Capacitor - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-08-01 | 120 pages | Mordor Intelligence

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Report description:

Capacitor Market Analysis

The capacitor market size stands at USD 26.7 billion in 2025 and is forecast to achieve USD 35.56 billion in 2030, advancing at a 5.89% CAGR. Unabated electric-vehicle adoption, distributed-energy resources, and 5G densification form a durable three-pronged driver set that underpins the industry's growth outlook. Ceramic MLCCs retain design-socket dominance because of reliability across wide temperature ranges, whereas supercapacitors post the fastest revenue gains as utilities trial hybrid storage topologies. Heightened capital expenditure in artificial-intelligence data-center nodes further amplifies demand for ultra-low-ESR and high-ripple-current capacitors, effectively decoupling volumes from legacy smartphone seasonality. Parallel investments in localized production mitigate geopolitical risk and create new price-elastic demand pockets, especially among North American electric-mobility startups. Policymakers' procurement incentives strengthen the revenue visibility of companies willing to regionalize supply chains in exchange for tax credits.

Global Capacitor Market Trends and Insights

Growing Adoption of EV Power-Electronics

Electric-vehicle output rose to 17.3 million units in 2024, a 25% year-on-year surge that translates directly into higher demand for high-voltage film capacitors in traction inverters. Each battery-electric car now integrates more than 15,000 MLCCs, quadrupling the baseline content found in traditional combustion models, while premium 800 V drivetrains require devices with enhanced

voltage ratings and thermal stability. Capacitor suppliers able to pass AEC-Q200 qualifications enjoy multi-year design wins that shield them from consumer-electronics volatility. TDK's 100 V, 10 ?F MLCC in the 3225 case size exemplifies how product roadmaps stretch performance envelopes without enlarging footprint. The result is a structural uplift in average selling price per vehicle, reinforcing the positive flywheel between electrification and the capacitor market.

Rapid 5G/FTTx Roll-Outs Driving High-Frequency MLCC Demand

More than 300 network operators will activate commercial 5G service by late 2024, and analysts forecast that 75% of global mobile data will traverse 5G infrastructure by 2029.Massive-MIMO antenna arrays require capacitors with ultra-low dielectric loss at frequencies above 6 GHz, a specification that legacy ceramic formulations struggle to meet. Samsung Electro-Mechanics, therefore, targets KRW 1 trillion in automotive MLCC revenue, leveraging know-how originally developed for telecommunication base stations to serve connected-vehicle platforms. Murata's 006003-inch MLCC, 75% smaller than its predecessor, embodies the perpetual miniaturization race while safeguarding electrical performance metrics. With each base-station radio board hosting tens of thousands of capacitors, the upward trajectory of 5G deployments ensures that the capacitor market remains tightly coupled to global bandwidth-consumption trends.

Volatility in MLCC Supply Chain for High-Capacitance Ceramics

Barium titanate shortages pushed lead times for automotive-grade MLCCs beyond six months in 2024, underlining geographic concentration risks because China dominates precursor processing. Yield rates for capacitors that meet AEC-Q200 standards remain below 70%, creating allocation battles between automotive and telecom customers whenever supply tightens. Equipment upgrades that enable thinner dielectric layers exacerbate constraints by requiring ultrapure raw materials as layer thickness nears physical limits. Western manufacturers have announced capacity expansions, yet fresh factories need up to two years to qualify, prolonging near-term supply imbalances.

Other drivers and restraints analyzed in the detailed report include:

Grid-Scale Battery Storage Deployment / Automotive Zonal E/E Architectures / Technical Know-How Gap for Solid-State Ultracapacitors /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Ceramic capacitors captured 42.3% of the capacitor market share in 2024 by balancing volumetric efficiency with rugged temperature tolerance, maintaining revenue leadership even as alternative dielectrics gain niche footholds. The segment's momentum stems from relentless layer-count increases and finer-grain control, as demonstrated by Murata's release of a 006003-inch MLCC that maintains capacitance despite a 75% footprint reduction. Future growth hinges on incorporating nickel-barrier terminations that reduce silver-palladium cost exposure while preventing migration at high temperatures.

Super-/ultracapacitors register a 7.5% CAGR, the fastest across all types, propelled by hybrid bus lines that pair high-voltage lithium packs with carbon-based power buffers. Tantalum parts sustain relevance in medical implants and avionics modules where volumetric efficiency offsets cost premiums, though ore sourcing adds price volatility. Aluminum electrolytics retain high-voltage power-supply sockets where surge current capability trumps endurance concerns. Film capacitors experience bifurcated demand: polypropylene films grow in renewable-energy converters, whereas PTFE-based variants face PFAS-related phase-down mandates.

Low-voltage devices (?100 V) delivered 49.1% of 2024 revenue, anchored by smartphones, wearables, and infotainment consoles.

Yet the high-voltage class (>1 kV) is projected to accelerate at a 6.4% CAGR as 800 V battery-electric vehicles and series-capacitor banks proliferate; together they are expanding the capacitor market size devoted to power-transmission conditioning. Medium-voltage parts (100 V-1 kV) grow steadily because robotics and factory-automation retrofits migrate to higher DC-bus levels for efficiency gains.

Designers increasingly demand impedance-controlled, high-voltage stacks that combine ceramic and film technologies to tame ringing in wide-band-gap semiconductor switches. Suppliers responding with hybrid modules capture premium pricing, demonstrating that value accrues to solutions able to handle both high ripple current and partial-discharge endurance. The resulting product differentiation keeps price erosion modest even as unit volumes rise.

The Capacitor Market Report is Segmented by Type (Ceramic, Tantalum, and More), Voltage Range (Low ?100 V, Medium 100 V-1 KV, High - Above 1 KV), Mounting Style (Surface-Mount, and Through-Hole), End-User Industry (Automotive, Industrial, Energy and Power, Consumer Electronics, and More), and Geography (North America, South America, Europe, Asia-Pacific, and More). The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

Asia-Pacific commanded 46.7% of 2024 worldwide revenue thanks to vertically integrated supply chains in China, Japan, and South Korea. Mature ceramic-powder calcination, automated MLCC sintering, and proximity to electronics OEM clusters provide scale economies that reinforce the region's grip on baseline production. Japanese vendors leverage miniaturization patents to secure higher average selling prices despite labor-cost premiums, while South Korean lines specialize in automotive-grade lots that satisfy AEC-Q200 thermal-shock limits.

North America is forecast to record a 7.4% CAGR through 2030, the fastest across major regions. Federal incentives under the CHIPS and Science Act encourage passive-component reshoring adjacent to wafer-fab investments, and new EV assembly plants use localized sourcing to unlock clean-vehicle tax credits. Data-center operators also raise demand as AI accelerators inflate board-level capacitance budgets by about 25%, sustaining a multi-year uplift for high-reliability ceramic and polymer-aluminum devices.

Europe balances steady industrial-automation demand with regulatory headwinds that reshape material choices. PFAS phase-outs compel rapid substitution toward polypropylene and polyethylene naphthalate films, while Battery Regulation 2023/1542 introduces extended-producer-responsibility rules that favor suppliers able to document closed-loop recycling. Emerging markets in South America and the Middle East & Africa add episodic upside via renewable-energy auctions and telecom network expansions, yet infrastructure gaps keep absolute volumes small. Altogether, geographic diversification mitigates single-region shocks and reinforces long-run expansion for the capacitor market.

List of Companies Covered in this Report:

Murata Manufacturing Co., Ltd. / TDK Corporation / KYOCERA AVX Components Corporation / KEMET (Yageo Group) / Vishay Intertechnology, Inc. / Panasonic Holdings Corporation / Samsung Electro-Mechanics Co., Ltd. / Taiyo Yuden Co., Ltd. / Walsin Technology Corporation / Nippon Chemi-Con Corporation / Rubycon Corporation / Nichicon Corporation / Cornell Dubilier Electronics, Inc. / EPCOS AG (Infineon Technologies) / Eaton Corporation plc (xEV capacitors) / Maxwell Technologies, Inc. (UCAP) / Skeleton Technologies Group OU / LS Materials Co., Ltd. / WIMA GmbH & Co KG / Wurth Elektronik eiSos GmbH & Co KG / Illinois Capacitor (Cornell Dubilier) / Cap-XX Limited / Lelon Electronics Corporation / Samwha Electric Co., Ltd. / Faratronic Co., Ltd. / Elna Co., Ltd. /

Additional Benefits:

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