

Specification for

**Harmonized system of
quality assessment
for electronic
components —
Semiconductor discrete
devices —
Blank detail
specification —**

**Field-effect transistors for case-rated
power amplifier applications**

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
National foreword	ii
Introduction	1
Short description	2
Mechanical description	2
Categories of assessed quality	2
Reference data	2
4 Limiting values (absolute maximum system)	3
5 Electrical characteristics	4
6 Marking	6
7 Ordering information	6
8 Test conditions and inspection requirements	6
9 Group D — Qualification approval tests	14
10 Additional information (not for inspection purposes)	14

National foreword

This British Standard has been prepared under the direction of the Electronic Components Standards Policy Committee. It is identical with IEC 747-8-2:1993: QC 750106 *Semiconductor devices — Discrete devices — Part 8: Field-effect transistors — Section 2. Blank detail specification for field-effect transistors for case-rated power amplifier applications*, published by the International Electrotechnical Commission (IEC).

Cross-references

International Standard ^a	Corresponding British Standard
IEC 68-2-17:1978	BS 2011 <i>Environmental testing</i> Part 2.1Q:1981 <i>Test Q. Sealing</i> (Identical)
IEC 191-2:1966	BS 3934 <i>Mechanical standardization of semiconductor devices</i> Part 2:1992 <i>Schedule of international drawings giving dimensions</i> (Identical)
IEC 747-1:1983	BS 6493 <i>Semiconductor devices</i> Section 1.1:1984 <i>General</i> (Identical)
IEC 747-2:1983	Section 1.2:1984 <i>Recommendations for rectifier diodes</i> (Identical)
IEC 747-8:1984	Section 1.8:1985 <i>Recommendations for field-effect transistors</i> (Identical)
IEC 747-8-1:1988	BS QC 750112:1988 <i>Specification for harmonized system of quality assessment for electronic components. Semiconductor devices. Discrete devices. Field-effect transistors. Blank detail specification for single-gate field-effect transistors, up to 5 W and 1 GHz</i> (Identical)
IEC 747-10/ QC 700000:1981	BS QC 700000:1991 <i>Harmonized system of quality assessment for electronic components. Semiconductor devices. Generic specification for discrete devices and integrated circuits</i> (Identical)
IEC 747-11/ QC 750000:1985	BS QC 750000:1986 <i>Harmonized system of quality assessment for electronic components. Discrete semiconductor devices. Sectional specification</i> (Identical)
IEC 749:1984	BS 6493 <i>Semiconductor devices</i> Part 3:1985 <i>Mechanical and climatic test methods</i> (Identical)

^a Some standards are 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 and ii, pages 1 to 14 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 700000:1991, *Semiconductor devices. Discrete devices — Part 10: Generic specification for discrete devices and integrated circuits.*

747-11/QC 750100:1985, *Semiconductor devices. Discrete devices — Part 11: Sectional specification for discrete devices.*

Required information

Numbers shown in brackets on this and the following page 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] Type of component.
- [6] Information on typical construction and applications. If a device is designed to satisfy several applications, this shall be stated here. Characteristics, limits and inspection requirements for these applications shall be met.
If a device is electrostatic sensitive, or contains hazardous materials, e.g. beryllium oxide, a caution statement shall be added in the detail specification.
- [7] Outline drawing and/or reference to the relevant document for outlines.
- [8] Category of assessed quality.
- [9] Reference data on the most important properties to permit comparison between component types.

[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.]

[Throughout this standard, when a characteristic or rating applies, “×” denotes that a value shall be inserted in the detail specification.]

[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.] [2]
ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH: Generic specification: Publication 747-10/QC 700000 Sectional specification: Publication 747-11/QC 750100 [and national references if different.] [3]	[National number of detail specification.] [4] [This box need not be used if national number repeats IECQ number.]
DETAIL SPECIFICATION FOR: FIELD-EFFECT TRANSISTORS FOR CASE-RATED POWER AMPLIFIER APPLICATION [5] [Type number(s) of the relevant device(s).] Ordering information: see clause 7 of this standard.	
Mechanical description [7] <i>Outline references:</i> IEC 191-2 [mandatory if available] and/or national [if there is no IEC outline.] <i>Outline drawing</i> [may be transferred to or given with more details in clause 10 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 generic specification and/or clause 6 of this standard.] [Polarity indication, if a special method is used.]	Short description [6] Case-rated field-effect transistors for power amplifier applications. Device type: Type A: Junction or Schottky gate Type B: Insulated-gate depletion Type C: Insulated-gate enhancement Semiconductor material: [Si] Polarity: [N-channel or P-channel] Encapsulation: [cavity or non-cavity.] CAUTION: Observe precautions for handling electrostatic sensitive devices if applicable. Categories of assessed quality [8] [From subclause 2.6 of the generic specification.] Reference data [9] [plus any important quick reference data: T_{amb} , T_{case} , voltage.]
Information about manufacturers who have components qualified to this detail specification is available in the current Qualified Products List.	