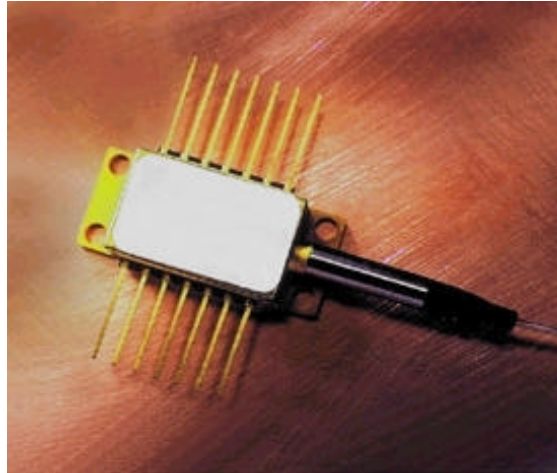


DWDM Components

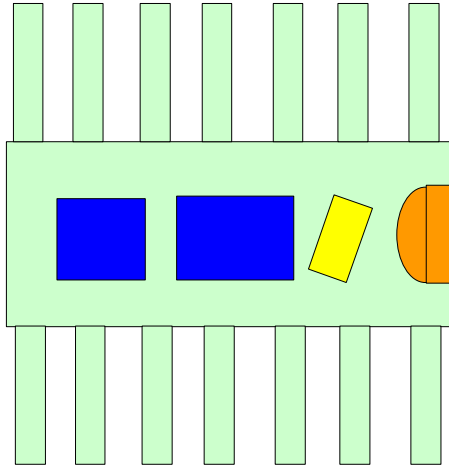


Introduction

Driven by the unprecedented consumer demand for the Internet and Communications products, the quest for greater bandwidth has prompted providers to increase the capacity of existing optical networks by the use of pump laser modules. Several companies now offer uncooled and cooled laser modules that increase digital channel capacity of SONET/SDH and long-haul DWDM systems to 2.5-Gbps and beyond. A few companies offer a vertically integrated design and manufacturing process, allowing development of uniquely powerful, consistent and reliable devices.

The Measurement Need

Just as VLSI circuits need to be packaged in the back-end of a semiconductor process, these DWDM components need to be packaged as well. Telecommunication laser diodes come in either butterfly or DIL (dual-in-line) 14-pin packages. They incorporate a number of components (monitor photodiode, heterostructure laser, collection lens and thermoelectric cooler) that need to be measured for placement accuracy (X, Y, Z and Θ) to ensure high efficiency and low operating voltage of the component. JMAR Precision Systems offers a cost effective bench-top platform to measure these devices at the highest gauge repeatability and reproducibility. Below is a sample of typical performance obtained on our Mirage platform.



3 Sigma	Repeatability	Reproducibility
X,Y,Z	0.10%	0.33%
Theta	0.16%	0.98%

