

# 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.508

[\[Image PDF \(1202K\)\]](#) [\[References\]](#)

### High-Power 10-kW All-Solid-State Rod-Type Laser

[Hiroshi YUASA](#)<sup>1)</sup>, [Yasuhiro AKIYAMA](#)<sup>1)</sup>, [Hiroyuki TAKADA](#)<sup>1)</sup> and [Naoto NISHIDA](#)<sup>1)</sup>

1) Corporate Manufacturing Engineering Center, Toshiba Corporation

(Received: May 28, 2003)

**Abstract:** Because of their compactness and possibility of attaining high efficiency, laser-diode-pumped Nd:YAG lasers are expected to be applied to laser-based processes such as welding, cutting, drilling and marking. In the “Advanced Photon Processing and Measurement Technologies” project, we have developed and designed a high-power laser-diode-pumped Nd:YAG laser using simulation techniques such as a ray tracing, thermal analysis, and so on. We have successfully obtained a maximum output power of 12 kW with an efficiency of 23%, which to the best of our knowledge are the highest values for an Nd:YAG laser.

**Key Words:** [Laser diode](#), [Nd:YAG](#), [Rod laser](#), [All solid-state laser](#)

[\[Image PDF \(1202K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

To cite this article:

Hiroshi YUASA, Yasuhiro AKIYAMA, Hiroyuki TAKADA and Naoto NISHIDA: The Review of Laser Engineering, Vol. **31**, (2003) p.508 .



---

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

