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Power Management ICs for EVs Market Forecasts to 2034 – Global Analysis By Product Type (Battery Management ICs, Voltage Regulators and Power Supply Controllers), Vehicle Type, Integration Level, Application and By Geography

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Abstracts

According to Stratistics MRC, the Global Power Management ICs for EVs Market is accounted for $628.0 million in 2026 and is expected to reach $801.7 million by 2034 growing at a CAGR of 3.1% during the forecast period. Power management integrated circuits in electric vehicles play a critical role in controlling and optimizing electrical energy flow across multiple vehicle systems. They manage power distribution between the battery pack, drivetrain, charging infrastructure, and onboard electronics to ensure efficient operation. These ICs reduce energy losses, improve thermal efficiency, and enhance overall vehicle performance and driving range. They also enable safe charging, stable voltage regulation, and effective battery protection under diverse operating conditions. As electric mobility expands globally, the need for compact, high-efficiency power management solutions continues to grow rapidly, supporting advanced EV architectures and improving system reliability and safety standards.
According to the International Energy Agency (IEA), global electric car sales surpassed 14 million units in 2023, and EVs accounted for 18% of total car sales worldwide. This surge directly drives demand for advanced power electronics, including Power Management ICs (PMICs), which are critical for battery systems, charging infrastructure, and powertrain efficiency.
Market Dynamics:
Driver:
Rising electric vehicle adoption
The increasing uptake of electric vehicles is strongly driving demand for Power Management ICs. As individuals and organizations transition from conventional vehicles

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to EVs for sustainability and reduced fuel costs, efficient energy management becomes crucial. These ICs regulate power distribution across batteries, drive trains, and onboard systems, ensuring optimal performance. With global EV manufacturing rising rapidly, automakers are focusing on advanced semiconductor solutions that improve energy efficiency and vehicle range. The expanding use of EVs in both personal and commercial transportation is therefore boosting the requirement for sophisticated power management technologies in the automotive semiconductor market worldwide.

Restraint:

High design and development costs

The expensive nature of designing and developing Power Management ICs restricts market growth in electric vehicles. Creating these advanced chips demands heavy spending on research, semiconductor fabrication infrastructure, and highly skilled experts. Since automotive applications require strict safety and durability standards, extensive testing and certification further increase costs. Smaller firms often struggle to compete due to these financial barriers. Moreover, continuous upgrades are necessary to match fast-changing EV technologies, adding to overall expenditure. These high development and production costs make it difficult for widespread adoption of advanced IC solutions, thereby slowing expansion of the EV power management semiconductor market globally.

Opportunity:

Advancements in battery technology

Improvements in battery technologies present strong growth prospects for Power Management ICs in electric vehicles. Innovations such as solid-state batteries, higher energy density cells, and ultra-fast charging systems require advanced electronic control solutions. These ICs help regulate energy flow, manage charging cycles, and enhance battery durability and safety. As battery systems become more complex, demand rises for smarter and more flexible semiconductor solutions. This encourages chip manufacturers to develop highly efficient and integrated designs. The continuous evolution of battery technologies in EVs is expected to expand opportunities for advanced power management systems and drive innovation in the semiconductor industry.

Threat:

Intense competition among semiconductor manufacturers

Strong competition among semiconductor companies is a key threat to the Power Management ICs market in EVs. Many global and local manufacturers are heavily investing in advanced chip technologies, which increases pricing pressure and reduce profit margins. Large firms with strong research capabilities dominate the market, while smaller players find it difficult to keep up with innovation and cost demands. Rapid

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technological advancement forces companies to constantly upgrade their products, increasing operational pressure. Intense pricing strategies from leading players further impact profitability. This highly competitive environment makes it challenging for firms to maintain stable growth in the EV semiconductor sector.

Covid-19 Impact:

The COVID-19 outbreak had a major effect on the Power Management ICs market for electric vehicles by disrupting global supply chains and semiconductor production. Restrictions and lockdowns caused factory closures, workforce shortages, and transportation delays, resulting in limited availability of essential components. This slowdown impacted EV manufacturing timelines worldwide. On the positive side, the pandemic increased focus on sustainable mobility, with governments promoting green recovery initiatives that supported EV adoption. The situation exposed supply chain weaknesses and encouraged companies to improve resilience and diversify sourcing strategies globally.

The battery management ICs segment is expected to be the largest during the forecast period

The battery management ICs segment is expected to account for the largest market share during the forecast period because they are essential for maintaining efficient and safe battery operations. These components regulate charging and discharging processes, control voltage stability, and manage thermal conditions within the battery system. By optimizing energy usage and protecting against overcharging or overheating, they significantly improve battery lifespan and vehicle reliability. Since electric vehicles depend heavily on advanced battery packs, the need for accurate battery monitoring and control continues to rise.

The charging infrastructure controllers segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the charging infrastructure controllers segment is predicted to witness the highest growth rate. This is mainly driven by the rapid worldwide expansion of EV charging networks. The increasing installation of fast and ultra-fast charging stations requires highly efficient power management systems to maintain safe and stable energy flow. These controllers help regulate voltage, distribute load effectively, and manage communication between charging stations and vehicles. With strong investments from governments and private companies in charging infrastructure, demand for advanced control technologies is rising quickly, making this segment the fastest-growing within the EV power management ecosystem globally.

Region with largest share:

During the forecast period, the Asia-Pacific region is expected to hold the largest market share because of its strong EV production ecosystem and fast-paced industrial growth. Leading countries such as China, Japan, and South Korea are major hubs for both

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electric vehicle manufacturing and semiconductor development, driving high demand for advanced power management technologies. Government support, favourable policies, and significant investments in EV infrastructure further enhance regional growth. The presence of major automotive and chip manufacturers encourages innovation and large-scale production.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, driven by rapid progress in EV technologies and strong clean energy initiatives. The region is seeing major investments in electric vehicle production, battery development, and charging infrastructure expansion. Rising demand for advanced and premium EV models, along with the presence of key automotive and semiconductor players, is further supporting market expansion. Government incentives and favourable regulations encouraging EV adoption are also strengthening growth.

Key players in the market

Some of the key players in Power Management ICs for EVs Market include Infineon Technologies, Texas Instruments, ON Semiconductor (onsemi), NXP Semiconductors, Renesas Electronics, STMicroelectronics, Analog Devices, Inc., ROHM Semiconductor, Microchip Technology, Vishay Intertechnology, Inc., Diodes Incorporated, Vicor Corporation, Qualcomm Technologies, Inc., MediaTek Inc., Toshiba Electronic Devices & Storage, Semtech Corporation, Allegro MicroSystems and Monolithic Power Systems (MPS).

Key Developments:

In February 2026, STMicroelectronics (STM) unveiled an expanded multi-year, multi-billion-dollar collaboration with Amazon Web Services (AMZN), spanning multiple product lines, including a warrant issuance to AWS for up to 24.8 million ST shares. The collaboration establishes STMicroelectronics (STM) as a strategic supplier of advanced semiconductor technologies and products that AWS integrates into its compute infrastructure.

In October 2025, Infineon Technologies AG has signed power purchase agreements (PPA) with PNE AG and Statkraft to procure wind and solar electricity for its German facilities. Under a 10-year deal with German renewables developer and wind power producer PNE AG, Infineon will buy electricity from the Schlenzer and Kittlitz III wind farms in Brandenburg, Germany, which have a combined capacity of 24 MW, for its sites in Dresden, Regensburg, Warstein and Neubiberg near Munich.

In October 2025, Analog Devices, Inc. and ASE Technology Holding Co. announced a strategic collaboration in Penang, Malaysia, mar?ked by the signing of a binding Memorandum of Understanding (MoU). Under the proposed agreement, ASE? plans to acquire 100% of the equity in Analog Device?s Sdn. Bhd., whi?ch includes ADI’s manufacturing facility in Penang. Alongs?ide this?, the two compa?nies intend

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toestablish a long-term supply agreement, allowing ASE to provide manufacturing services for ADI.
Product Types Covered:

- Battery Management ICs
- Voltage Regulators
- Power Supply Controllers

Vehicle Types Covered:

- Passenger Electric Vehicles (EVs)
- Commercial Electric Vehicles (EVs)

Integration Levels Covered:

- Discrete PMICs
- Highly Integrated PMICs

Applications Covered:

- Battery Systems Management
- Powertrain Electronics
- ADAS & Infotainment Systems
- Charging Infrastructure Controllers

Regions Covered:

- North America

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- United States
- Canada
- Mexico

Europe

- United Kingdom
- Germany
- France
- Italy
- Spain
- Netherlands
- Belgium
- Sweden
- Switzerland
- Poland
- Rest of Europe

Asia Pacific

- China
- Japan
- India

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- South Korea
- Australia
- Indonesia
- Thailand
- Malaysia
- Singapore
- Vietnam
- Rest of Asia Pacific

South America

- Brazil
- Argentina
- Colombia
- Chile
- Peru
- Rest of South America

Rest of the World (RoW)

- Middle East
  - Saudi Arabia
  - United Arab Emirates
  - Qatar

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- Israel
- Rest of Middle East

Africa

- South Africa
- Egypt
- Morocco
- Rest of Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

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All the customers of this report will be entitled to receive one of the following free customization options:

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  - SWOT Analysis of key players (up to 3)
- Regional Segmentation
  - Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)
- Competitive Benchmarking
  - Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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