first refrigerator design that uses discrete devices instead of power modules in the compressor.

ixblue Acquires Kyla And Muquans

Within ixblue, Kyla and Muquans join ixblue's historical activities in photonics.

ixblue is strengthening its position in the photonics market with the acquisition of Kyla and Muquans.

Founded in 2003, Kyla develops and manufactures optical components and instruments based on ultra-precise assembly technology. The products marketed by Kyla are used by industrial manufacturers in the fields of fiber-optic telecommunications, metrology and space.

Muquans, founded in 2011, specializes in very high performance instrumentation and is the first company in the world to exploit laser-cooled quantum manipulation techniques on an industrial scale. It offers a complete range of solutions based on this breakthrough technology, including a quantum gravimeter, an atomic clock, frequency transfer systems over fiber, and very high performance laser systems.

Founded in 2000, ixblue employs around 750 people, including 350 engineers and doctors, with a turnover of €150 million, 80% of which is generated internationally.