

## 940nm 10W High-Brightness 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

Ultra-high brightness output; Photonic crystal structure; Near-infrared;

High-speed modulation; High reliability

## ● Part Number

MP-PCS-940-10W-TO

## ● Application area

Laser displays & lighting | Industrial processing | Optical communications |

Medical aesthetics | National defense & scientific research

## ● Core parameters

Operating current	Output power
15A	10W

## ● General Parameters

Samples are available

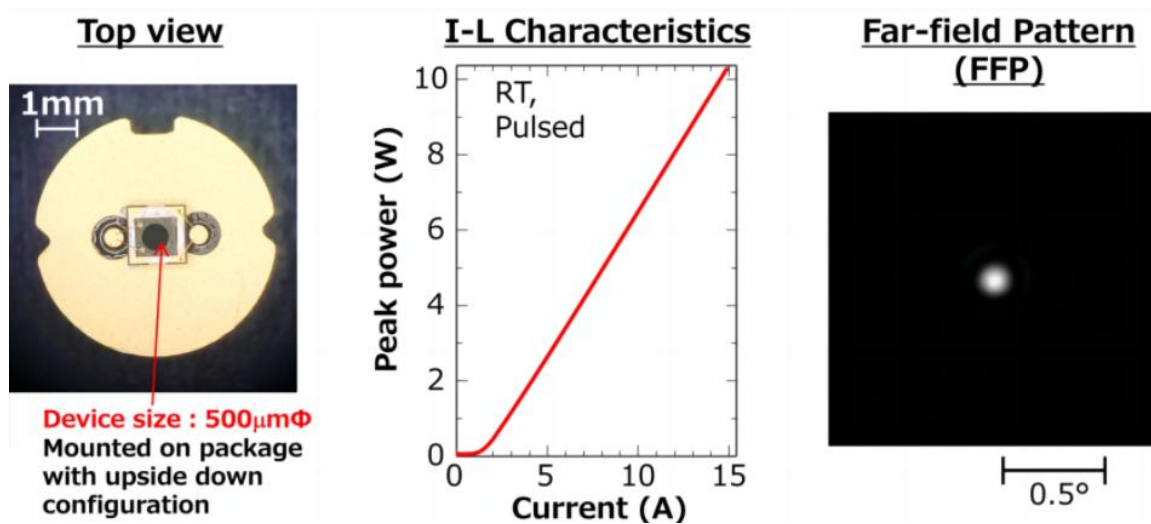
The following R&D samples are available under the Material Transfer Agreement

(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  $500\mu\text{m}\Phi$  that can achieve 10W (or higher) output power (pulse operation) and a narrow beam divergence angle ( $\sim 0.1^\circ$ , FWHM).

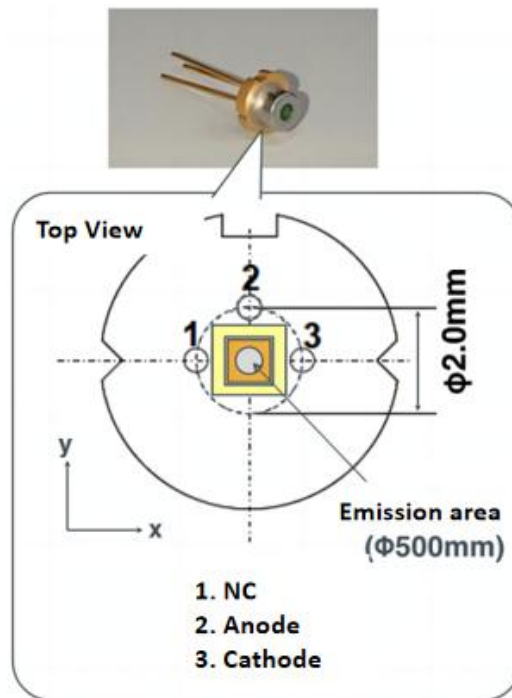
We can also provide a larger area for PCSEL for higher output and narrower divergence. Please contact us.



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

Appearance

$\Phi 5.6\text{mm}$  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 <sup>2</sup>	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

