

TECHNICAL SPECIFICATION

Piezoelectric and dielectric devices for frequency control and selection –
Glossary –
Part 4-4: Materials – Materials for surface acoustic wave (SAW) devices



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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 61994-4-4, which is a technical specification, has been prepared by IEC technical committee 49: Piezoelectric and dielectric devices for frequency control and selection.

This second edition of IEC 61994-4-4 cancels and replaces the first edition published in 2005.

This edition constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

- Terms and definitions are rearranged in accordance with the order of the alphabet.
- "reduced LN" is appended to terms and definitions.
- "reduced LT" is appended to terms and definitions.
- reduction process is appended to terms and definitions.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
49/890/DTS	49/901/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 61994 series, published under the general title *Piezoelectric and dielectric devices for frequency control and selection – Glossary* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

PIEZOELECTRIC AND DIELECTRIC DEVICES FOR FREQUENCY CONTROL AND SELECTION – GLOSSARY –

Part 4-4: Materials – Materials for surface acoustic wave (SAW) devices

1 Scope

This part of IEC 61994 specifies the terms and definitions for single crystal wafers applied for surface acoustic wave (SAW) devices representing the state of the art, which are intended for use in the standards and documents of IEC technical committee 49.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4287, *Geometrical Product Specifications (GPS) – Surface texture: Profile method – Terms, definitions and surface texture parameters*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

acceptable quality level

AQL

AQL is the maximum percent defective (or the maximum number of defects per hundred units) that, for purposes of sampling inspections, can be considered satisfactory as a process average

[IEC 60410:1973, 4.2]

3.2

as-grown synthetic quartz crystal

single-crystal quartz grown hydrothermally. “As-grown” refers to the state of processing and indicates a state prior to mechanical fabrication

[IEC 61994-4-1:2007, 3.4]

3.3

back surface roughness

definitions of R_a are given in ISO 4287

[IEC 62276:2005, 3.8]

3.4

bevel

slope or rounding of the wafer perimeter. This is also referred to as “edge profile”. The process of creating a bevel is called “bevelling” or “edge rounding”. The profile and its tolerances should be specified by the supplier