# **EESTI STANDARD**

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Semiconductor devices - Part 16-4: Microwave integrated circuits - Switches M. BORRIEN ORNER BURKEN KURKEN ORNER BURKEN KURKEN K



## EESTI STANDARDI EESSÕNA

#### NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60747-16- 4:2004 sisaldab Euroopa standardi EN 60747-	This Estonian standard EVS-EN 60747-16- 4:2004 consists of the English text of the
16-4:2004 ingliskeelset teksti.	European standard EN 60747-16-4:2004.
Standard on kinnitatud Eesti Standardikeskuse 16.11.2004 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 16.11.2004 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 30.09.2004.	Date of Availability of the European standard text 30.09.2004.
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# EUROPEAN STANDARD

# EN 60747-16-4

# NORME EUROPÉENNE

# EUROPÄISCHE NORM

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English version

# Semiconductor devices Part 16-4: Microwave integrated circuits – Switches (IEC 60747-16-4:2004)

Dispositifs à semiconducteurs Partie 16-4 : Circuits intégrés hyperfréquences – Commutateurs (CEI 60747-16-4:2004) Halbleiterbauelemente Teil 16-4: Integrierte Mikrowellenschaltkreise – Schalter (IEC 60747-16-4:2004)

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European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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#### Foreword

The text of document 47E/256/FDIS, future edition 1 of IEC 60747-16-4, prepared by SC 47E, Discrete semiconductor devices, of IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60747-16-4 on 2004-09-01.

The following dates were fixed:

latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2005-06-01
latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-09-01

Annex ZA has been added by CENELEC.

#### **Endorsement notice**

The text of the International Standard IEC 60747-16-4:2004 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60747-16-1 NOTE Harmonized as EN 60747-16-1:2002 (not modified).

# Annex ZA

(normative)

#### Normative references to international publications with their corresponding European publications

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.

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

Publication	<u>Year</u>	Title	<u>EN/HD</u>	Year
IEC 60617-12	- 1)	Graphical symbols for diagrams Part 12: Binary logic elements	EN 60617-12	1998 2)
IEC 60617-13	_ 1)	Part 13: Analogue elements	EN 60617-13	1993 <sup>2)</sup>
IEC 60747-1	1983	Semiconductor devices - Discrete devices Part 1: General	-	-
A3	1996		-	-
IEC 60747-4	- 1)	Part 4: Microwave diodes and transistors	-	-
IEC 60748-2-1	_ 1)	Semiconductors devices - Integrated circuits Part 2: Digital integrated circuits - Section one - Blank detail specification for bipolar monolithic digital integrated circuit gates (excluding uncommitted logic arrays)	-	-
IEC 60748-3	_ 1)	Part 3: Analogue integrated circuits	-	-
IEC 60748-4	_ 1)	Part 4: Interface integrated circuits	-	-
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<sup>1)</sup> Undated reference	ce.			

<sup>1)</sup> Undated reference.

<sup>&</sup>lt;sup>2)</sup> Valid edition at date of issue.

# INTERNATIONAL STANDARD



First edition 2004-07

# Semiconductor devices -

Part 16-4: Microwave integrated circuits – Switches



Reference number IEC 60747-16-4:2004(E)

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## CONTENTS

FO		RD			
1	Scop	e	5		
2	Norm	ative references	5		
3	3 Terms and definitions				
4	Essei	ntial ratings and characteristics	7		
	4.1	Circuit identification and types	7		
	4.2	Application description	8		
	4.3	Specification of the function	8		
	4.4	Limiting values (absolute maximum rating system)	10		
	4.5	Operating conditions (within the specified operating temperature range)	11		
	4.6	Electrical characteristics	11		
	4.7	Mechanical and environmental ratings, characteristics and data	12		
	4.8	Additional information			
5	Meas	uring methods	13		
	5.1	General	13		
	5.2	Insertion loss (L <sub>ins</sub> )			
	5.3	Isolation (L <sub>iso</sub> )	16		
	5.4	Return loss ( <i>L</i> <sub>ret</sub> )	18		
	5.5	Input power at 1 dB compression $(P_{i(1dB)})$ and output power at 1 dB			
	E C	compression $(P_{o(1dB)})$ Turn-on time $(t_{on})$ , turn-off time $(t_{off})$ , rise time $(t_{r(out)})$ , and fall time $(t_{f(out)})$	20		
	5.6				
	5.7 5.9	Adjacent channel power ratio $(P_{o(mod)}/P_{adj})$			
	5.8	n-th order harmonic distortion ratio ( <i>P</i> <sub>nth</sub> / <i>P</i> <sub>1</sub> )	20		
Bibl	liograp	ohy	28		
Figu	ure 1 -	- Circuit diagram for the measurement of the insertion loss <i>L</i> ins	14		
Figu	ure 2 -	- Circuit diagram for the measurement of the isolation <i>L</i> <sub>iso</sub>	16		
		- Circuit for the measurements of the return loss			
		- Circuit for the measurements of switching time			
		- Input and output waveforms			
-					
-		- Circuit for the measurement of the adjacent channel power ratio			
Figu	ure 7 -	- Circuit diagram for the n-th order harmonic distortion ratio	26		
		2			
			5		

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### **SEMICONDUCTOR DEVICES –**

#### Part 16-4: Microwave integrated circuits – Switches

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60747-16-4 has been prepared by subcommittee 47E: Discrete semiconductor devices, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47E/256/FDIS	47E/261/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.

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

The committee has decided that the contents of this publication 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

- 4 -

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

if this put A bilingual version of this publication may be issued at a later date.

#### **SEMICONDUCTOR DEVICES –**

#### Part 16-4: Microwave integrated circuits – Switches

#### 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 switches.

There are many combinations for RF ports in switches, such as SPST (single pole single throw), SPDT (single pole double throw), SP3T (single pole triple throw), DPDT (double pole double throw), etc. Switches in this standard are based on SPDT. However, this standard is applicable to the other types of switches.

#### 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 60617-12, Graphical symbols for diagrams – Part 12: Binary logic elements

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

IEC 60747-1(1983), Semiconductor devices – Discrete devices and integrated circuits – Part 1: General

Amendment 3 (1996)

IEC 60747-4, Semiconductor devices – Discrete devices – Part 4: Microwave devices

IEC 60748-2, 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