

Harmonized system of quality assessment for electronic components

Sectional specification: Multilayer printed boards

The European Standard EN 123300 : 1992 has the status of a
British Standard

National foreword

This British Standard has been prepared under the direction of the Electronics Components Standards Policy Committee. It is identical with CENELEC Electronic Components Committee (CECC) 23300 : 1985 'Harmonized system of quality assessment for electronic components: Sectional specification: Multilayer printed boards' and incorporates amendment 1 (1986) of CECC 23300.

This standard is a harmonized specification within the CECC system and should be read in conjunction with BS CECC 23000. In 1992 the CENELEC Electronic Components Committee (CECC) accepted CECC 23300 : 1985 as European Standard EN 123300 : 1992.

Cross-references

International standard	Corresponding British Standard
IEC 68	BS 2011 Basic environmental testing procedures (Most Parts are identical)
IEC 249	BS EN 60249 Base materials for printed circuits
IEC 326-2	BS 6221 : Printed wiring boards Part 2 : 1982 Methods of test (Technically equivalent)
IEC 326-6	Part 6 : 1982 Method for specifying multilayer printed wiring boards (Identical)
CECC 23000	BS CECC 23000 : 1988 Harmonized system of quality assessment for electronic components: generic specification printed boards (Identical)

There is no British Standard equivalent to CECC 00 010 which comprises only a list of the tests in IEC 326-2 and its supplement IEC 326-2A.

The Technical Committee has reviewed the provisions of IEC 194, IEC 321 and IEC 326-3 to which reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

The following table identifies the current issue of each page. Issue 1 indicates that a page has been introduced for the first time by amendment. Subsequent issue numbers indicate an updated page. Double vertical sidelining on replacement pages indicates the most recent changes (amendment, addition, deletion).

Page	Issue	Page	Issue
Front cover	2	18	2
Inside front cover	2	19 to 24	original
a	1	25	2
b	blank	26	original
EN title page	1	27	2
d	1	28 to 30	original
1 to 15	original	Inside back cover	original
16	2	Back cover	2
17	2		

Wherever BS CECC 2300 appears in this standard, it should be read as BS EN 123000.

ICS 31.186

Descriptors: Multilayer printed boards, characteristics, capability test, quality conformance inspection, test patterns

English version

**Sectional Specification:
Multilayer printed boards
(includes amendment A1 : 1995)**

Spécification intermédiaire:
Cartes imprimées multicouches
(inclut l'amendement A1 : 1995)

Rahmenspezifikation:
Mehrlagen-Leiterplatten
(enthält Änderungen A1 : 1995)

This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 12 December 1991. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword to amendment A1 : 1995

This amendment was prepared by CLC/TC
CECC/WG 23.

The text of the draft was submitted to the Unique
Acceptance Procedure and was approved by
CENELEC as amendment A1 to EN 123300 : 1992
on 1995-07-04.

The following dates were fixed:

- latest date by which the
amendment has to be
implemented at national
level by publication of an
identical national standard
or by endorsement (dop) 1996-07-01
- latest date by which the
national standards
conflicting with the
amendment have to be
withdrawn (dow) 1996-07-01

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FOREWORD

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and be the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby accepted by all member countries without further testing.

This specification has been formally approved by the CECC, and has been prepared for those countries taking part in the System who wish to issue national harmonized SECTIONAL SPECIFICATIONS for MULTILAYER PRINTED BOARDS. It should be read in conjunction with the current regulations for the CECC System.

At the date of printing of this document the member countries of the CECC are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom, and copies of it can be obtained from the addresses shown on the blue fly sheet.

PREFACE

This Sectional Specification was prepared by CECC Working Group 23: Printed Circuits.

It is based on publications of the International Electrotechnical Commission (IEC).

The text of this specification was circulated to the CECC for voting in the documents indicated below and was ratified by the President of the CECC for printing as a CECC Specification.

<u>Document</u>	<u>Date of Voting</u>	<u>Report on the Voting</u>
CECC(Secretariat)1054/1054A	November 1981	CECC(Secretariat)1252
CECC(Secretariat)1549	August 1984	CECC(Secretariat)1640

SECRETARIAT NOTE:

DUE TO THE URGENT INDUSTRIAL NEED FOR THIS SPECIFICATION, THE PRESIDENT OF THE CECC HAS RULED THAT IT BE PUBLISHED WITHOUT THE FULL EDITORIAL PROCEDURE BEING APPLIED. USERS OF THE SPECIFICATION ARE ASKED TO REPORT TO THE CECC GENERAL SECRETARIAT ANY ERRORS THEY FIND SO THAT AMENDING ACTION CAN BE INITIATED.

The text is published initially in English and German. The French version will follow as soon as it has been prepared.

1. Introduction

IEC 326-6 is the IEC Standard for multilayer printed boards. The following document comprises this IEC Standard and in accordance with the generic specification CECC 23 000 the information additionally necessary for printed boards intended to be handled within the CENELEC system for Electronic Components of Assessed Quality.

1.1 Scope and Object

This document is a Sectional Specification (SS) relating to multilayer printed boards irrespective of their method of manufacture, when they are ready for mounting of the components. It defines the characteristics to be assessed and the test methods to be used for capability approval testing and for quality conformance inspection (lot-by-lot and periodic inspection).

1.2 Related documents

IEC 68	- Basic environmental testing procedures
IEC 194	- Terms and definitions for printed circuits
IEC 249	- Metal-clad base materials for printed circuits
IEC 321	- Guidance for the design and use of components intended for mounting on printed boards.
IEC 326-2	- Printed boards - test methods
IEC 326-3	- Design and use of printed boards
IEC 326-6	- Specification for multilayer printed boards boards
CECC 00 010	- Printed boards - test methods
CECC 23 000	- Generic Specification Printed boards of assessed quality.

2. General

This Sectional Specification (SS) applies to multilayer printed boards and is intended as a basis for the preparation of

- Capability Detail Specification (Cap DS) applying to specific materials, e.g. according to IEC 249-2, and to be used for capability approval procedures.
It may be necessary to have a Cap DS for each type of material.
A Cap DS may be prepared by an international or a national body or by a manufacturer (see also CECC 00 111).
- Customer Detail Specification (CDS) for the custom built printed boards, according to 5 of CECC 23 000. The CDS will normally be written by the customer and allocated a number within his own system.

Further details are also given in CECC 23 000 and in CECC 00 107 Part III.

Table I contains the basic characteristics that will normally be important for multilayer printed boards and makes reference to the appropriate tests to verify these characteristics.

Table II contains the additional characteristics that may be important for certain multilayer printed boards and/or certain applications and makes reference to the appropriate tests to verify these characteristics. Where necessary, the relevant specification may quote characteristics and tests from this Table II.

Where additional details for a test have to be specified in the relevant specification, this is indicated by an asterisk in the relevant column. These details shall then be specified in accordance with CECC 00 010 (IEC 326-2).

Table III contains the capability test programme. A specified composite test pattern (CTP) is used as capability qualifying component.

Table IV contains the information for the quality conformance inspection.

The tables are not intended to prescribe a test sequence, the tests may be carried out in any sequence, unless otherwise specified.

3. Test specimens

3.1 Capability Approval

3.1.1 Basic Capability

The test shall be carried out on the composite test pattern given in 8.

3.1.2 Additional Capability

3.5.3 of CECC 23 000 shall apply. For multiple arrangements see also 8.