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

GB/T 26012-2010

Tantalum wire for capacitors

电容器用钽丝

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Foreword

GB/T 26012-2010 was issued on 10 January 2011 by the General Administration of Quality Supervision, Inspection and Quarantine and the Standardization Administration of the People's Republic of China, and has been in force since 1 October 2011.

The document is a recommended national standard: the /T in the designation marks it as recommended rather than compulsory.

1 Scope

China's national standard for the tantalum wire used inside tantalum capacitors. The wire is the anode lead: it is embedded in the pressed tantalum powder before sintering, and after sintering it is one piece with the anode body, which is what makes it different from an ordinary connecting wire. Everything about the specification follows from that. It must be tantalum of the same purity as the powder, because at sintering temperature any impurity in the wire diffuses into the anode and degrades the dielectric that is grown on it - and in a tantalum capacitor the dielectric is a film a few tens of nanometres thick, so a local defect becomes a leakage path or a short. It must have the right temper, soft, semi-hard or hard, so that it can be handled by the automatic pressing machine without kinking and still stand upright while the anode is formed. And it is supplied in continuous lengths of specified minimum weight, because a machine stoppage to splice wire is a stoppage of the whole line. The standard specifies the requirements, test methods, inspection rules, marking, packaging, transport, storage, quality certificate and contents of the contract or order form for tantalum wire for capacitors, and applies to round wire for tantalum and niobium electrolytic capacitors.

This standard specifies the requirements, test methods, inspection rules, marking, packaging, transport, storage, quality certificate and the contents of the contract or order form for tantalum wire for capacitors.

This standard applies to the round wire used in tantalum and niobium electrolytic capacitors and similar applications.

2 Normative references

The following 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 all amendments, applies.

GB/T 228 Metallic materials - Tensile testing at ambient temperature.

GB/T 15076 (all parts) Methods for chemical analysis of tantalum and niobium.

3.1 Product classification

3.1.1 According to the difference in chemical composition the product is divided into two grades: DTa1, pure tantalum wire, and DTa2, doped tantalum wire. Each grade is further divided, according to its use, into wire for solid electrolytic capacitors, designated SDTa1 and SDTa2, and wire for liquid tantalum electrolytic capacitors, designated LDTa1 and LDTa2.

3.1.2 The delivery condition of the product is divided into three states: soft, denoted M; semi-hard, denoted Y2; and hard, denoted Y.

3.1.3 The grade, type, state, specification and minimum weight of a single length shall comply with Table 1, which pairs each type with its range of diameters and with the minimum weight of a single continuous length - the solid capacitor grades being supplied in the finer diameters and the liquid capacitor grades in the coarser ones.

3.2 Chemical composition

The chemical composition of the product shall comply with Table 2.