

CCS L97



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

GB/T 15861-2012

Replacing GB/T 15861-1995

General specification of ion beam etching system

离子束蚀刻机通用规范

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Foreword

This standard rule according to GB/T 1.1-2009 given draft. This standard replaces GB/T 15861-1995 "ion beam etching machine general technical conditions." This standard and GB/T 15861-1995 compared to the main changes are as follows:

- GB n193-1983 replaced by GB/T 13384-1992, SJ2573-1985 replaced by SJ/T10674-1995;
- Ambient temperature was $20\text{ }^{\circ}\text{C} \pm 10\text{ }^{\circ}\text{C}$ [see 5.1a)];
- Beam energy adjustment range is $0 \sim 2000\text{eV}$, adjustable (see 5.4.1);
- Table 1, current density 0.5mA/cm^2 adjusted $\geq 0.3\text{mA/cm}^2$, 1mA/cm^2 adjusted to 0.8mA/cm^2 (see Table 1); Increasing the beam current density energy 2000eV when $\geq 1\text{mA/cm}^2$ (see Table 1);
- Effective beam diameter specification adds $\phi 50$ and $\phi 100$ are two, removed $\phi 60$ (see 5.4.4);
- And ways to increase the "electron source and device" (see 5.4);
- Beam current density detection method for a clearer representation (see 6.4.2);
- "Thickness uniformity of $\pm 5\%$ of the etched sample" to "thickness uniformity of better than $\pm 2\%$, the thickness of $2\mu\text{m}$, a mask pattern was prepared Etching Samples "(see 6.4.10);
- Inspection rules remove routine test items (see 7);
- Addition of provisions before packaging inspection (see 8.2.1). The standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China. The standard by the China Electronics Standardization Institute. This standard was drafted. China Electronics Technology Group Corporation 48th Research Institute. The main drafters of this standard. Super-Chen, Zhou Daliang. This standard replaces the standards previously issued as follows:
 - GB/T 15861-1995. General specification for ion beam etching

1 Scope

GB/T 15861-2012 is the Chinese national standard on general specification of ion beam etching system. 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 5 November 2012 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 15 February 2013. Classification: ICS (ICS) , CCS L97. 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 ion beam etching machine terms, product classifications, technical requirements, test methods, inspection rules and packaging, transportation, Storage. This standard applies to the corrosive effects of general physical sputtering ion beam etching machine. Other special ion beam etching machine can also be implemented by reference.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated edition applies to this article Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 191 Packing Pictorial marking

GB/T 4857.7-2005 Basic tests for transport packages - Part 7. fixed-frequency sinusoidal vibration test method

GB/T 5080.7-1986 Equipment reliability testing efficiency constant failure rate assumption under the MTBF of the verification test Inspection program

GB/T 6388-1986 transport package shipping mark

GB/T 13384-1992 mechanical and electrical products packaging General technical conditions SJ/T142 Electronic equipment General specification SJ/T1276 metal plating and chemical treatment layer quality inspection technical requirements SJ/T10674 coating is applied to general technical conditions

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Beam energy beamenergy Characterization of the kinetic energy of ions in the ion

beam.

Note. The unit of electron volts (eV).

3.2 Beam current density beamcurrentdensity Ion beam current density per unit area through on a given section.

3.3 Effective beam diameter effectivebeamdiameter Hit the target on the uniformity of the beam current density of the beam diameter in the range of the desired value (not less than $\pm 5\%$) or less.

3.4 Beam uniformity uniformityofbeamcurrent Ion beam cross section on a specified difference between any test point within the effective diameter of the beam current density range of variation of the maximum and minimum and its Than the percentage.