

Battery Charging IC Market Forecast, 2024-2032: Surging Demand in EVs and Consumer Electronics

The Global Battery Charging IC Market is projected to reach \$17.0 billion by 2032, growing at a CAGR of 9.2% from 2024 to 2032.

WILMINGTON, DE, UNITED STATES, February 12, 2025 /EINPresswire.com/
-- Battey charging ICs are devices that regulate current and voltage within a battery. They are commonly used in portable devices such as cell phones, tablets, and laptops. Among various types of batteries, Li-ion battery



charger ICs have emerged as the promising ones because of their unique characteristics. These batteries have greater energy densities, offering higher voltage per cell and tolerating higher currents.



Supportive government measures, such as renewable energy subsidies and carbon pricing, are driving the growth for Battery Charging IC market."

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In the past few years, battery charging IC technology has undergone a huge transformation, offering new applications across diverse industries. Continuous

advancements in this field focus on enhancing the efficiency, flexibility, and thermal management of batteries. Soft switching has evolved as a new technique in the domain that offers greater efficiency and enables lower heat generation. By minimizing energy losses and electromagnetic interference, these switching models boost the performance of battery chargers.

Moreover, in traditional battery charging ICs, diodes are used to provide fixed forward voltage losses which act as essential components in charging designs. However, in today's ICs, diodes are replaced with active semiconductor switches, offering a bridgeless converter topology. On the other hand, the rapid integration of Gallium Nitride and Silicon Carbide enables faster switching and reduces energy losses. This development reduces the use of passive magnetic components and minimizes heatsinks, rendering a more compact charging system.

Many leading manufacturers have started integrating DC-DC converters in these devices to decrease system cost and complexity by eliminating additional components, interconnections, and assembly steps. The configuration of offboard DC fast charging stations simplifies the overall charging process and supports the functionalities of onboard chargers with a hybrid of AC and DC charging.

These charging ICs have penetrated various industries, including consumer electronics, automotive, and the power industry for potential applications. This diverse applicability of the systems has boosted the growth of the <u>battery charging IC market</u>. According to Allied Market Research, the industry is projected to manifest a CAGR of 9.2% from 2024 to 2032.

In consumer electronics, these devices manage charging for gadgets such as smartphones and laptops, ensuring enhanced battery performance. In the automotive sector, they are deployed in EVs to optimize power delivery and vehicle safety. Also, many power businesses have started implementing these ICs in energy storage systems to enhance grid management.

In July 2024, Eatron Technologies, a renowned technology company offering advanced battery solutions announced the launch of its cutting-edge battery management technology. The firm introduced a next-generation Al-powered Battery Management System on Chip in partnership with Syntiant, a leader in delivering end-to-end deep learning solutions. This technology is developed with the integration of Eatron's intelligent software layer and Syntiant's ultra-low power NDP120 neural decision processor. This product is designed to deliver unparalleled battery performance, safety, and longevity.

Al-BMS-on-chip has represented a notable advancement in battery management, providing energy-efficient systems with an additional 10% battery capacity and extending battery life by up to 25%. This advanced solution improves battery power by offering precise state-of-charge and

health estimations. Additionally, by providing early detection of potential issues through predictive diagnostics, this system provides operational safety and prevents failures.

Furthermore, the solution incorporates the processing capabilities of Syntiant's NDP120 which enables it to operate efficiently in the cloud infrastructure. This further results in lower latency, reduced power consumption, and overall system costs. Nonetheless, because of its seamless integration, Al-BMS-on-chip is beneficial for a wide range of battery-powered applications, which include consumer electronics, mobility, and industrial purposes. The solution also offers customization capabilities through a toolchain that allows users to adapt functionalities to suit specific applications. It also provides cost-effective alternatives for businesses seeking advanced battery technologies to gain a competitive edge.

Battery charging ICs have become essential components in modern electronics, meeting the emerging demands of modern businesses. Moreover, the rising adoption of EVs and the rapid advancements in charging technologies are expected to create new avenues for the landscape in the coming years.

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