

ICS 31-030
CCS L90



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 16304-2008

Replacing GB/T 16304-1996

**Test methods of the properties for piezoelectric ceramics - Test
for relation between electric field and strain**

压电陶瓷材料性能测试方法 电场应变特性的测试

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Foreword

This standard replaces GB/T 16304-1996 "of piezoelectric ceramic electric field-strain characteristics of the test method." This standard compared with GB/T 16304-1996, there are the following changes.

- Added the relevant terms and definitions;
- Added "laser Doppler vibrometer Law" and test schematic;
- Refine the test procedure;
- Amend the Appendices A and B, the contents of which included in the body of the standard. The standard proposed by China Shipbuilding Industry Corporation. This standard by the National Standardization Technical Committee Marine boat marine materials application technology at the Technical Committee. This standard was drafted. China Shipbuilding Industry Corporation seventh fifteen Institute. The main drafters of this standard. Yusuo Long, cover school week, Wei Wei, Wang Yue group. This standard replaces the standards previously issued as follows:
 - GB/T 16304-1996. Properties of piezoelectric ceramics test methods Field test strain characteristics

1 Scope

GB/T 16304-2008 is the Chinese national standard on test methods of the properties for piezoelectric ceramics - test for relation between electric field and strain, in the field of electronics. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 4 August 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 February 2009. Classification: ICS 31-030, CCS L90. This page is published from

the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the piezoelectric ceramic material under external electric field characteristics of static and dynamic strain test conditions, principle of the method, the test procedure And test results and other statements. This standard applies to testing piezoelectric ceramics field strain characteristics.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 3389.1 ferroelectric ceramics vocabulary

3 Terms and Definitions

GB/T 3389.1 and established the following terms and definitions apply to this standard.

3.1 Static strain quantumofstaticstrain In the DC field excitation, a direction to produce the original size of the deformation and the direction of the ratio of the piezoelectric ceramic material.

3.2 Static strain characteristics propertiesofstaticstrain Static variables with DC excitation should change the relationship between field strength.

3.3 Dynamic strain quantumofdynamicstrain The maximum amplitude of the alternating electric field in the piezoelectric ceramic material incentives, resulting in a certain direction (resonance frequency) and the direction of the original size ratio.

3.4 Dynamic strain characteristics propertiesofdynamicstrain Dynamic strain relations with ac excitation change the electric field intensity.

4.1 Atmospheric conditions

4.1.1 normal atmospheric conditions Normal atmospheric conditions, test sites are as follows:

- a) Temperature. 15 °C ~ 35 °C, during the test temperature should be controlled within ± 2 °C;
- b) Relative humidity. 45% ~ 75%;

c) Pressure. 86kPa ~ 106kPa.

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