

VIAVI

Distributed Feedback (DFB) Source Module

Part of the MAP Series General Purpose mSRC-C2 family

The Multiple Application Platform (MAP) Distributed Feedback (DFB) lasers are stabilized fixed wavelength light sources with coverage of O-, C- and L-band telemetry wavelengths at 1310, 1510, 1610, 1625 and 1653 nm.



VIAVI offers a range of DFB lasers as part of the general purpose light source modules (mSRC) in the MAP portfolio. DFB lasers are offered at the standard O, C and L-band telemetry wavelengths, plus the common out-of-band OTDR sensing wavelengths at 1625 and 1653 nm.

DFB lasers are narrow-linewidth lasers that use a grating to define the output wavelength very precisely. They also offer good side-band suppression and are inherently mode-hop free. They are typically used for applications where wavelength and power stability are key.

Functional Description

DFB lasers are similar to Fabry-Perot cavity, but with grating above active layer. The main advantage of a distributed feedback (DFB) laser is to sharpen up the output of regular Fabry-Perot lasers.

VIAVI DFB laser modules have excellent output power stability (± 0.025 dB), figure 1. Optical isolators eliminate stability effects caused by back reflection from dirty or open connectors.

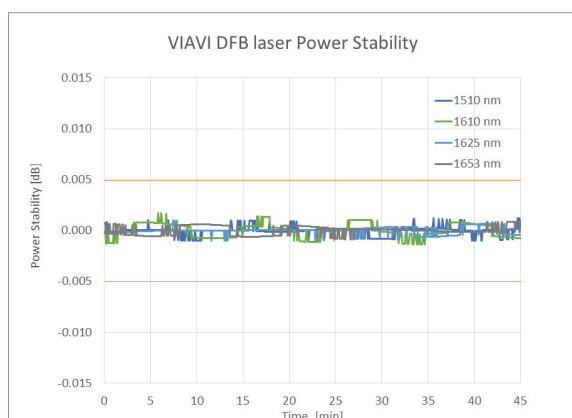


Figure 1 -DFB Source Stability over three hours at constant current mode and at room temperature

Key Features

- One, two or four individual outputs
- Single Mode variant
- Compatible with all MAP-300 series and MAP-220

Applications

- 1310nm source enables R&D tests in Silicon-Photonic applications
- Channel monitoring in DWDM systems
- DFB sources for system telemetry channels
- Loss and power meter calibration
- Enabling 400GE manufacturing test
- Spectroscopy, metrology and atomic physics
- Wavelength grid matched to LANWDM channels with power adjustment of at least 10 dB

Compliance

- The MAP series mSRC-C2 module, when installed in a MAP chassis, complies to CE, CSA/ UL/IEC61010-1, LXI Class C requirements, meets the requirements of Class 1M in standard IEC 60825-1 (2014), and complies with 21 CFR 1040.1 except deviations per Laser Notice No. 50.

INVISIBLE LASER RADIATION
DO NOT VIEW DIRECTLY WITH
OPTICAL INSTRUMENTS
CLASS 1M PRODUCT
(IEC 60825-1)

An intuitive graphic user interface (GUI) is optimized for use in either a laboratory or a manufacturing environment. Efficient transition between summary and detailed views allows users to operate at a system level or access the full power of a module.



Figure 2 – mSRC-C2 MAP-300 summary view GUI

Options and Configurations

The VIAVI DFB sources are offered in multiple individual output cassette or a single output.

Source	Target Applications
1310	Generalized O-band source
1510	C-band telemetry
1610	L-band telemetry
1625	OTDR sensing channel
1653	Out-of-band OTDR sensing channel

Chassis and Modular Family

The VIAVI Multiple Application Platform (MAP) is a modular, rack mountable or benchtop, optical test and measurement platform with chassis’ that can host 2, 3 or 8 application modules. The LightDirect family of modules are characterized by their simple control and single function nature. Individually or together they form the foundation of a diverse array of optical test applications. The web enabled multiuser interface is simple and intuitive. LXI compliant with a full suite of SCPI based automation drivers and PC based management tools, the VIAVI MAP is optimized for both the lab to manufacturing environments.

The mSRC is part of the LightDirect module family. Alongside the many other modules, such as optical attenuators, polarization scramblers, power meters, and spectrum analyzers, the MAP series is the ideal, modular platform for photonic system and module testing.

The mSRC-C2 is compatible with all current MAP-300 and MAP-200 chassis.



Specifications

For more information on this or other products and their availability, please contact your local VIAVI account manager or VIAVI directly at 1-844-GO-VIAVI (1-844-468-4284) or to reach the VIAVI office nearest you, visit viasolutions.com/contacts.

Optical Parameters ¹	Single Mode DFB Source						
Peak Wavelength ²	1310 nm	1510 nm	1610 nm	1625 nm	1653 nm	1310/1510 nm	1510/1610/1625/1653 nm
Spectral Width (FWHM)	<0.03 nm						
Output Optical Power	≥ 6 dBm						
Optical Power Stability (15 minutes) ³	±0.005 dB						
Optical Power Stability (3 hours) ³	±0.025 dB						
TEC Stabilized	Yes						
Wavelength Tolerance	±3 nm						
Optical Power Turning Range ⁴	≥ 10 dB						
Power Control Mode	Constant Current or Constant Power						
Modulation ⁵	0.15 to 2 kHz						
Modulation Setting Resolution	1 Hz						
Modulation Accuracy	±0.5 Hz						
Fiber Type ⁶	Singlemode Fiber						
Connector Type	FC/APC						

1. All optical measurements were done after minimum 30 minutes warming up

2. Center wavelength was defined as per IEC 61280-1-3 2010 clause 8.2.

3. Measured at constant temperature of 23±5°C, at full power.

4. From maximum power down

5. Modulation duty cycle is fixed at 50%. Modulation depth is fixed at 100%

6. For IEC 60793-2-50 Type B1.3/ ISO 11801 OS2 compliant fiber, i.e. Corning SMF-28e

General Specifications

Parameter	Specification
Operating Temperature	10 to 40°C (50 to 104°F)
Storage Temperature	-30 to 60°C (-22 to 140°F)
Operating Humidity	Maximum 85% Relative Humidity, non-condensing from 10 to 40°C/50 to 104°F
Dimensions (W x H x D)	4.06 x 13.26 x 37.03 cm (1.6 x 5.22 x 14.58 in)
Weight	1.3 kg (2.86 lb)

Ordering Information

Part Number	DFB Single Mode Source	
MSRC-C23000DF-M100-MFA	Single Output	1310 nm DFB TEC laser SMF FC/APC Connectors
MSRC-C2C000DF-M100-MFA		1510 nm DFB TEC laser SMF FC/APC Connectors
MSRC-C2D000DF-M100-MFA		1610 nm DFB TEC laser SMF FC/APC Connectors
MSRC-C26000DF-M100-MFA		1625 nm DFB TEC laser SMF FC/APC Connectors
MSRC-C2E000DF-M100-MFA		1653 nm DFB TEC laser SMF FC/APC Connectors
MSRC-C23C00DF-M100-MFA	Multiple Individual Outputs	1310/1510 nm DFB TEC laser SMF FC/APC Connectors
MSRC-C2CD6EDF-M100-MFA		1510/1610/1625/1653 nm DFB TEC laser SMF FC/APC Connectors
MSRC-C23300DF-M100-MFA		Dual 1310 DFB TEC laser SMF FC/APC Connectors
MSRC-C23333DF-M100-MFA		Quad 1310 DFB TEC laser SMF FC/APC Connectors

Accessories

Accessories (Optional)	Product and description	
Inspection and cleaning tool	CleanBlastPRO	The patented VIAVI Solutions® CleanBlastPRO fiber end-face cleaning system provides a fast, effective, and cost-efficient solution for removing dirt and debris from connectors in most common applications.
	FiberChek probe microscope	One-button FiberChek Probe delivers a reliable, fully autonomous, handheld inspection solution for every fiber technician.
	P5000i fiber microscope	Automated Fiber Inspection & Analysis Probe provides PASS/FAIL capability to PC, laptops, mobile devices and VIAVI test solutions.

A wider range of inspection tools are available at VIAVI. More information about the products and accessories can be accessed through our website at www.viavisolutions.com. For further assistance please contact your local VIAVI account manager or VIAVI directly at 1-844-GO-VIAVI (1-844-468-4284) or to reach the VIAVI office nearest you, visit viavisolutions.com/contacts.

VIAVI Care Support Plans




Increase your productivity for up to 5 years with optional VIAVI Care Support Plans:

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

Plan availability depends on product and region. Not all plans are available for each product or in every region. To find out which VIAVI Care Support Plan options are available for this product in your region, contact your local representative or visit: viavisolutions.com/viavicareplan

Features

*5-year plans only

Plan	Objective	Technical Assistance	Factory Repair	Priority Service	Self-paced Training	5 Year Battery and Bag Coverage	Factory Calibration	Accessory Coverage	Express Loaner
 BronzeCare	Technician Efficiency	Premium	✓	✓	✓				
 SilverCare	Maintenance & Measurement Accuracy	Premium	✓	✓	✓	✓*	✓		
 MaxCare	High Availability	Premium	✓	✓	✓	✓*	✓	✓	✓