

Title (en)  
A REACTIVE ION ETCHING PROCESS

Title (de)  
VERFAHREN ZUM REAKTIVEN IONENÄTZEN

Title (fr)  
PROCEDE DE GRAVURE IONIQUE REACTIVE

Publication  
**EP 1166341 A1 20020102 (EN)**

Application  
**EP 00914290 A 20000330**

Priority  
• GB 0001231 W 20000330  
• GB 9907302 A 19990331

Abstract (en)  
[origin: GB2348399A] The reactive ion etching process (RIE) includes control of etchant gas flow rate and pressure, and radio frequency (r.f.) power to provide an etch rate and/or level of material re-deposition that reduces the surface and sidewall roughness in the manufacture of optical waveguides to 5-100 nm having an etch depth greater than 10#m. The etchant gas may be fluorine based eg CHF<SB>3</SB>, C<SB>2</SB>F<SB>6,</SB> SF<SB>6,</SB> CF<SB>4</SB> or CBrF<SB>5</SB> used together with a process gas eg O<SB>2</SB>, Ar, CH<SB>3,</SB> CH<SB>4</SB> or C<SB>2</SB>H<SB>4</SB>, with flow rates of 5-75 sccm and 0-15 sccm respectively with an etchant gas pressure of 5-120 mTorr. The power density range may be 0.16-0.95 Wcm<SP>-2</SP>.

IPC 1-7  
**H01L 21/311; G02B 6/12**

IPC 8 full level  
**G02B 6/136** (2006.01)

CPC (source: EP)  
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Citation (search report)  
See references of WO 0059020A1

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