

BS ISO 12406:2010



BSI Standards Publication

Surface chemical analysis — Secondary-ion mass spectrometry — Method for depth profiling of arsenic in silicon

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee CII/60, Surface chemical analysis.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Secondary-ion mass spectrometry —
Method for depth profiling of arsenic in
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d'épaisseur*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 12406 was prepared by Technical Committee ISO/TC 201, *Surface chemical analysis*, Subcommittee SC 6, *Secondary ion mass spectrometry*.

Introduction

This International Standard was prepared for the quantitative depth profiling of arsenic in silicon by secondary-ion mass spectrometry (SIMS).

For quantitative depth profiling, calibration is necessary both for the concentration and depth scales of the profile measured. A procedure for the determination of boron atomic concentration in silicon has been established as an International Standard, ISO 14237. A procedure for depth profiling of boron in silicon has been established as an International Standard, ISO 17560. A procedure for the determination of relative-sensitivity factors (RSFs) from ion-implanted reference materials has been established as an International Standard, ISO 18114. A vocabulary of general terms and terms used for spectroscopy in surface chemical analysis has been established as an International Standard, ISO 18115-1. The procedure for the quantitative depth profiling of arsenic in silicon makes use of these other International Standards.

In this International Standard, procedures are described for depth profiling of arsenic in single-crystal, poly-crystal or amorphous silicon using SIMS, and for depth scale calibration using stylus profilometry or optical interferometry.

