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Lithium tantalate and lithium niobate crystals for surface acoustic wave (SAW) device applications - Specifications and measuring methods

Cristaux de tantalate de lithium et de niobate de lithium pour applications utilisant des dispositifs à ondes acoustiques de surface (OAS) - Spécifications et méthodes de mesure

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FOREWORD

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The text of this International Standard is based on the following documents:

Draft	Report on voting
49/1496/CDV	49/1517/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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– reconfirmed,
– withdrawn, or
– revised.

1 Scope

This document applies to lithium tantalate (LT) and lithium niobate (LN) crystals for surface acoustic wave devices, including the as-grown crystals and lumbered crystals.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

– IEC Electropedia: available at https://www.electropedia.org/
– ISO Online browsing platform: available at https://www.iso.org/obp

3.1
as-grown crystal
synthetic crystal without any processing

3.2
crystal orientation
crystallization direction of the crystal

3.3
Curie temperature
T_c
temperature at which a ferroelectric material undergoes a structural phase transition to a state where spontaneous polarization vanishes

Note 1 to entry: The Curie temperature is measured by differential thermal analysis (DTA), differential scanning calorimetry (DSC), or dielectric measurement.

3.4
cylinder length
continuous geometric length which is greater than the minimum diameter of the corresponding specification in as-grown crystal

3.5
cylindricity
difference between the maximum and minimum dimensions of any vertical section of lumbered crystal

3.6
effective length
geometric length after the removal of internal defects and processing defects in the actual length of lumbered crystal