

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Semiconductor devices –
Part 16-1: Microwave integrated circuits – Amplifiers**

**Dispositifs à semiconducteurs –
Partie 16-1: Circuits intégrés hyperfréquences – Amplificateurs**



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CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terminology	6
4 Essential ratings and characteristics.....	8
4.1 General.....	8
4.2 Application related description.....	9
4.3 Specification of the function	10
4.4 Limiting values (absolute maximum rating system)	11
4.5 Operating conditions (within the specified operating temperature range)	13
4.6 Electrical characteristics.....	13
4.7 Mechanical and environmental ratings, characteristics and data.....	15
4.8 Additional information.....	15
5 Measuring methods	15
5.1 General.....	15
5.2 Linear (power) gain (G_{lin})	16
5.3 Linear (power) gain flatness (ΔG_{lin})	18
5.4 Power gain (G_p).....	19
5.5 (Power) gain flatness (ΔG_p)	19
5.6 (Maximum available) gain reduction (ΔG_{red})	20
5.7 Limiting output power ($P_{o(ltg)}$)	21
5.8 Output power (P_o)	22
5.9 Output power at 1 dB gain compression ($P_{o(1dB)}$)	23
5.10 Noise figure (F)	24
5.11 Intermodulation distortion (P_n/P_1) (two-tone).....	26
5.12 Power at the intercept point (for intermodulation products) ($P_{n(IP)}$)	28
5.13 Magnitude of the input reflection coefficient (input return loss) ($ s_{11} $)	29
5.14 Magnitude of the output reflection coefficient (output return loss) ($ s_{22} $)	30
5.15 Magnitude of the reverse transmission coefficient (isolation) ($ s_{12} $)	34
5.16 Conversion coefficient of amplitude modulation to phase modulation ($\alpha_{(AM-PM)}$)	35
5.17 Group delay time ($t_{d(grp)}$).....	37
5.18 Power added efficiency	38
5.19 n th order harmonic distortion ratio (P_{nth}/P_1)	40
5.20 Output noise power (P_N)	41
5.21 Spurious intensity under specified load VSWR (P_{sp}/P_o)	43

Figure 1 – Circuit for the measurements of linear gain	16
Figure 2 – Basic circuit for the measurement of the noise figure	24
Figure 3 – Basic circuit for the measurements of two-tone intermodulation distortion	26
Figure 4 – Circuit for the measurements of magnitude of input/output reflection coefficient (input/output return loss)	29
Figure 5 – Circuit for the measurement of output reflection coefficient	32
Figure 6 – Circuit for the measurement of isolation	34
Figure 7 – Basic circuit for the measurement of $\alpha_{(AM-PM)}$	35
Figure 8 – Circuit for the measurement of the power added efficiency	38
Figure 9 – Circuit for the measurements of the nth order harmonic distortion ratio	40
Figure 10 – Circuit diagram for the measurement of the output noise power	42
Figure 11 – Circuit diagram for the measurement of the spurious intensity	44

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES –

Part 16-1: Microwave integrated circuits – Amplifiers

FOREWORD

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International Standard IEC 60747-16-1 has been prepared by subcommittee 47E: Discrete semiconductor devices, of IEC technical committee 47: Semiconductor devices.

This bilingual version (2012-09) corresponds to the monolingual English version, published in 2001-11.

The text of this standard is based on the following documents:

FDIS	Report on voting
47E/200/FDIS	47E/204/RVD

Full information on the voting for the approval of this 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 publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

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

SEMICONDUCTOR DEVICES –

Part 16-1: Microwave integrated circuits – Amplifiers

1 Scope

This part of IEC 60747 provides the terminology, the essential ratings and characteristics, as well as the measuring methods for integrated circuit microwave power amplifiers.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60747. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60747 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60617-12:1997, *Graphical symbols for diagrams – Part 12: Binary logic elements*

IEC 60617-13:1993, *Graphical symbols for diagrams – Part 13: Analogue elements*

IEC 60747-1:1983, *Semiconductor devices – Discrete devices – Part 1: General*

IEC 60747-7:2000, *Semiconductor devices – Part 7: Bipolar transistors*

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

IEC 60748-3:1986, *Semiconductor devices – Integrated circuits – Part 3: Analogue integrated circuits*

IEC 60748-4:1997, *Semiconductor devices – Integrated circuits – Part 4: Interface integrated circuits*

3 Terminology

3.1

linear (power) gain G_{lin}

power gain in the linear region of the power transfer curve $P_o \text{ (dBm)} = f(P_i)$

NOTE In this region, $\Delta P_o \text{ (dBm)} = \Delta P_i \text{ (dBm)}$.

3.2

linear (power) gain flatness ΔG_{lin}

power gain flatness when the operating point lies in the linear region of the power transfer curve

3.3

power gain G_p , G

ratio of the output power to the input power

NOTE Usually the power gain is expressed in decibels.