+357 96 030922
info@marketpublishers.com

Global Varistor and Gas Discharge Tubes (GDT) Market Size Study & Forecast, by Product (Varistor and GDT), by Varistor (Metal Oxide, SiC, Zinc Oxide), by GDT (Through-hole, SMT, Hybrid), by Material (Ceramic & Glass, Quartz), by Electrode (2-electrode, 3-electrode) and Regional Forecasts 2025–2035

https://marketpublishers.com/r/G964816E5B93EN.html
Date: November 2025
Pages: 285
Price: US$ 3,750.00 (Single User License)
ID: G964816E5B93EN

Abstracts

The Global Varistor and Gas Discharge Tubes (GDT) Market is valued approximately at USD 7.33 billion in 2024 and is anticipated to grow with a steady CAGR of around 3.80% during the forecast period of 2025–2035. Varistors and gas discharge tubes are indispensable components used to safeguard electronic circuits and systems from transient voltage spikes and surges. As electronics become increasingly integrated across every industry—ranging from consumer devices to industrial automation—the demand for robust circuit protection technologies has surged. These components, often acting as the first line of defense, absorb or divert excessive voltage to prevent equipment damage. Rising adoption of advanced telecommunication infrastructure, 5G networks, and the rapid expansion of IoT devices have collectively strengthened the need for reliable overvoltage protection. Furthermore, the growing sophistication of consumer electronics and electric vehicles continues to propel demand for varistors and GDTs as they ensure operational stability and enhance longevity of sensitive electronic systems.

The evolution of high-density electronics, coupled with the miniaturization trend, has amplified the necessity for compact and efficient circuit protection solutions. GDTs and varistors play a pivotal role in ensuring device reliability across power grids, automotive systems, and data centers where voltage transients can cause irreversible harm. According to the International Telecommunication Union (ITU), global data traffic has

+357 96 030922
info@marketpublishers.com

witnessed exponential growth over the last few years, compelling network operators to adopt enhanced surge protection systems. Moreover, the ongoing proliferation of renewable energy grids, along with electric vehicle charging networks, has opened up new avenues for these components. However, the market faces challenges from fluctuating raw material costs and the availability of low-cost alternatives in the unorganized sector. Despite these hurdles, continuous innovations in hybrid GDT technologies and the development of high-energy absorption varistors are anticipated to elevate market potential over the next decade.

The detailed segments and sub-segments included in the report are:

By Product:

Varistor

Gas Discharge Tubes (GDT)

By Varistor:

Metal Oxide

SiC (Silicon Carbide)

Zinc Oxide

By GDT:

Through-hole

SMT (Surface Mount Technology)

Hybrid

By Material:

Ceramic & Glass

+357 96 030922
info@marketpublishers.com

Quartz

By Electrode:

2-electrode

3-electrode

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

+357 96 030922
info@marketpublishers.com

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Varistors Expected to Dominate the Market

Varistors are projected to hold the dominant market position during the forecast period, driven by their extensive use across power transmission, consumer electronics, and industrial applications. The ability of varistors—particularly metal oxide variants—to exhibit rapid response times to voltage surges makes them indispensable in protecting circuits against transients. Among these, zinc oxide varistors are gaining widespread adoption due to their cost-effectiveness, reliability, and high energy absorption capacity. Their compact form factor, combined with strong non-linear characteristics, allows engineers to integrate them seamlessly into both low-voltage and high-voltage systems. As

+357 96 030922
info@marketpublishers.com

modern electronics demand greater resilience and stability, the varistor segment is set to remain a cornerstone of global surge protection technology.

Gas Discharge Tubes (GDT) Lead in Revenue Contribution

Gas discharge tubes currently account for a significant share of the market's revenue, underpinned by their superior ability to handle high-energy surges in telecommunication, automotive, and industrial power systems. GDTs, particularly through-hole and hybrid types, offer excellent surge current ratings and longer service life compared to conventional counterparts. Their adoption has accelerated in telecom base stations, 5G infrastructure, and defense electronics, where voltage transients can cause catastrophic damage. The SMT segment, on the other hand, is witnessing growing demand in compact consumer devices, wearable electronics, and automotive control units due to its miniaturized design. As manufacturers continue to innovate hybrid GDT configurations that blend the advantages of varistors and tubes, revenue generation from this category is expected to remain robust throughout the forecast period.

The Global Varistor and Gas Discharge Tubes Market exhibits strong regional dynamics shaped by industrial growth and technological advancements. Asia Pacific leads the market, largely attributed to its massive electronics manufacturing ecosystem and growing investments in telecom and automotive sectors across China, Japan, South Korea, and India. North America follows closely, propelled by high adoption rates of smart grid infrastructure, electric vehicles, and data centers that rely heavily on surge protection systems. Europe remains a mature yet stable market, driven by stringent safety standards and the ongoing modernization of electrical systems. Meanwhile, Latin America and the Middle East & Africa present emerging opportunities due to expanding industrial automation and the integration of renewable energy systems, both of which necessitate reliable overvoltage protection mechanisms.

Major market players included in this report are:

Littelfuse, Inc.

Bourns, Inc.

TDK Corporation

TE Connectivity Ltd.

+357 96 030922
info@marketpublishers.com

EPCOS AG (TDK Group)

Murata Manufacturing Co., Ltd.

Vishay Intertechnology, Inc.

Panasonic Holdings Corporation

KOA Corporation

Ametherm, Inc.

Eaton Corporation plc

Mitsubishi Materials Corporation

ABB Ltd.

Semtech Corporation

Elpro International Ltd.

Global Varistor and Gas Discharge Tubes (GDT) Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent to up to 8

+357 96 030922
info@marketpublishers.com

analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments and countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segments of the market are explained above.

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional-level analysis for each market segment.

Detailed analysis of the geographical landscape with country-level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of the competitive structure of the market.

Demand side and supply side analysis of the market.

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

CHAPTER 4. GLOBAL VARISTOR AND GAS DISCHARGE TUBES (GDT) INDUSTRY ANALYSIS

CHAPTER 5. GLOBAL VARISTOR AND GAS DISCHARGE TUBES (GDT) MARKET SIZE & FORECASTS BY PRODUCT 2025-2035

CHAPTER 6. GLOBAL VARISTOR AND GAS DISCHARGE TUBES (GDT) MARKET SIZE & FORECASTS BY VARISTOR 2025-2035

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

CHAPTER 11. COMPETITIVE INTELLIGENCE

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

List Of Figures

LIST OF FIGURES

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Global Varistor and Gas Discharge Tubes (GDT) Market Size Study & Forecast, by Product (Varistor and GDT), by Varistor (Metal Oxide, SiC, Zinc Oxide), by GDT (Through-hole, SMT, Hybrid), by Material (Ceramic & Glass, Quartz), by Electrode (2-electrode, 3-electrode) and Regional Forecasts 2025–2035

Product link: https://marketpublishers.com/r/G964816E5B93EN.html

Price: US$ 3,750.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/G964816E5B93EN.html