

VCSEL for Data Communication Market by Type (Single Mode and Multi-Mode) and Material (Gallium Nitride, Gallium Arsenide, Indium Phosphide, and Other): Global Opportunity Analysis and Industry Forecast, 2020–2027

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Abstracts

The global VCSEL for data communication market size is expected to reach \$358.41 million by 2027 from \$120.52 million in 2019, growing at a CAGR of 13.54% from 2020 to 2027.

Vertical Cavity Surface Emitting Lasers (VCSELs) are widely used in data communications since the last two decades. There are a host of emerging applications that are boosting demand for VCSEL production and performance. Data communications infrastructure has evolved into a powerful strategic asset, which can enhance core capabilities and generate new business opportunities for the VCSEL technology. The strategic development in data communication and expansion of existing telecommunications capabilities can help power utilities improve the reliability, reduce operating costs, optimize operating efficiencies, and open new revenue streams.

The prominent factor that drives the VCSEL for data communication market growth include surging demand for VCSELs in data centers. Data centers are the base component of Internet infrastructure that is used for storage, computation and access to data. The simplest data center is a small server room and further advanced is a high-performance computing (HPC) system; upsurge of industry revolution 4.0; and leveraging data communications for utility operational effectiveness. Data communications infrastructure has evolved into a powerful strategic asset, which can enhance core capabilities and generate new business opportunities for the VCSEL technology. The strategic development in data communication and expansion of

existing telecommunications capabilities can help power utilities improve the reliability, reduce operating costs, optimize operating efficiencies, and open new revenue streams. However, one of the major restraints is the lack of standardization between the equipment manufacturers companies. On the contrary, surge in demand for wireless connectivity is anticipated to provide lucrative opportunities for the expansion of the VCSEL for data communication industry during the forecast period.

The global VCSEL for data communication market is segmented into type, material, and region. On the basis of type, the market is classified into single-mode and multi-mode. By material, it is categorized into gallium nitride, gallium arsenide, indium phosphide, and other. Gallium Arsenide segment contributed largest revenue in 2019. The demand for gallium arsenide has increased as compare to other materials, due to its most important advantage being speed. Electrons travel about five times faster in gallium arsenide than they do in silicon.

Region wise, the VCSEL for data communication market trends are analyzed across North America (U.S., Canada, and Mexico), Europe (UK, Germany, France, Spain, Italy, and rest of Europe), Asia-Pacific (China, India, Japan, South Korea, Australia, and rest of Asia-Pacific), and LAMEA (Latin America, Middle East, and Africa). North America accounted for the highest share, due to innovation in advanced technologies and growth in data communication application. Asia-Pacific is expected to witness the highest growth rate during forecast period due to lucrative opportunities offered by countries such as China, India, Singapore, South Korea, Japan, and other countries.

The key players operating in the market includes Hamamatsu Photonics K.K, TRUMPF, II-VI Incorporated, RPMC Lasers, Bandwidth10, Vixar Inc. (Osram Opto semiconductor), VERTILAS GmbH, VI Systems GmbH, Ushio America, Inc., and Vertilite.

KEY MARKET SEGMENTS

BY TYPE

Single Mode

Multi-Mode

BY MATERIAL

Gallium Nitride

Gallium Arsenide

Indium Phosphide

Others

BY REGION

North America

U.S.

Canada

Mexico

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia-Pacific

China

India

Japan

South Korea

Australia

Rest of Asia-Pacific

LAMEA

Latin America

Middle East

Africa

KEY PLAYERS

Hamamatsu Photonics K.K

TRUMPF

II-VI Incorporated

RPMC Lasers

Bandwidth10

Vixar Inc.

VERTILAS GmbH

VI Systems GmbH

Ushio America, Inc.

Vertilite

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