

The Review of Laser Engineering

THE LASER SOCIETY OF JAPAN

[Available Issues](#) | [Japanese](#)>> [Publisher Site](#)Author: [ADVANCED](#)Volume Page Keyword: [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1349-6603

PRINT ISSN : 0387-0200

The Review of Laser Engineering

Vol. 31 (2003) , No. 8 p.525

[\[Image PDF \(1018K\)\]](#) [\[References\]](#)

1-kW Output Laser

[Hiroshi SEKIGUCHI](#)¹⁾, [Katsuhisa ITO](#)¹⁾, [Akiyoshi TANAKA](#)¹⁾, [Hitoshi YAMAURA](#)¹⁾,
[Hirofumi KAN](#)²⁾ and [Ken-ichi UEDA](#)³⁾

1) HOYA Corporation R and D Center

2) Hamamatsu Photonics K, K Central Research Laboratory

3) Institute for Laser Science, University of Electro-Communications

(Received: February 19, 2003)

Abstract: Fiber lasers are promising for industrial applications because they excel in beam quality, efficiency, compactness, and ruggedness. However, even in the double-clad geometry, the power scalability is severely limited with the end-pumping technique. Indeed, the end faces of an optical fiber offer only a small area and this makes it difficult to launch the pump light from the many high power diode lasers. To solve this pump source multiplexing problem we researched and developed the fiber laser in original which was called "Fiber structure type fiber laser". The disk-shaped, fiber-structure type fiber laser that we developed provides an average output of 1 kW (total output at both ends) and a laser efficiency (electric-to-optical) of 15.6 %. As the fiber laser except for the bundled type, the average output 1 kW is the highest value as long as we know.

Key Words: [Fiber laser](#), [Nd³⁺-doped](#), [Fiber disc laser](#), [Double-clad](#)[\[Image PDF \(1018K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

To cite this article:

Hiroshi SEKIGUCHI, Katsuhisa ITO, Akiyoshi TANAKA, Hitoshi YAMAURA, Hirofumi KAN and Ken-ichi UEDA: The Review of Laser Engineering, Vol. **31**, (2003) p.525 .

doi:10.2184/lcj.31.525

JOI JST.JSTAGE/lcj/31.525

Copyright (c) 2006 by The Laser Society of Japan



[Japan Science and Technology Information Aggregator, Electronic](#)

