Microwave Photonics Laboratory
of State Scientific-Production Association "Optics, Optoelectronics, and Laser Technology" (OELT) of National Academy of Sciences of Belarus

Fiber-optic laser diode module in the frequency range up to 12 GHz
FOLM-12

Fiber-optic laser diode module FOLM-12 is one of the key components of fiber-optic microwave photonic devices and systems and is designed for electro-optical conversion of the input microwave signal in the frequency range from 1 MHz to 12 GHz into an intensity-modulated optical signal.

Applications

- radars
- wireless communications
- EW systems

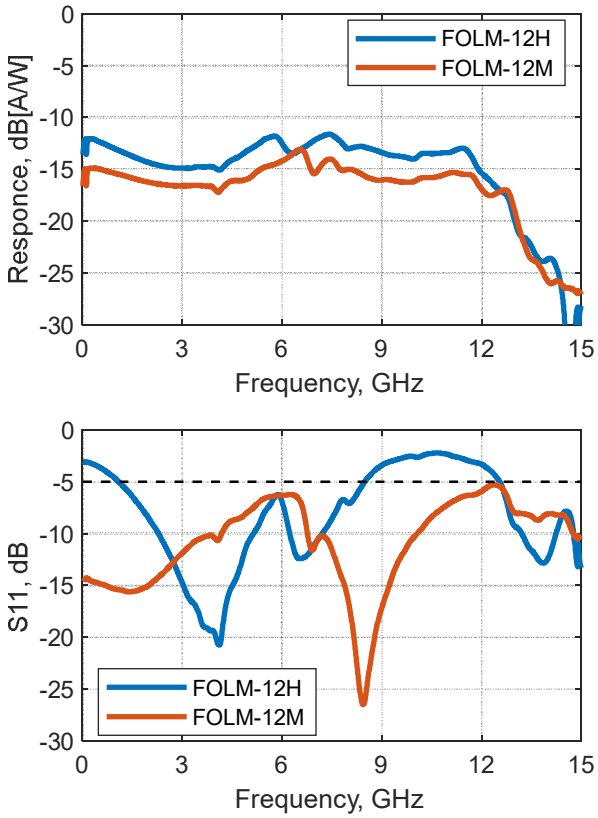
Advantages

- high efficiency of electro-optical conversion
- low noise
- immunity to electromagnetic interference
- small size and weight

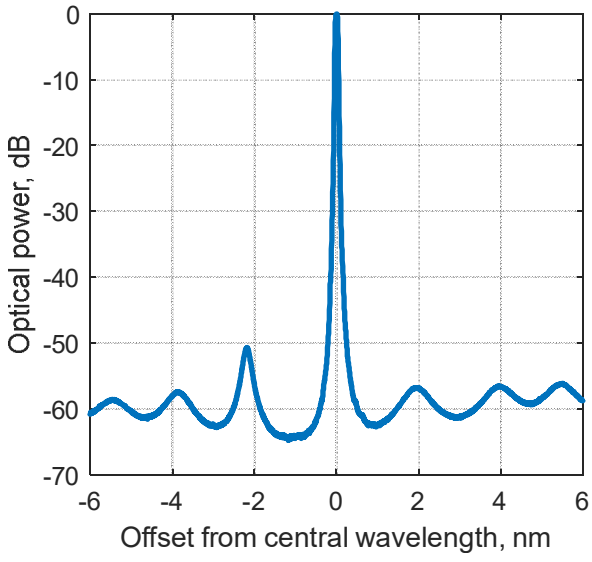
Parameters

- frequency range from 1 MHz to 12 GHz
- conversion efficiency:
  >0.21 W/A for FOLM-12H,
  >0.15 W/A for FOLM-12M
- relative intensity nose (RIN) < -145 dBc/Hz
- maximum input microwave power 15 dBm
- laser wavelength (1270, 1290, 1310, 1330, 1350, 1370, 1530, 1550,1570) ± 5 nm
- side-mode suppression ratio > 45 dB
- built-in optical isolator with isolation > 45 dB
- polarized fiber optic output with polarization extinction > 20 dB (option "P")
- input microwave connector
  SMA female, 50 Ω
- output optical connector FC/APC
- power connector PC4TB
- supply voltage from +6 to +12 V
- current consumption < 100 mA
- operating temperature range
  from –50 to +50°C
- built-in module monitoring function
  "working" / "not working" (option "C")

Frequency characteristics

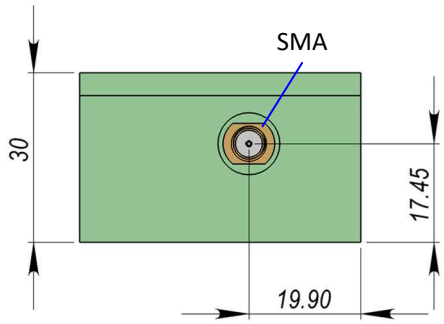


Spectral characteristic

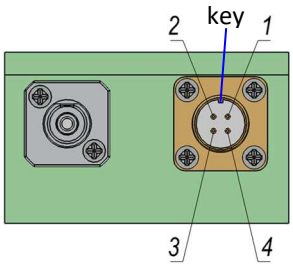


Dimensions [mm]

front view

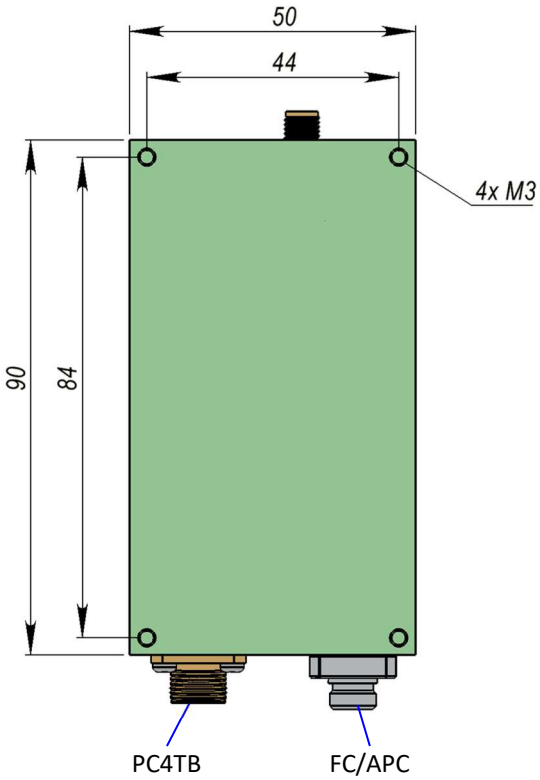


back view



Contact	Assignment
1	power supply +6 ... +12 V
2	“ground”
3	not connected
4	not connected / control (option “C”)

bottom view



Ordering information

FOLM-12 x (C)-xxxx (P)

H – microwave unmatched high-efficiency module
M – microwave matched module

C – built-in module monitoring function: “working” / “not working”

P – polarized fiber optic output with polarization extinction > 20 dB

1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1590, 1510, 1530, 1550, 1570 – laser module wavelength [nm]

Examples of ordering:

- **FOLM-12H-1550** microwave unmatched high-efficiency fiber-optic laser diode module in the frequency range up to 12 GHz and with wavelength of 1550 nm
- **FOLM-12MC-1310P** microwave matched fiber-optic laser diode module in the frequency range up to 12 GHz and with wavelength of 1310 nm, polarized fiber-optic output and built-in module monitoring function: “working” / ”not working”

Microwave Photonics Laboratory
220072, Minsk, BELARUS
68-1 Nezavisimosti avenue

phone: +375 (17) 368-90-11
e-mail: mwp@oelt.basnet.by
https://oelt.basnet.by/mwpl