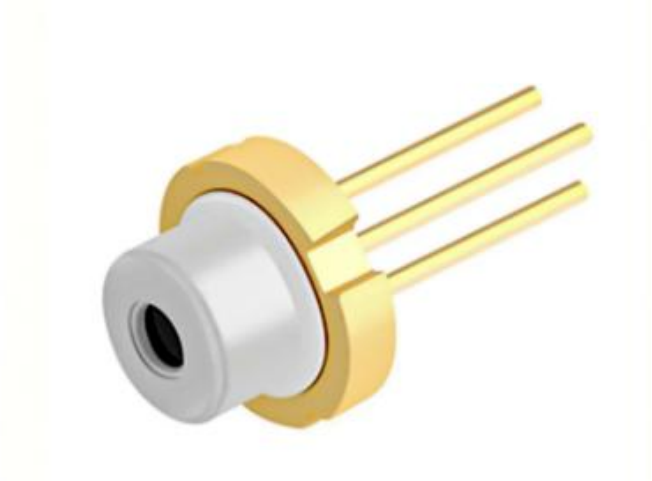
940nm Dual-Modulation Beam-Scanning DM-PCSEL Diode



Product Description

Photonic Crystal Surface-Emitting Lasers (PCSELs) are a new generation of high-power semiconductor lasers. They use a two-dimensional grating structure to scatter light linearly and orthogonally, making PCSELs the only type of laser with feedback in-plane and light emission out-of-plane from the top surface of the laser. With advantages such as single-mode operation, extremely low divergence angle, high-power output, and high beam quality, they have important application prospects in fields such as LiDAR, space communications, sensing, and laser processing.

Product features

Dual-modulation technology； Integrated PCSEL structure； High-speed response；Compact packaging；Multiple wavelength options

Part Number

MP-PCS-DM-940-10W-TO

Application area

LiDAR | AR/VR displays | Industrial inspection | Biomedicine | Optical communications

Core parameters

Operating current	Output power
15A	10W

General Parameters

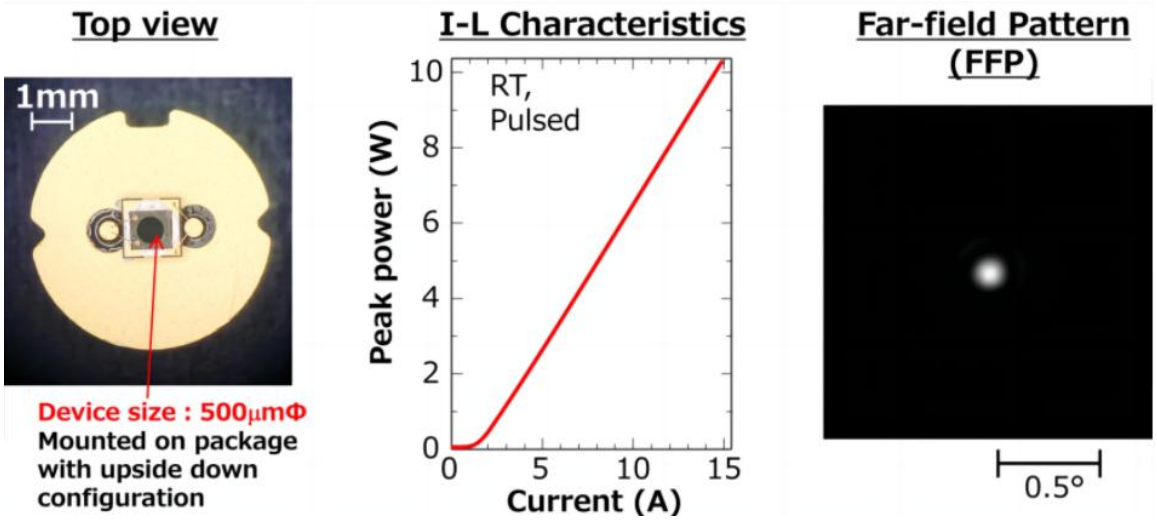
Samples are available

The following R&D samples are available under the Material Transfer Agreement (MTA). Please contact us by email.

High brightness PCSEL diodes

Under the MTA contract, we will provide R&D samples with a laser area of 500μ mΦ that can achieve 10W (or higher) output power (pulse operation) and a narrow beam divergence angle (~0.1°, FWHM).

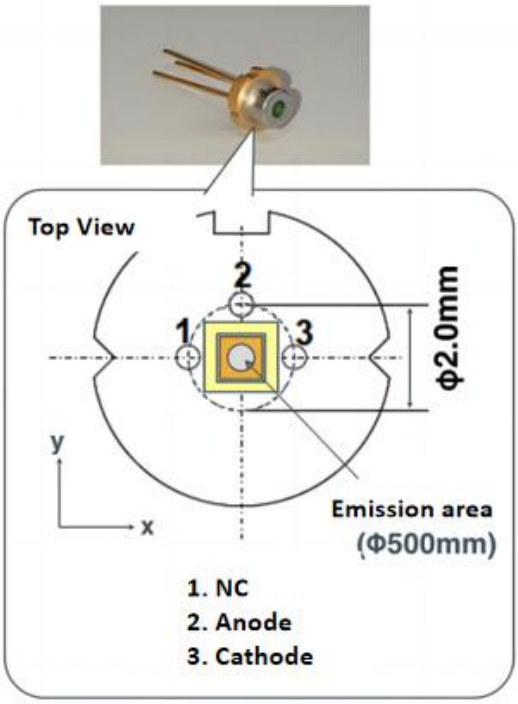
We can also provide a larger area for PCSEL for higher output and narrower divergence. Please contact us.



High Brightness PCSEL Diode Specification Sheet (R&D Sample)

Appearance

Φ5.6mm CAN package



Parameters			value
Operating current			15A
Output power			10W
launch area			0.5mmΦ
Wavelength (at 10mW).		peak	940nm
		FWHM	Below 0.1nm
Divergence angle (at 10mW).	FWHM	x	0.15° or less
		y	0.15° or less
	$1/e^2$	x	0.20° or less
		y	0.20° or less

Beam scanning PCSEL

Under the MTA contract, we can provide R&D samples with beam scanning capabilities based on dual-modulation PCSEL technology. We will consult with you about the arrangement of the array structure and what kind of beam is emitted