Navitas and SHARGE Upgrade 100W Fast Charging: 60% Smaller than Legacy Silicon

August 27, 2021



Next-generation gallium nitride design delivers simultaneous fast-charging for 4 mobile devices.

DUBLIN, IRELAND — (PRNewswire) Navitas Semiconductor, the industry leader in gallium nitride (GaN) power ICs, announced the launch of the upgraded SHARGE 100W GaN Charger Pro. This exciting, powerful fast charger is a huge 60% smaller than legacy silicon 4-output chargers. The next-generation design is also another 12% smaller than the 2020 GaN model, with optimized design and performance to bring consumers an even better charging experience. With 3x USB Type-C and 1x USB Type-A outputs, the GaN Pro can simultaneously fast-charge 4 mobile devices, from earbuds and smartphones up to the 16" Apple MacBook Pro using dynamic power sharing to optimize charging speeds.

Gallium nitride (GaN) is a next-generation semiconductor technology that runs up to 20x faster than legacy silicon chips. Navitas' proprietary GaN power ICs integrate GaN power (FET) and GaN drive plus control and protection in a single SMT package. These 'GaNFast®' power ICs become easy-to-use, high-speed, high-performance 'digital-in, power-out' building blocks and deliver up to 3x faster charging in half the size and weight, and with up to 40% energy savings compared with earlier silicon solutions. An estimated $13.1B electrification opportunity includes mobile fast chargers and adapters, data centers, solar energy, and EV.

By exploiting the high-speed, high-efficiency performance of GaNFast technology, the 100W GaN Pro measures only 77 x 59 x 29 mm (131 cc) to achieve a power density of 0.76 W/cc at a lightweight 220 g, and retails for only 535 RMB (approx. ~$83). The 100W GaN Pro shares the same, 'industrial' design style as its predecessor, now with a bold, bright yellow and gray color scheme.

The 100W SHARGE GaN Charger Pro features three USB-C ports and one USB-A port, supporting PD/QC/PPS and other common protocols. The C1 and C2 ports alone can deliver up to 100W of power, while the C3 and A1 ports alone can deliver up to 20W and 22.5W respectively. When multiple interfaces are used simultaneously, the GaN Charger Pro can provide power to different devices through dynamic power distribution. With four charging ports, users can replace four, regular silicon single-port chargers with one charger, saving bulk, weight and precious AC-outlets.

“As a company pursuing the ultimate in products, SHARGE has always wanted to provide consumers with a more extreme product experience,” said Bo Zhang, founder of SHARGE. “Thanks to the world-leading integrated GaNFast power IC from Navitas, and the efforts of engineers from both SHARGE and XinSPower, the 100W GaN charger Pro can maintain full 100W power while further reducing its size, allowing consumers to further enhance their charging experience.”



The powerful SHARGE 100W GaN Charger Pro uses GaNFast power ICs in two high-speed, ‘soft-switching’ topologies to achieve the impressive size and weight reductions. The first is a CrCM boost power-factor correction (PFC) circuit, using Navitas NV6127 (125mΩ) GaN power ICs to convert rectified AC power to a stable 400V DC rail. This is followed by a high-speed, isolating, ‘LLC’ DC -DC stage with two NV6115 (170mΩ) ICs to efficiently step-down the voltage to ~20V for the USB-PD output stages. A single system-controller IC (MPS HR1211) operates both circuits. The GaNFast ICs are rated at 650/800V, and up to 2MHz switching frequency in small QFN SMT packages. Thanks to the integration of GaN FET, GaN drive, protection and control, no external drivers are needed which saves PCB space, and high-speed (switching-frequency) operation shrinks the size and cost of transformers, filters and capacitors.

“Whether it’s the 100W GaN Charger Pro or the Super Mobile Power, announced at the same launch event, SHARGE pushes the limits of product specification, design and quality,” said Stephen OLIVER, VP of corporate marketing and investor relations at Navitas Semiconductors. “GaNFast delivers considerable room for innovation in the hands of manufacturers like SHARGE, who pursue the ultimate in product designs, bringing consumers a charging experience beyond imagination.”

“As a pioneer in GaN fast charging, with rich experience in design, production, certification and launch, XinSPower has become the ‘go-to’ partner for Asus, IDMIX, Baseus, SHARGE, ZENDURE, MOMAX and other brands,” said Xianqing LIU, General Manager of XinSPower. “GaN will be used in more high-power charging and more diversified charging devices in the future. XinSPower and Navitas will jointly come up with GaN-enabled products – e.g. wireless charger, power strips, mobile power and other more diversified charging applications – to help major brands to create breakthrough models.”

About SHARGE Technology:

Founded in 2020, SHARGE (闪极, Shine Technology (Shenzhen) Co., Ltd) is an industry-leading innovator in charging and energy storage products. With advanced technology, accurate demand insight, and excellent component partners, the US crowdfunding project planned by SHARGE broke through $150,000 in sales when it was first launched. Today, SHARGE's comprehensive user satisfaction rate at home and abroad is over 98%, which has been widely praised by global users, and has become the leading brand of high-end GaN in sales in China in just one year. In the future, SHARGE will continue to dedicate to launch personal energy storage, outdoor energy storage, high-power fast-charging and other high-quality technology products, and become a pioneer brand on the road to carbon neutrality.

About XinSPower:

Founded in 2008, and as a famous industrial fast-charger manufacturer and a pioneer in GaN fast-charging, XinSPower (新斯宝科技, Shenzhen Xinspower Technology Co.,Ltd.) has become the GaNFast foundry for Asus, IDMIX, Baseus, SHARGE, ZENDURE, MOMAX and other brands. XinSPower has accumulated rich experience in the design, production, certification and listing of gallium nitride fast chargers. XinSPower creates win-win value with customers using high quality, competitive price, quick response lead-time and complete support.

About Navitas:

Navitas Semiconductor Ltd. is the industry leader in gallium nitride (GaN) Power IC company, founded in 2014. Navitas has a strong and growing team of power semiconductor industry experts with industry-leading experience in materials, devices, IC design, applications, systems and marketing, plus a proven record of innovation with over 300 patents among its founders. GaN power ICs integrate GaN power with drive, control and protection to enable faster charging, higher power density and greater energy savings for mobile, consumer, enterprise, eMobility and new energy markets. Over 130 Navitas patents are issued or pending. As of August 1st, 2021, over 25 million GaNFast power ICs have been shipped with zero GaN field failures. On May 7th, 2021, Navitas announced plans to "Go Public at an Enterprise Value of $1.04 Billion via Live Oak II (NYSE: LOKB) SPAC Business Combination."

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