



Data communication

High-speed
VCSELs and
photodiodes

Modern Datacom applications require high-class optical components. Vertical-cavity surface-emitting lasers (VCSELs) provide high-speed data transmission at low power consumption.

TRUMPF Photonic Components GmbH offers a comprehensive portfolio of VCSELs and photodiodes for all main applications such as Transceivers (TxRx), Active Optical Cables (AOC) and Embedded Optical Modules.

Why VCSEL?

Due to their design, VCSELs have a circular beam profile with a low divergence angle, which ensures efficient coupling to optical fibers. In addition, the vertical beam guidance allows the realization of emitter arrays on one single chip. The corresponding photodiodes complete the range of products. On request, customized solutions can be developed, e.g. in terms of array format, chip layout, emission wavelength, solder bumps or bottom-emission.

Why TRUMPF?

Large scale production capabilities and long-standing cooperation have made TRUMPF Photonic Components a competent partner also for high volume consumer markets. The company attaches great importance to the reliability of the devices. All products are subjected to extensive lifetime tests before coming onto the market. Therefore, prominent customers have trusted in the expertise of TRUMPF Photonic Components for many years.

Data Communication Product Portfolio

Data Centers and High Performance Computers

Our VCSELs and photodiodes meet highest standards in performance and reliability, suitable for Ethernet, Fibre Channel, and Infiniband applications.

Data Communication Product Portfolio Data centers and High Performance Computers		
Product Type	Data Rate	Part number*
VCSEL	5 Gb/s	TVT-5(1)-850-A0
	14 Gb/s	TVT-14(x)-850-B1
	25 Gb/s	TVT-25(x)-850-B1
	56 Gb/s	TVT-56(x)-850-A0
	100 Gb/s	TVT-100(x)-850-A0
Photodiode	10 Gb/s	TPD-10(x)-850-A0
	14 Gb/s	TPD-14(x)-850-A0
	25 Gb/s	TPD-25(x)-850-A0
	56 Gb/s	TPD-56(x)-850-C0
	100 Gb/s	TPD-100(x)-850-B0

Note: (x) refers to number of channels (1, 4, 12)

*Some of these are new part numbers for existing parts, check with your local sales



Example of VCSEL and photodiode array with 4 channels

Consumer Datacom

We offer cost-efficient solutions, especially tailored for high volume consumer applications, such as HDMI, USB, or Thunderbolt.

Data Communication Product Portfolio Consumer Datacom		
Product Type	Data Rate	Part number*
VCSEL	10 Gb/s	TVT-10(1)-850-A0
	14 Gb/s	TVT-14(x)-850-A0
Photodiode	10 Gb/s	TPD-10(x)-850-A1
	14 Gb/s	TPD-14(x)-850-A1

Note: (x) refers to number of channels (1, 4)

*Some of these are new part numbers for existing parts, check with your local sales

Automotive Datacom

We offer solutions robust against wear-out and random failures, especially tailored for high demanding automotive applications.

Data Communication Product Portfolio Automotive Datacom		
Product Type	Data Rate	Part number*
VCSEL	56 Gb/s	TVT-56(x)-980-B0
Photodiode	56 Gb/s	TPD-56(x)-980-B0

Note: (x) refers to number of channels (1)

*Availability on request, check with your local sales

For more information visit
www.trumpf.com/s/datacommunication



Safety information:

- Invisible laser radiation / avoid beam exposure / class 3B laser product
- Electrostatic sensitive devices / observe precautions for handling