

[54] **VERSATILE REACTIVE ION ETCH BARRIERS FROM POLYAMIC ACID SALTS**

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[58] **Field of Search** **252/79.1; 204/192.32, 204/192.35, 192.36, 192.37; 427/38, 39, 43.1; 430/313, 317, 318, 299; 156/628, 635, 643, 646, 653, 655, 656, 657, 659.1, 668, 904; 428/192, 195, 199, 201, 209**

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[57] **ABSTRACT**

The present invention provides a novel approach to forming a RIE etch barrier in processes where thermally stable polymeric materials containing free carboxyl groups, such as polyamic acid polymers, are present as masking layers in the electrical device to be fabricated. The present process takes advantage of the discovery that polyamic acids complex with certain metallic cations under slightly acidic conditions to form polyamic acid salts. These salts can be made to further react with a variety of etching gases to form a non-volatile salt or oxide which imparts etch barrier properties to that portion of the polyamic acid layer exposed to the metallic cations.

17 Claims, 2 Drawing Sheets

