
Polprevodniški elementi - 16-6. del: Mikrovalovna integrirana vezja - Frekvenčni množitelji (IEC 60747-16-6:2019)

Semiconductor devices - Part 16-6: Microwave integrated circuits - Frequency multipliers (IEC 60747-16-6:2019)

Halbleiterbauelemente - Teil 16-6: Integrierte Mikrowellenschaltkreise - Frequenzvervielfachung (IEC 60747-16-6:2019)

Dispositifs à semiconducteurs - Partie 16-6: Circuits intégrés hyperfréquences - Multiplicateurs de fréquence (IEC 60747-16-6:2019)

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EUROPEAN STANDARD
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**Semiconductor devices - Part 16-6: Microwave integrated
circuits - Frequency multipliers
(IEC 60747-16-6:2019)**

Dispositifs à semiconducteurs - Partie 16-6: Circuits
intégrés hyperfréquences - Multiplicateurs de fréquence
(IEC 60747-16-6:2019)

Halbleiterbauelemente - Teil 16-6: Integrierte
Mikrowellenschaltkreise - Frequenzvervielfachung
(IEC 60747-16-6:2019)

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EN IEC 60747-16-6:2019 (E)**European foreword**

The text of document 47E/602/CDV, future edition 1 of IEC 60747-16-6, prepared by SC 47E "Discrete semiconductor devices" of IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60747-16-6:2019.

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- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-04-30
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Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|------------------|-------------|
| IEC 60617 | - | Graphical symbols for diagrams | - | - |
| IEC 60747-1 | 2006 | Semiconductor devices - Part 1: General | - | - |
| + A1 | 2010 | | - | - |
| IEC 60747-4 | - | Semiconductor devices - Discrete devices - - Part 4: Microwave diodes and transistors | - | - |
| IEC 60747-16-3 | 2002 | Semiconductor devices - Part 16-3: EN 60747-16-3 Microwave integrated circuits - Frequency converters | - | 2002 |
| + A1 | 2009 | | + A1 | 2009 |
| + A2 | 2017 | | + A2 | 2017 |
| IEC 61340-5-1 | - | Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements | EN 61340-5-1 | - |
| IEC/TR 61340-5-2 | - | Electrostatics -- Part 5-2: Protection of electronic devices from electrostatic phenomena - User guide | CLC/TR 61340-5-2 | - |

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NORME INTERNATIONALE

Semiconductor devices –
Part 16-6: Microwave integrated circuits – Frequency multipliers

Dispositifs à semiconducteurs –
Partie 16-6: Circuits intégrés hyperfréquences – Multiplicateurs de fréquence

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CONTENTS

| | |
|---|----|
| FOREWORD..... | 4 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 6 |
| 4 Essential ratings and characteristics | 8 |
| 4.1 General requirements | 8 |
| 4.1.1 Circuit identification and types | 8 |
| 4.1.2 General function description | 8 |
| 4.1.3 Manufacturing technology | 8 |
| 4.1.4 Package identification | 8 |
| 4.2 Application description | 8 |
| 4.2.1 Conformance to system and/or interface information | 8 |
| 4.2.2 Overall block diagram | 8 |
| 4.2.3 Reference data | 8 |
| 4.2.4 Electrical compatibility | 8 |
| 4.2.5 Associated devices | 9 |
| 4.3 Specification of the function | 9 |
| 4.3.1 Detailed block diagram – Functional blocks | 9 |
| 4.3.2 Identification and function of terminals | 9 |
| 4.3.3 Function description | 10 |
| 4.4 Limiting values (absolute maximum rating system) | 10 |
| 4.4.1 Requirements | 10 |
| 4.4.2 Electrical limiting values | 10 |
| 4.4.3 Temperatures | 11 |
| 4.5 Operating conditions (within the specified operating temperature range) | 11 |
| 4.6 Electrical characteristics | 12 |
| 4.7 Mechanical and environmental ratings, characteristics and data | 12 |
| 4.8 Additional information | 12 |
| 5 Measuring methods | 13 |
| 5.1 General | 13 |
| 5.1.1 General precautions | 13 |
| 5.1.2 Characteristic impedance | 13 |
| 5.1.3 Handling precautions | 13 |
| 5.1.4 Types | 13 |
| 5.2 Output power (P_O) | 13 |
| 5.2.1 Purpose | 13 |
| 5.2.2 Circuit diagram | 13 |
| 5.2.3 Principle of measurement | 13 |
| 5.2.4 Circuit description and requirements | 14 |
| 5.2.5 Precautions to be observed | 14 |
| 5.2.6 Measurement procedure | 14 |
| 5.2.7 Specified conditions | 14 |
| 5.3 Conversion gain (G_C) | 14 |
| 5.3.1 Purpose | 14 |
| 5.3.2 Circuit diagram | 15 |
| 5.3.3 Principle of measurement | 15 |
| 5.3.4 Circuit description and requirements | 15 |

| | | |
|----------|--|----|
| 5.3.5 | Precautions to be observed | 15 |
| 5.3.6 | Measurement procedure | 15 |
| 5.3.7 | Specified conditions..... | 15 |
| 5.4 | Input return loss ($L_{\text{ret(in)}}$) | 15 |
| 5.4.1 | Purpose | 15 |
| 5.4.2 | Circuit diagram | 15 |
| 5.4.3 | Principle of measurement | 16 |
| 5.4.4 | Circuit description and requirements..... | 16 |
| 5.4.5 | Precautions to be observed | 16 |
| 5.4.6 | Measurement procedure | 16 |
| 5.4.7 | Specified conditions..... | 17 |
| 5.5 | Output return loss ($L_{\text{ret(out)}}$) | 17 |
| 5.5.1 | Purpose | 17 |
| 5.5.2 | Circuit diagram | 17 |
| 5.5.3 | Principle of measurement | 17 |
| 5.5.4 | Circuit description and requirements..... | 18 |
| 5.5.5 | Precautions to be observed | 18 |
| 5.5.6 | Measurement procedure | 18 |
| 5.5.7 | Specified conditions..... | 18 |
| 5.6 | Fundamental isolation (P_O/P_1) | 19 |
| 5.6.1 | Purpose | 19 |
| 5.6.2 | Circuit diagram | 19 |
| 5.6.3 | Principle of measurement | 19 |
| 5.6.4 | Circuit description and requirements..... | 19 |
| 5.6.5 | Precautions to be observed | 19 |
| 5.6.6 | Measurement procedure | 19 |
| 5.6.7 | Specified conditions..... | 20 |
| 5.7 | n-th order harmonic isolation (P_O/P_{nth}) | 20 |
| 5.7.1 | Purpose | 20 |
| 5.7.2 | Circuit diagram | 20 |
| 5.7.3 | Principle of measurement | 20 |
| 5.7.4 | Circuit description and requirements..... | 20 |
| 5.7.5 | Precautions to be observed | 20 |
| 5.7.6 | Measurement procedure | 20 |
| 5.7.7 | Specified conditions..... | 21 |
| 5.8 | Phase noise ($\mathcal{S}(f)$) | 21 |
| 5.8.1 | Purpose | 21 |
| 5.8.2 | Measuring methods | 21 |
| Figure 1 | – Circuit diagram for the measurement of the output power..... | 13 |
| Figure 2 | – Circuit diagram for the measurement of the input return loss..... | 16 |
| Figure 3 | – Circuit diagram for the measurement of the output return loss..... | 17 |
| Figure 4 | – Circuit diagram for the measurement of the phase noise $\mathcal{S}(f)$ (method 1) | 22 |
| Figure 5 | – Circuit diagram for the measurement of the phase noise $\mathcal{S}(f)$ (method 2) | 23 |
| Figure 6 | – Circuit diagram for the measurement of the phase noise $\mathcal{S}(f)$ (method 3) | 24 |
| Table 1 | – Comparison of phase noise measuring methods..... | 21 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES –

Part 16-6: Microwave integrated circuits –
Frequency multipliers

FOREWORD

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International Standard IEC 60747-16-6 has been prepared by subcommittee 47E: Discrete semiconductor devices, of IEC technical committee 47: Semiconductor devices.

The text of this International Standard is based on the following documents:

| | |
|-------------|------------------|
| CDV | Report on voting |
| 47E/602/CDV | 47E/622A/RVC |

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

The French version of this standard has not been voted upon.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60747 series, published under the general title *Semiconductor devices*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

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SEMICONDUCTOR DEVICES –

Part 16-6: Microwave integrated circuits – Frequency multipliers

1 Scope

This part of IEC 60747 specifies the terminology, essential ratings and characteristics, and measuring methods of microwave integrated circuit frequency multipliers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 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 60747-4, *Semiconductor devices – Discrete devices – Part 4: Microwave diodes and transistors*

<https://standards.iteh.ai/catalog/standards/sist/e604b602-7116-41c7-87d6-76a284d67684/sist-en-iec-60747-16-6-2019>

IEC 60747-16-3:2002, *Semiconductor devices – Part 16-3: Microwave integrated circuits – Frequency converters*

IEC 60747-16-3:2002/AMD 1:2009

IEC 60747-16-3:2002/AMD 2:2017

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

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

output frequency

f_o

frequency which equals the input frequency multiplied by the multiplying factor N , where N is an integer