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Residual free reactive ion etching of the Bell contact Ti/Pt/Au

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Abstract

The etching of the complete Bell contact consisting of a layer of Ti/Pt/Au was performed in highly reactive plasmas containing Cl_2 for Ti, PF_3/NF_3 for Pt, and Cl_2 and/or BCl_3 for Au. All the constituents of the Bell contact form volatile compounds in either capacitively-coupled low-density plasmas or high-density plasmas generated by electron cyclotron resonance. This is conditio sine qua non for surfaces and sidewalls which have to remain free of any residues.