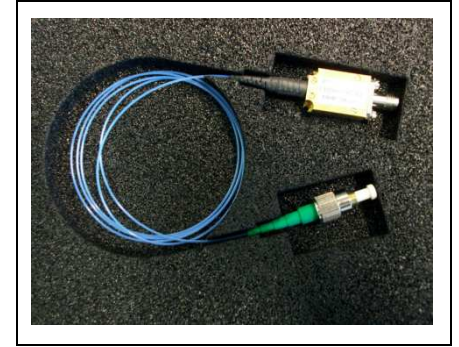


## 100 Gbit/s VCSEL Multi-Mode Fiber-Coupled Module (850 nm)



Sample image only. Actual product may vary

Product Code: VM100-850M

### Product Description

Ultrahigh-speed transmitter module for test purpose with integrated 850nm VCSEL fiber coupled to an OM3 multimode fiber for optical output. The module is designed as engineering sample for high speed test applications. Bitrates beyond 100G have been demonstrated with high order modulations: 4-PAM [1], DMT [2] and multi-CAP [3]. Multi mode and single mode VCSEL versions are available.

### Features

- OM3 MMF Pigtail (50  $\mu$ m core, 1 m length)
- FC/PC optical output connector
- Anritsu V electrical connector
- Multi Mode and Single Mode VCSEL versions

### Applications

- Research and development
- 100G testing (PAM-4, DMT)

Parameter	VM100-850M-MM	VM100-850M-SM
VCSEL type	Multi mode	Single mode
Emission Wavelength	850 nm (available 835 – 865 nm)	850 nm (available 835 – 865 nm)
Data rate	Up to 100 Gbit/s	Up to 100 Gbit/s
Peak Output Power	4 mW	1 mW

All product specifications and descriptions are subject to change without notice.

Please contact our sales department for additional information and to receive a quotation: [sales@v-i-systems.com](mailto:sales@v-i-systems.com)

# Datasheet

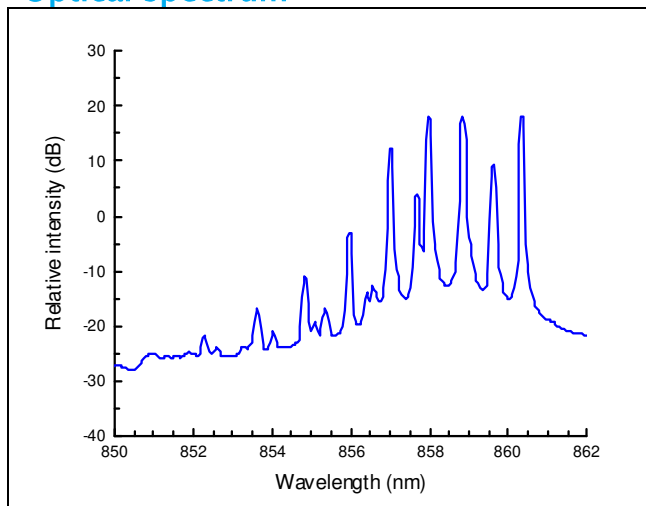
## VM100-850M



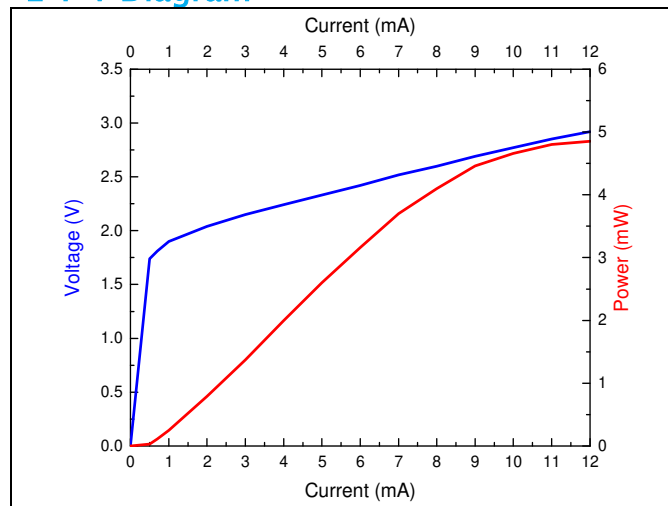
Vertically Integrated Systems

### VM100-850M-MM: Multi mode VCSEL version

#### Optical spectrum

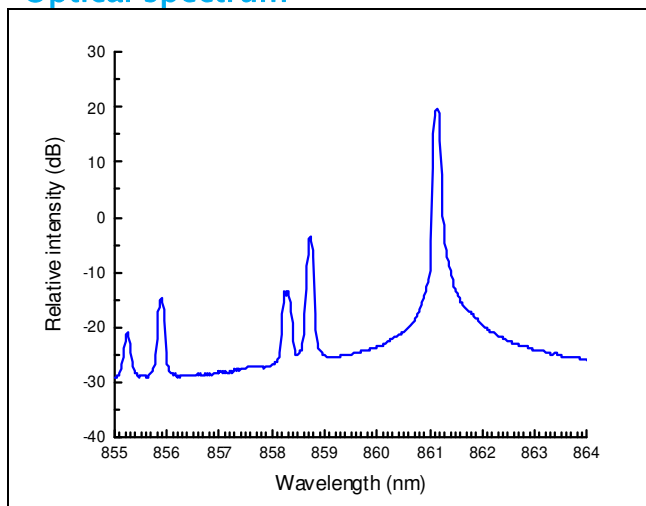


#### L-I-V Diagram

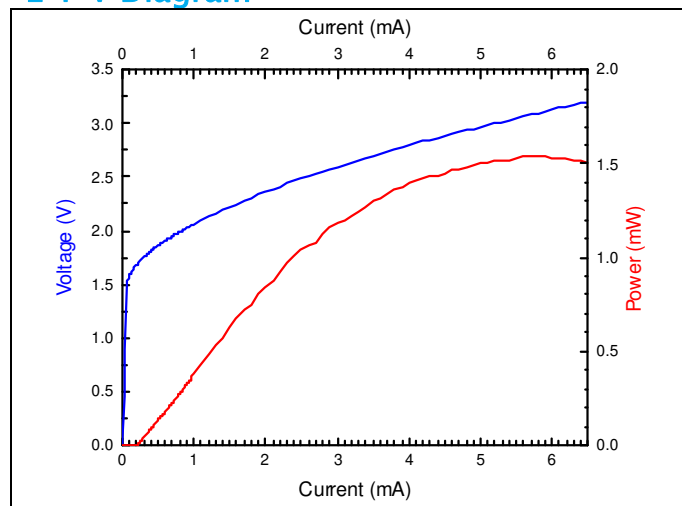


### VM100-850M-SM: Single mode VCSEL version

#### Optical spectrum



#### L-I-V Diagram



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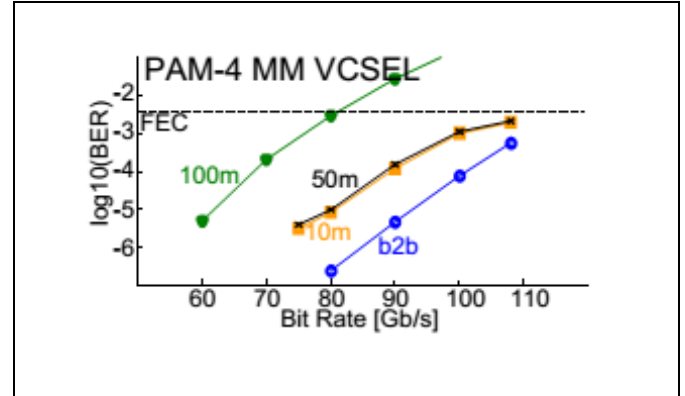
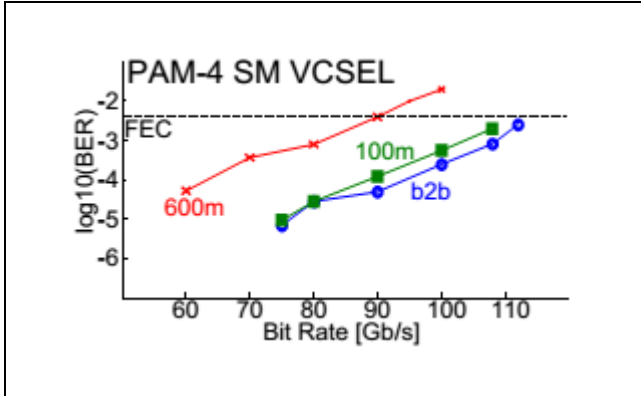
# Datasheet

## VM100-850M

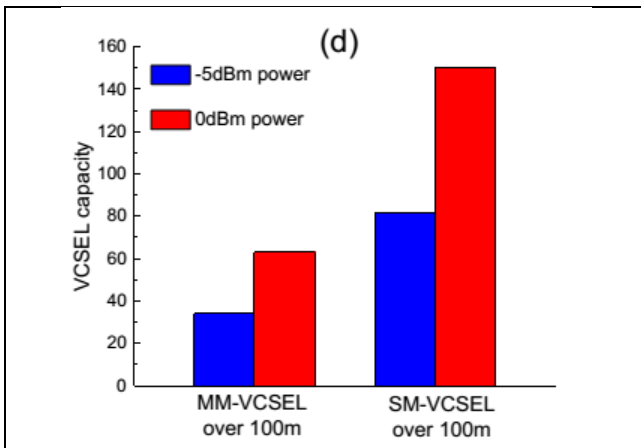


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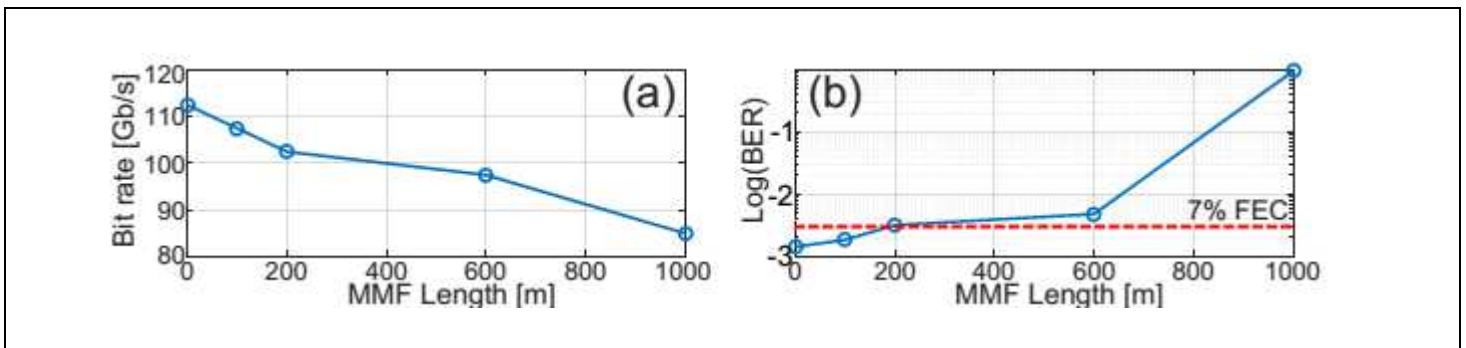
### 4-PAM [1]



### DMT [2]



### Multi-CAP [3]



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# Datasheet

## VM100-850M

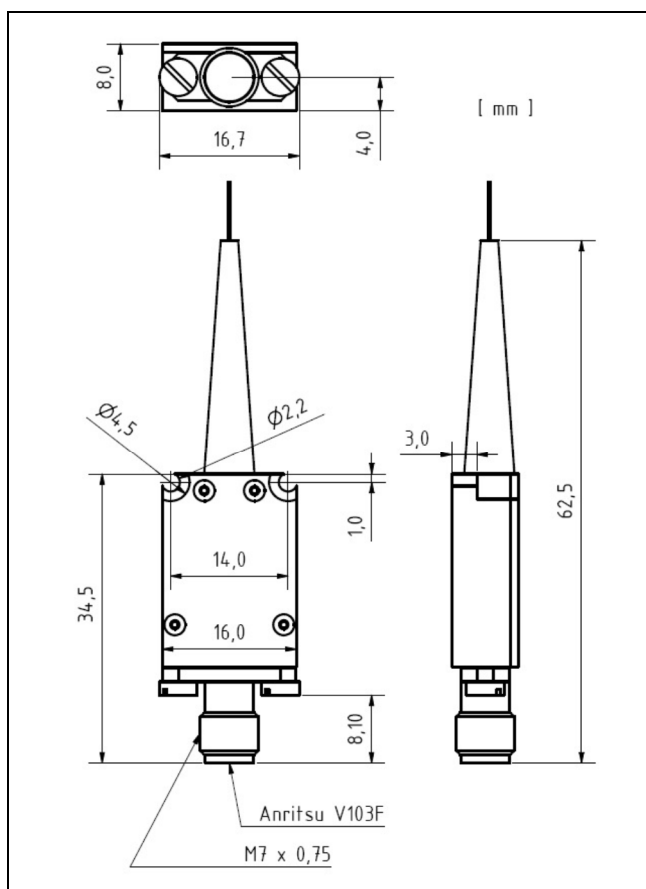


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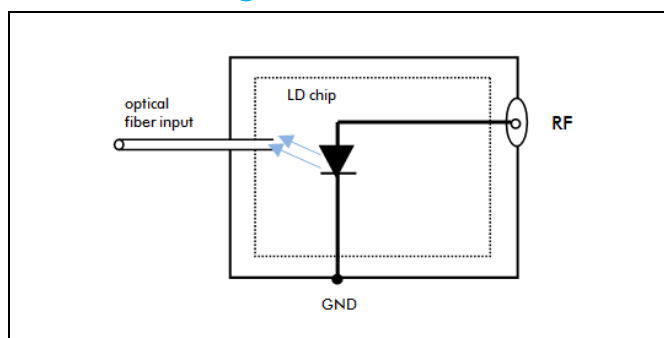
### References

- [1] G. Stepniak), Ł. Chorchos, M. Agustin, J. Kropp, N.N. Ledentsov, V.A. Shchukin, N. Ledentsov Jr., and J.P. Turkiewicz, "Up to 108 Gb/s PAM 850 nm Multi and Single Mode VCSEL Transmission over 100 m of Multi Mode Fiber", 2016 *The European Conference on Optical Communication (ECOC)*, Düsseldorf, 2016
- [2] B. Wu, X. Zhou, Y. Ma, J. Luo, K. Zhong, S. Qiu, Z. Feng, Y. Luo, M. Agustin, N. Ledentsov Jr., J. Kropp, V.A. Shchukin, N.N. Ledentsov, I. Eddie, and L. Chao, "Close to 100 Gbps discrete multitoned transmission over 100m of multimode fiber using a single transverse mode 850nm VCSEL," Proc. SPIE 9766, 2016
- [3] R. Puerta, M. Agustin, Ł. Chorchos, J. Toński, J.-R. Kropp, N. Ledentsov Jr., N.N. Ledentsov, R. Henker, I. Tafur Monroy, J.J. Vegas Olmos, V.A. Shchukin, and J.P. Turkiewicz "107.5 Gb/s 850 nm multi- and single-mode VCSEL transmission over 10 and 100 m of multi-mode fiber," in Proc. IEEE OFC, Anaheim, CA, USA, 2016, paper Th5B.5.

### Mechanical dimensions



### Schematic diagram



LASER RADIATION. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 1M LASER PRODUCT



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