

Exhibit 6

in support of the Declaration
of Kat Li



US007544276B2

(12) **United States Patent**
Zhang et al.

(10) **Patent No.:** **US 7,544,276 B2**
(45) **Date of Patent:** **Jun. 9, 2009**

(54) **BIASED PULSE DC REACTIVE SPUTTERING OF OXIDE FILMS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 529 days.

(21) Appl. No.: **11/228,834**

(22) Filed: **Sep. 16, 2005**

(65) **Prior Publication Data**
US 2006/0054496 A1 Mar. 16, 2006

Related U.S. Application Data
(62) Division of application No. 10/101,863, filed on Mar. 16, 2002, now Pat. No. 7,378,356.

(51) **Int. Cl.**
C23C 14/34 (2006.01)

(52) **U.S. Cl.** **204/298.08**; 204/298.2;
204/298.06

(58) **Field of Classification Search** 204/298.2,
204/298.06, 298.08
See application file for complete search history.

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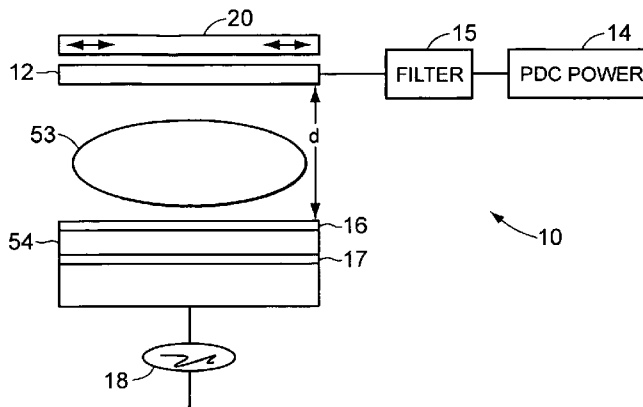
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(57) **ABSTRACT**

A biased pulse DC reactor for sputtering of oxide films is presented. The biased pulse DC reactor couples pulsed DC at a particular frequency to the target through a filter which filters out the effects of a bias power applied to the substrate, protecting the pulsed DC power supply. Films deposited utilizing the reactor have controllable material properties such as the index of refraction. Optical components such as waveguide amplifiers and multiplexers can be fabricated using processes performed on a reactor according to the present invention.

13 Claims, 27 Drawing Sheets



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