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UTE

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CECC 90 101-001

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COMPOSANTS ELECTRONIQUES SOUS ASSURANCE
DE QUALITE CONFORMEMENT A :
ELECTRONIC COMPONENTS OF ASSESSED QUALITY
IN ACCORDANCE WITH :

GS : CECC 90 000 (NF C 86-020)

SS : CECC 90 100 (NF C 86-200)

FS : CECC 90 101 (NF C 86-213)

UTE C 86-213/B 21

Adoptée le 16 novembre 1987

BS9401 F019, 024, 029

BS9401 F053, 058, 063

BS9401 F240 to F246

Issue 2

July, 1977

DESSIN ET DIMENSIONS :
OUTLINE AND DIMENSIONS :

CEI 191-2 - Types 050 G 04 - 050 G 03
IEC 191-2 - Types 050 G 04 - 050 G 03

Référence française : F 105 - F 105A
French reference :

IDENTIFICATION DES CONNEXIONS
TERMINAL CONNECTIONS

Voir Tableau II
See Table II

SPECIFICATION PARTICULIERE POUR
MICROSTRUCTURES LOGIQUES SELON FS 90 101
DETAIL SPECIFICATION FOR DIGITAL INTEGRATED
CIRCUITS IN ACCORDANCE WITH FS 90 101

54/64/74 00

CIRCUITS ET-NON
QUAD 2-INPUT NAND GATES

TECHNOLOGIE DE FABRICATION :
TYPICAL CONSTRUCTION :

Circuit monolithique bipolaire au silicium, boîtiers
avec ou sans cavité.

Silicon monolithic bipolar integrated circuit,
cavity/non-cavity packages.

NIVEAUX D'ASSURANCE DE QUALITE : P, Y, L
ASSESSMENT LEVELS :

AMENDMENTS TO THE FOLLOWING CLAUSES

§ 2 - Add :

Most negative low level input voltage at an input current : $I_{IKB} = -12 \text{ mA}$, $V_{IKB} = -1,5 \text{ V}$

§ 3 To be replaced by CECC 90 000/3 § 2.5

§ 4 To be deleted

§ 5 To be replaced by CECC 90 000/3 § 2.6

§ 6 To be replaced by CECC 90 000/3 § 4.10.1

§ 7 All inspection level and AQL are those specified in 90 100/3.

Replace A3b by A4a, A3c by A4b, A4 by A5.

Add A8 of 90 100/3 (Assessment level P only).

Apply to A2 extreme temperature testing with A7a/A7b 90 000 inspection requirements.

For groups B, C, D, apply 90 100/3.

Sub-groups A6, A7 : not applicable.

Se reporter à la Liste des Produits Homologués CECC 00 200 en vigueur pour connaître les fabricants dont les
composants conformes à cette spécification particulière sont homologués.

Information about manufacturers who have components qualified to this detail specification is available in the current
CECC 00 200 : Qualified Products List.



Documents

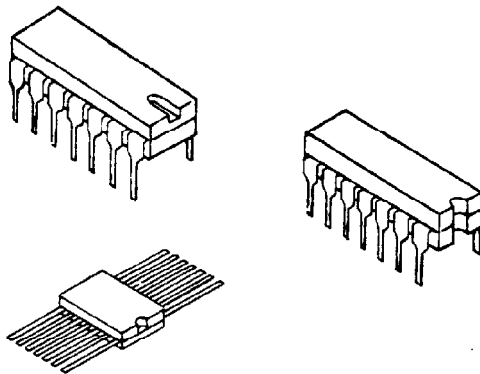
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BS9401 F019,024,029
BS9401 F053,058,063
BS9401 F240 to 246
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ELECTRONIC COMPONENTS OF ASSESSED QUALITY: DETAIL SPECIFICATION

Outlines not to scale



For details dimensions:
14 Lead Flat-Pack — see Appendix I
14 Lead Dual in-line — BS 3934 SO-87B

SILICON MONOLITHIC TTL
QUADRUPLE 2-INPUT NAND
GATES WITH TOTEM POLE
OUTPUTS

FULL ASSESSMENT LEVEL AND
APPLICATION CATEGORIES
S1, S2, S3 AND S4

TYPES

5400
6400
7400

See Clause 5

CERAMIC/GLASS HERMETICALLY
SEALED ENCAPSULATION OR
DUAL-IN-LINE PLASTIC
ENCAPSULATION

1. Limiting conditions of use (not for inspection purposes)

Absolute values (non-simultaneous)			Units
V_{CC}	Maximum continuous positive supply voltage	7.0	V
	Maximum continuous negative supply voltage	0.5	V
	Maximum continuous positive input voltage	5.5	V
	Maximum continuous negative input voltage	0.5	V
$-I_{IL}$	Maximum input current	1.6	mA
	Maximum reverse input current	1.0	mA
T_{amb}	Ambient operating temperature range	5400	-55 to +125 °C
		6400	-40 to + 85 °C
		7400	0 to + 70 °C
T_{stg}	Storage temperature range		-65 to +150 °C
	Shock (0.5 ms duration)	14 700	m/s ²
	Vibration	196	m/s ²

Copies of this specification are available from manufacturers listed in the Qualified Products List Part 1, of PD 9002.

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2. Recommended conditions of use and associated characteristics (not for inspection purposes)

Over the full ambient operating temperature range unless otherwise stated.

			Min.	Max.	Units
V_{CC}	Positive supply voltage	5400	4.5	5.5	V
		6400 & 7400	4.75	5.25	V
V_{IH}	HIGH state input voltage	5400	2.0	5.5	V
		6400 & 7400	2.0	5.25	V
I_{CCL}	Total supply current per package at V_{CC} maximum value LOW state outputs			22.0	mA
I_{CCH}	Total supply current per package at V_{CC} maximum value HIGH state outputs			8.0	mA
V_{OH}	HIGH state output voltage		2.4		V
V_{IL}	LOW state input voltage		0	0.8	V
V_{OL}	LOW state output voltage			0.4	V
$I_{IH(1)}$	HIGH state input current at, $V_{IN} = V_{IH}$ maximum value			1.0	mA
$I_{IH(2)}$	HIGH state input current at, $V_{IN} = 2.4V$			40.0	μA
$-I_{IL}$	LOW state input current at, $V_{IN} = 0.4V$			1.6	mA
I_{OL}	LOW state output current,			16.0	mA
$-I_{OH}$	HIGH state output current			400.0	μA
$-I_{OS}$	Output short-circuit current	5400	20.0	55.0	mA
		6400 & 7400	18.0	55.0	mA
t_{PHL}	HIGH to LOW state propagation time at 25°C*			15.0	ns
t_{PLH}	LOW to HIGH state propagation time at 25°C*			22.0	ns

*See subgroup A4 for details

Table 1

Function table (each gate)

INPUT		OUTPUT
A	B	
H	H	L
L	H	H
H	L	H
L	L	H

H = HIGH state

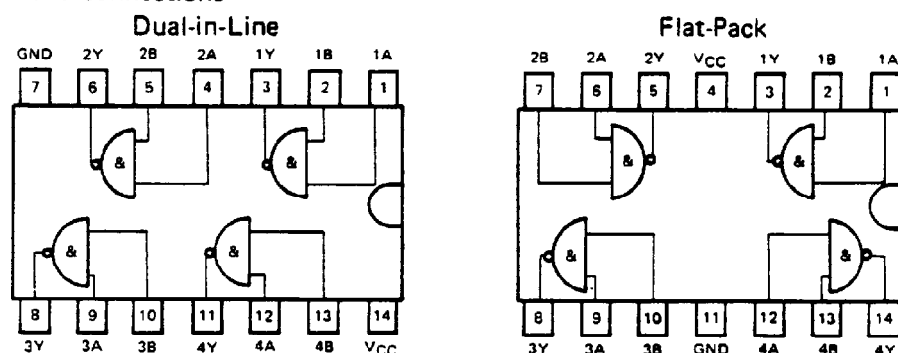
L = LOW state

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Table 11

Logic diagram and connections



3. Marking

(1) Each integrated circuit shall bear the following markings

- Terminal identification.
- The manufacturer's type number.
- The factory identification code, or manufacturer's trade mark.
- The date code.

(2) Each package containing one or more of these circuits shall bear the markings b, c and d above and in addition.

- The BS detail specification number. Example BS 9401 F053

4. Related documents

BS 3934 'Dimensions of semiconductor devices'

BS 6001 'Sampling procedures and tables for inspection by attributes'

BS 9000 'General requirements for electronic components of assessed quality'

PD 9002 'Qualified products list for electronic components of assessed quality'

BS 9400 'Integrated electronic circuits of assessed quality: Generic data and methods of test'

5. Ordering information

Orders for these integrated circuits shall contain the following minimum information:

Manufacturer's integrated circuit type and package identification as detailed in PD 9002 to BS 9401 F... as defined below.

TYPE		APPLICATION CATEGORY				FULL ASSESSMENT LEVEL
		S1	S2	S3	S4	
CERAMIC Dual-in-line and Flat-Pack	5400	F053	F058	F063	F240	F019
	6400	*	F241	F242	F243	F024
	7400	*	F244	F245	F246	F029
PLASTIC Dual-in-line	5400	*	*	*	*	F019
	6400	*	*	*	*	F024
	7400	*	*	*	*	F029

* = Not available at present.