

# Iceland DFB Distributed Feedback Laser 40G



## Overview

Covering NIR to LWIR wavelengths (750nm-17 $\mu$ m), these lasers feature integrated DFB gratings and TEC cooling for robust thermal management and low-noise performance across diverse conditions. A distributed-feedback laser (DFB) is a type of laser diode, quantum-cascade laser or optical-fiber laser where the active region of the device contains a periodically structured element or diffraction grating. This grating acts as a diffraction element that selectively reinforces a specific wavelength, resulting in. The acronym DFB laser stands for distributed feedback laser. Their key features relative to other semiconductor lasers are their single longitudinal mode (single frequency) emission profile, their high stability and their wavelength tunability. Typically, the periodic structure is made with a phase shift in its middle. They are used for high-performance gas sensing applying tunable diode laser spectroscopy. nanoplus lasers operate reliably in more than 100,000 installations worldwide.



## Article Content

Jan 15, 2026

Distributed Feedback Lasers: Working Principle and

A distributed feedback laser (DFB laser) is a type of laser that emits light of a single frequency. This is achieved by incorporating a distributed feedback grating (DFB

Sep 17, 2025

Global Distributed Feedback (DFB) Laser Diode Market 2026 by ...

DFB laser diode (Distributed Feedback Laser Diode) is a semiconductor laser that realizes optical feedback by integrating a periodic grating inside the active region. Unlike the traditional optical cavity

Jan 14, 2026

DFB Lasers | Technical Guide | SELECTION GUIDE

The acronym DFB laser stands for distributed feedback laser. Their key features relative to other semiconductor lasers are their single longitudinal

Feb 18, 2026

Everything You Need to Know About DFB Lasers

The laser includes a built-in distributed Bragg reflector (DFB grating) along the entire length of the active region, providing feedback without end

May 28, 2026

Distributed Feedback Laser

A Distributed-Feedback (DFB) laser is defined as a single-wavelength laser that utilizes a Bragg grating for single-wavelength filtering, enabling narrow spectral width and reduced dispersion, making it

Jun 21, 2026

Distributed-feedback laser

A distributed-feedback laser (DFB) is a type of laser diode, quantum-cascade laser or optical-fiber laser where the active region of the device contains a periodically structured element or diffraction grating.

Nov 10, 2025

Distributed Feedback Lasers Features & Technology | nanoplus

Applications include power plants, gas pipelines and emission control systems as well as airborne and satellite applications. Visit our applications section for detailed descriptions of the use of nanoplus

Oct 22, 2025

What are Distributed Feedback (DFB) Lasers?

A Distributed Feedback (DFB) laser is a laser device whose active medium consists of a repeating corrugated structure. The corrugated structure is

Apr 29, 2026

Distributed Feedback (DFB) Laser Diodes

Distributed Feedback (DFB) Laser Diodes from the leading manufacturers are listed here. Narrow down on the list of Distributed Feedback (DFB) Laser Diodes by wavelength, type, technology and other

Jan 04, 2026

Advanced distributed feedback lasers based on composite fiber

Distributed feedback (DFB) fiber lasers are known as a versatile source of single-frequency radiation for a wide variety of applications from high resolution spectroscopy<sup>1</sup> to precision sensing<sup>2,3</sup> ...

Oct 06, 2025

Distributed Feedback Lasers Features & Technology | nanoplus

nanoplus sets the standard for DFB laser technology. For more than 25 years, nanoplus has been the technology leader for ultra-precise distributed feedback lasers. They are used for high-performance

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Everything You Need to Know About DFB Lasers

Learn about the definition, working principle, types, features, and applications of the Distributed Feedback (DFB) Laser. Click to know more!

Dec 19, 2025

Distributed Feedback Laser | Precision, Stability

Distributed Feedback Lasers: Unveiling a World of Precision, Stability, and Coherence  
Distributed Feedback Lasers (DFB) are a pivotal

Jun 26, 2025

Distributed Feedback Lasers - DFB laser

What is a distributed feedback (DFB) laser? A DFB laser is a type of laser where the optical feedback is provided by a periodic structure, such as a Bragg grating, that

May 18, 2026

DFB Laser | distributed feedback (DFB) lasers diodes

Our Distributed Feedback (DFB) Lasers provide single-frequency output with unparalleled wavelength stability, ideal for gas sensing/molecular spectroscopy,

Feb 07, 2026

Distributed-Feedback Lasers

Wavelength Selectability • Compared with Fabry-Perot lasers, DFB or DBR laser is easy to achieve single-longitudinal-mode operation because the spacing between the  $m$ -th and the  $(m \pm 1)$ -th mode is

Nov 22, 2025

How Distributed Feedback Lasers Shape Modern

Lasers have revolutionized numerous fields by providing a highly controlled source of light with unique properties. Among the diverse types of

Sep 26, 2025

Distributed Feedback Laser Diodes (Semiconductor Lasers)

This page describes our DFB-LD (Distributed Feedback Laser Diode) products suitable for applications such as fiber sensing, 3D sensing, and gas sensing.

Feb 07, 2026

Distributed Feedback Lasers

Good-quality long-distance optical transmission over fiber needs lasers which emit at a single wavelength. This is almost universally realized by putting a wavelength-dependent reflector into the

Jan 20, 2026

HANDBOOK OF Distributed Feedback Laser Diodes

Preface Since the first edition of this book in 1997, the photonics landscape has evolved considerably and so has the role of DFB laser diodes. Although tunable laser diodes are introduced ever more in

Oct 12, 2025

Distributed-Feedback Lasers | Springer Nature Link

Most of the lasers that have been described so far depend on optical feedback from a pair of reflecting surfaces, which form a Fabry-Perot etalon. In an optical integrated circuit, in which the

Mar 08, 2026

Distributed Feedback (DFB) Single-Frequency Lasers,

Our DBR single-frequency lasers offer similar linewidths and tuning ranges to the DFB lasers but have a higher output power at the expense of mode-hop-free

Jan 13, 2026

13. Distributed-Feedback Lasers

13. Distributed-Feedback Lasers All of the lasers that have been described so far depend on optical feedback from a pair of reflecting surfaces, which form a Fabry-Perot etalon. In an optical integrated

Oct 28, 2025

Distributed Feedback Lasers | Suppliers | Photonics Buyers' Guide ...

Offers high-quality DFB lasers (1018-1188 nm) for diverse applications. Our lasers support a wide range of operations from picosecond (15, 20 or 50 ps) to nanosecond pulses and CW, ideal for material

Oct 22, 2025

Chapter 9.6.2: Distributed Feedback Lasers | GlobalSpec

9.6.2 Distributed Feedback Lasers Applications such as high-speed data transmission in fiber optics require limiting laser emission to a narrower range of wavelengths than possible with a Fabry Perot

Dec 29, 2025

Microsoft Word

13.2 Distributed Feedback (DFB) Lasers (1D Photonic Crystal Lasers) 13.2.1

Introduction: The structure of a DFB laser is shown in the Figures below. The laser cavity is not like any we have seen before.

Apr 02, 2026

Controlling the emission properties of solution-processed organic ...

Surface-emitting distributed feedback (DFB) lasers with both, resonator and active material based on solution-processable polymers, are attractive light sources for a variety of low-cost

## Contact Us

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