

Global Multilayer Varistor Market to Reach US\$ 1.1 Bn by 2035 at 6.9% CAGR | Transparency Market Research

Rising demand for MLVs driven by electrification, IoT, 5G, EVs, and renewable energy fuels global market growth through 2035.

WILMINGTON, DE, UNITED STATES, September 9, 2025 /EINPresswire.com/

-- The global [multilayer varistor \(MLV\) market](#) is on an impressive growth trajectory, fueled by rapid advancements in electronics, telecommunications, automotive, and renewable energy. Valued at US\$ 0.5 billion in 2024, the industry is projected to expand at a CAGR of 6.9% from 2025 to 2035, reaching an estimated US\$ 1.1 billion by the end of 2035, according to recent industry research.

Multilayer Varistor Market Outlook 2035

The global industry was valued at

US\$ 0.5 Bn

in 2024

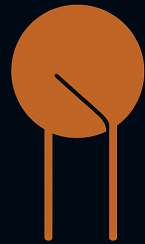
It is estimated to grow at a

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Multilayer Varistor Market



Multilayer varistors offer reliable surge protection, ensuring device stability, longer lifespan, and compliance with global safety standards."

*Transparency Market
Research*

Multilayer varistors (MLVs) have become an essential component in the modern electronics ecosystem. Acting as voltage surge protection devices, these compact solutions are widely used in consumer electronics, automotive systems, industrial equipment, and telecommunication infrastructure. With the increasing adoption of electrification, smart grids, the Internet of Things (IoT), and 5G networks, demand for MLVs is expected to rise steadily across industries.

Market Overview

A multilayer varistor is a protective device manufactured using multiple layers of zinc oxide and ceramic material. Known for its nonlinear voltage-current characteristics, it effectively suppresses excessive voltages, preventing damage to sensitive

circuits caused by electrostatic discharge (ESD) and electrical overstress (EOS).

Key attributes of MLVs include:

- Compact design
- High surge current resistance
- Low leakage currents
- High reliability
- Compliance with global safety standards

These characteristics make MLVs indispensable in safeguarding consumer electronics, extending the life of automotive and industrial systems, and ensuring stable performance in telecom and renewable energy applications.

Key Drivers of Market Growth

1. Rapid Growth of Consumer Electronics

The consumer electronics sector continues to expand, particularly with AI-driven devices, smartphones, wearables, and home automation systems. Governments, especially in emerging economies such as India, are supporting domestic electronics manufacturing. For example, India's electronics market is projected to touch US\$ 300 billion by 2025–26 (MeitY). Taiwan also reported an 11.2% rise in electronic product export orders in October 2024, driven by demand for AI-enabled devices.

Such growth translates directly into demand for high-performance MLVs to safeguard increasingly complex and miniaturized electronic devices.

2. Expanding Telecommunications Infrastructure

The global rollout of 5G networks is accelerating demand for surge-protection devices. MLVs play a critical role in protecting base stations, networking equipment, and power distribution units.

- The Indian government's investment of ₹26,316 crore to upgrade telecom infrastructure and expand 4G services across 6,279 villages demonstrates the scale of upcoming opportunities.
- The Australian government's US\$ 3.8 billion NBN upgrade project, involving 23,000 km of fiber installation, is another prime example of infrastructure expansion creating sustained demand for MLVs.

3. Automotive Electrification and EV Infrastructure

Electric and [hybrid vehicles](#) require robust voltage protection systems to safeguard power electronics and battery management systems. With rising investments in EV charging infrastructure, the demand for reliable, miniaturized, and efficient MLVs is increasing significantly.

4. Renewable Energy Expansion

Renewable energy projects, particularly solar and wind, rely heavily on surge protection components to maintain operational efficiency. MLV adoption in renewable energy storage and distribution networks is becoming a significant growth avenue.

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Key Players and Industry Leaders

The multilayer varistor market is moderately fragmented, with global and regional players focusing on product innovation, collaborations, and capacity expansion. Prominent players include:

- AEM Components (USA), Inc.
- Amotech Co. Ltd.
- Bourns, Inc.
- Cham How Corporation
- MARUWA Co., Ltd.
- Eaton Corporation Plc
- KOA Speer Electronics Ltd.
- Panasonic Corporation
- TDK Corporation
- Littelfuse, Inc.
- KYOCERA AVX Components Corporation
- Vishay Intertechnology, Inc.
- KEMET Corporation
- Shenzhen Sunlord Electronics Co., Ltd.
- Stackpole Electronics, Inc.

These companies are investing heavily in miniaturization, higher surge current capabilities, and integration of MLVs into new applications.

Recent Developments

- July 2024 – KOA Speer Electronics launched the NV73S series multilayer type metal oxide varistor, capable of handling up to 6,000 A surge current. This marks a fivefold improvement over previous models, enhancing protection for motors, relays, and solenoid valves.
- January 2024 – Bourns, Inc. released its BVR Series of low-voltage multilayer varistors (BVR0805, BVR1206, BVR1210, BVR1812), designed for sensitive electronic devices. These products feature superior transient energy absorption and power dissipation capabilities, offering reliable protection against surges.

Market New Opportunities and Challenges

Opportunities

- Growing demand for IoT-enabled smart devices
- Rising penetration of AI-driven consumer electronics
- Expansion of EV and renewable energy ecosystems
- Strict EMC (Electromagnetic Compatibility) regulations in Europe and North America

Challenges

- Volatile raw material prices, particularly zinc oxide
- Competition from alternative surge protection technologies
- Pressure to continuously miniaturize without compromising performance

Latest Market Trends

- Miniaturization of electronic components driving innovation in compact MLVs
- Increasing integration of MLVs in automotive electronics for EVs and ADAS (advanced driver-assistance systems)
- Deployment of high-performance MLVs in 5G base stations and data centers
- Rising adoption of AI-enabled and IoT devices, requiring enhanced surge protection
- Development of environmentally friendly and RoHS-compliant MLVs

Future Outlook

Analysts anticipate that the multilayer varistor market will remain on a steady growth path, supported by:

- Consumer electronics and telecom sector dominance in short-term growth
- Automotive and EV infrastructure expansion as medium-term drivers
- Renewable energy and industrial automation ensuring long-term opportunities

By 2035, East Asia is expected to retain its leadership position, followed by strong growth in North America and Europe, where stringent EMC regulations and technology adoption will drive demand.

Market Segmentation

The market is segmented across multiple dimensions:

- By Voltage Range: Up to 30 V, 31 V–45 V, 46 V–75 V, 76 V–100 V, 101 V–200 V, 201 V–340 V (Up to 30 V leading with 32.8% share in 2024)
- By Package Size: 0201, 0402, 0603, 0805, 1206, 1210, 1812, 2220, 3225, 4032, and others
- By Termination Type: Nickel barrier, silver platinum, silver palladium, others
- By Mounting Type: Surface mount technology (SMT), through-hole
- By End-use Industry: Automotive, aerospace and defense, consumer electronics, IT & telecom, healthcare, manufacturing, residential, and others

Regional Insights

- East Asia (38% market share in 2024) – China, Japan, and South Korea dominate due to robust manufacturing, government support, R&D strengths, and well-established supply chains.
- North America & Europe – Strong adoption expected due to stringent EMC regulations and rapid deployment of EVs and smart infrastructure.
- South Asia & ASEAN – Emerging as high-potential regions due to government-backed digitalization and infrastructure projects.

- Middle East, Africa, and Latin America – Gradual adoption with opportunities tied to renewable energy and telecom expansion.

Why Buy This Report?

- Comprehensive Coverage – Detailed insights into market dynamics, growth drivers, restraints, and opportunities.
- Segmentation Analysis – Cross-segment evaluation across voltage ranges, package sizes, applications, and end-use industries.
- Regional Intelligence – Market insights tailored for North America, Europe, Asia-Pacific, and emerging economies.
- Competitive Landscape – Profiles of key players with analysis of strategies, product portfolios, and financial performance.
- Strategic Guidance – Actionable recommendations for stakeholders to capitalize on high-growth areas.

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