

METHOD OF MAKING FIBER PROBE DEVICES USING PATTERNED REACTIVE ION ETCHING

Abstract

A fiber probe is formed from a cladded optical fiber segment, having an
5 inner core region (18) and an outer cladding region (10) by isotropically etching a
lower portion of the fiber segment, followed by cleaving the resulting etched lower
portion. The resulting cleaved endface of the fiber segment is then coated with a
protective layer (40) which is then patterned, to form a patterned protective layer
(42) by exposure to optical radiation propagating down the core (18) of the fiber
10 segment followed by development. A plasma etching, masked by the thus patterned
protective layer, removes a desired height (h) of cladding in the neighborhood of the
cleaved endface. Finally, the lower regions of the fiber segment are subjected to a
further etching to reduce the width of the tip to a desired value (w).

Drawing for publication in O.G.: FIGS. 6, 7, 8, 9

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