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FINAL VERSION

Semiconductor devices –
Part 16-3: Microwave integrated circuits – Frequency converters

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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This Consolidated version of IEC 60747-16-3 bears the edition number 1.2. It consists of the first edition (2002-05) [documents 47E/212/FDIS and 47E/219/RVD], its amendment 1 (2009-03) [documents 47E/357/CDV and 47E/372/RVC] and its amendment 2 (2017-08) [documents 47E/545/CDV and 47E/562/RVC]. The technical content is identical to the base edition and its amendments.

This Final version does not show where the technical content is modified by amendments 1 and 2. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 60747-16-3 has been prepared by subcommittee 47E: Discrete semiconductor devices, of IEC technical committee 47: Semiconductor devices.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

SEMICONDUCTOR DEVICES –

Part 16-3: Microwave integrated circuits – Frequency converters

1 Scope

This part of IEC 60747 provides new measuring methods, terminology and letter symbols as well as essential ratings and characteristics for integrated circuit microwave frequency converters.

2 Normative references

The following referenced 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 any amendments) applies.

IEC 60050-702, *International Electrotechnical Vocabulary – Chapter 702: Oscillations, signals and related devices* (available at < http://www.electropedia.org/ >)

IEC 60617, *Graphical symbols for diagrams* (available at < http://std.iec.ch/iec60617 >)

IEC 60747-1:2006, *Semiconductor devices – Part 1: General*
IEC 60747-1:2006/AMD 1:2010

IEC 60748-2:1997, *Semiconductor devices – Integrated circuits – Part 2: Digital integrated circuits*

IEC 60748-3, *Semiconductor devices – Integrated circuits – Part 3: Analogue integrated circuits*

IEC 60748-4, *Semiconductor devices – Integrated circuits – Part 4: Interface integrated circuits*

IEC 61340-5-1:2007, *Electrostatics – Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements*

IEC/TR 61340-5-2:2007, *Electrostatics – Part 5-2: Protection of electronic devices from electrostatic phenomena – User guide*

3 Terms and definitions

For the purpose of this part of IEC 60747, the following terms and definitions apply:

3.1
conversion gain, G_c
ratio of the desired converted output power to the input power

NOTE Usually, the conversion gain is expressed in decibels.

3.2
conversion gain flatness, ΔG_c
difference between the maximum and the minimum conversion gain for a specified input power in a specified frequency range