

Specification for

**Harmonized system of
quality assessment for
electronic
components —
Semiconductor
devices — Integrated
circuits —**

Blank detail specification —

**Linear digital-to-analogue converters
(DAC)**

Amendments issued since publication

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National foreword

This British Standard has been prepared under the direction of the Electronic Components Standards Policy Committee, ECL/-. It is identical with IEC Publication IEC 748-4.1:1993 (QC 790303) *Semiconductor devices — Integrated circuits — Part 4: Interface integrated circuits — Section 1: Blank detail specification for linear digital-to-analogue converters (DAC)* published by the International Electrotechnical Commission (IEC) and is a harmonized specification within the IECQ system of quality assessment for electronic components.

This blank detail specification is one of a series of blank detail specifications for semiconductor devices to be used with BS QC 700000:1991 *Harmonized system of quality assessment for electronic components. Generic specification for discrete devices and integrated circuits* and BS QC 790100:1991 *Harmonized system of quality assessment for electronic components. Semiconductor devices. Sectional specification for semiconductor integrated circuits excluding hybrid circuits*.

Cross-references

International Standard ^a	Corresponding British Standard
IEC 68-2-17	BS 2011 <i>Environmental testing</i> Part 2.1Q:1981 <i>Test Q. Sealing</i> (Identical)
IEC 747-1	BS 6493 <i>Semiconductor devices</i> Part 1 <i>Discrete devices</i> Section 1.1:1984 <i>General</i> (Identical)
IEC 747-10	BS QC 700000:1991 <i>Harmonized system of quality assessment for electronic components. Generic specification for discrete devices and integrated circuits</i> (Identical)
	BS 6493 <i>Semiconductor devices</i> Part 2. <i>Integrated circuits</i>
IEC 748-1	Section 2.1:1985 <i>General</i> (Identical)
IEC 748-4	Section 2.4:1989 <i>Recommendations for interface integrated circuits</i> (Identical)
IEC 748-11	BS QC 790100:1991 <i>Harmonized system of quality assessment for electronic components. Semiconductor devices. Sectional specification for semiconductor integrated circuits excluding hybrid circuits</i> (Identical)
IEC 749	BS 6493 <i>Semiconductor devices</i> Part 3:1985 <i>Mechanical and climatic test methods</i> (Identical)
QC 001002	BS QC 001002:1991 <i>Rules of Procedure of the IEC Quality Assessment System for Electronic Components (IECQ)</i> (Identical)

^a Undated in the text.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 16 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Introduction

The IEC Quality Assessment System for Electronic Components is operated in accordance with the statutes of the IEC and under the authority of the IEC. The object of this system is to define quality assessment procedures in such a manner that electronic components released by one participating country as conforming with the requirements of an applicable specification are equally acceptable in all other participating countries without the need for further testing.

This blank detail specification is one of a series of blank detail specifications for semiconductor devices and shall be used with the following IEC publications:

747-10/QC 700000, *Semiconductor devices — Discrete devices and integrated circuits — Part 10: Generic specification for discrete devices and integrated circuits.*

748-11/QC 790100, *Semiconductor devices — Integrated circuits — Part 11: Sectional specification for semiconductor integrated circuits excluding hybrid circuits.*

Required information

Numbers shown in brackets on this and the following pages correspond to the following items of required information, which should be entered in the spaces provided.

Identification of the detail specification

- [1] The name of the National Standards Organization under whose authority the detail specification is issued.
- [2] The IECQ number of the detail specification.
- [3] The numbers and issue numbers of the generic and sectional specifications.
- [4] The national number of the detail specification, date of issue and any further information, if required by the national system.

Identification of the component

- [5] Main function and type number.
 - [6] Information on typical construction (materials, the main technology) and the package. If the device has several kinds of derivative products, those differences should be indicated, e.g. features of the characteristics in the comparison table.
- If the device is electrostatic sensitive, a caution statement shall be added in the detail specification.
- [7] Outline drawing, terminal identification, marking and/or reference to the relevant document for outlines.
 - [8] Category of assessed quality according to **2.6** of the generic specification.
 - [9] Reference data.

Example of reference data:

- Linear D/A converter with a single input and an invariable reference or linear multiplying D/A converter with double inputs, one of the two being a variable analogue reference;
 - Unipolar and/or bipolar circuitry;
 - Voltage or current output;
 - Offset and gain-adjustable errors or zero-scale and full-scale non-adjustable errors, etc.
- (Indication of these essential values.)

[Throughout this standard, the texts given in square brackets are intended for guidance to the specification writer and shall not be included in the detail specification.]

[When confusion may arise as to whether a paragraph is only instruction to the writer or not, the paragraph shall be indicated between brackets.]

[Name (address) of responsible NAI (and possibly of body from which specification is available).]	[1]	[Number of IECQ detail specification, plus issue number and/or date.] QC 790303	[2]	
ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH: Generic specification: Publication 747-10/QC 700000 Sectional specification: Publication 748-11/QC 790100 [and national references if different].	[3]	[National number of detail specification.] [This box need not be used if the national number repeats the IECQ number.]	[4]	
BLANK DETAIL SPECIFICATION FOR: LINEAR DIGITAL-TO-ANALOGUE CONVERTERS (DAC)				[5]
[Type number(s) of the relevant device(s).] Ordering information: see subclause 1.2 of this standard.				
Mechanical description <i>Outline references</i> [Standard package reference should be given, IEC number (mandatory if available) and/or national number.] <i>Outline drawing</i> [may be transferred to or given with more details in clause 8 of this standard]. <i>Terminal identification</i> [drawing showing pin assignments, including graphical symbols]. <i>Marking</i> [letters and figures, or colour code]. [The detail specification shall prescribe the information to be marked on the device, if any.] [See subclause 2.5 of the generic specification and/or subclause 1.1 of this standard.]	[7]	Short description Application: Function: Typical construction: [Si, monolithic, bipolar, MOS.] Encapsulation: [cavity or non-cavity.] [Comparison table of characteristics for variant products.] <i>CAUTION:</i> Electrostatic sensitive devices. Categories of assessed quality [From subclause 2.6 of the generic specification.] Reference data [Reference data on the most important properties to permit comparison between types.]	[6] <	

1 Marking and ordering information

1.1 Marking

See 2.5 of the generic specification.

The detail specification shall prescribe the information marked for the relevant types, such as letters, figures and/or codes.

When the marking contains information other than that specified in 2.5 of the generic specification, such as that used for the manufacturer's internal use, it shall be distinguished.

If all the information has already appeared in box [7] of the front page, this shall be indicated.