

UTE

Spécification française harmonisée
Système CENELEC d'assurance de la qualité
12, Place des Etats-Unis
75783 PARIS CEDEX 16

Téléphone : (1) 47 23 72 57

Télex : 620434F

CECC 90 101-011

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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 31

Adoptée le 16 novembre 1987

BS9403 F109 to F121

Issue 1

June, 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 16

INVERSEURS DE PUISSANCE
A SORTIES COLLECTEUR OUVERT

*HEX INVERTER BUFFER/DRIVERS
WITH OPEN COLLECTOR OUTPUTS*

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).

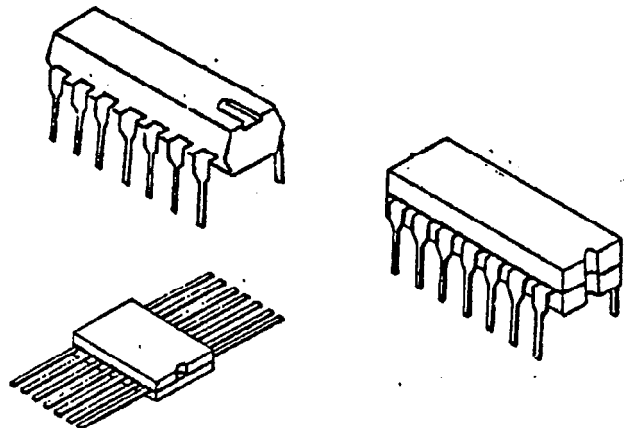
Apply to A2 extreme temperature testing with A7a/A7b 90 000 inspection requirements.

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.

TEXAS INSTRUMENTS LIMITED, MANTON LANE, BEDFORD. TELEPHONE: BEDFORD 67466 TELEX: 82178	BS 9403 F109 to F121 ISSUE 1, JUNE, 1977
ELECTRONIC COMPONENTS OF ASSESSED QUALITY : DETAIL SPECIFICATION	
Outlines not to scale  For detail dimensions 14 lead Flat-Pack - see Appendix I 14 lead Dual-in-Line - BS 3934 SO-87B	SILICON MONOLITHIC TTL HEX. INVERTER BUFFER/ DRIVERS WITH OPEN COLLECTOR OUTPUTS
	FULL ASSESSMENT LEVEL AND APPLICATION CATEGORIES S1, S2, S3 AND S4
	TYPES 5416 6416 7416 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)

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	5416	-55 to +125 °C
		6416	-40 to + 85 °C
		7416	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

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2. RECOMMENDED CONDITIONS OF USE AND ASSOCIATED CHARACTERISTICS

(Not for inspection purposes)

These characteristics apply over the ambient operating temperature range unless otherwise stated.

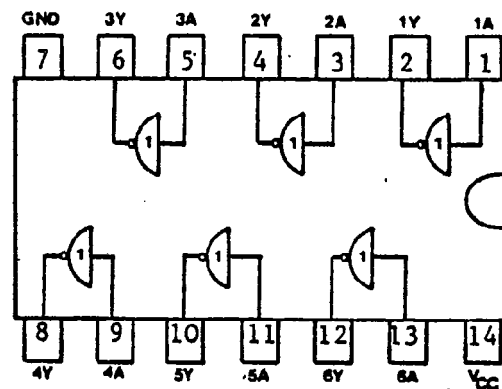
			Min.	Max.	Unit.
V_{CC}	Positive supply voltage	5416	4.5	5.5	V
		6416 and 7416	4.75	5.25	V
V_{IH}	HIGH state input voltage	5416	2.0	5.5	V
		6416 and 7416	2.0	5.25	V
I_{CCL}	Total supply current per package at V_{CC} max. value LOW state output		-	51.0	mA
I_{CCH}	Total supply current per package at V_{CC} max. value HIGH state output		-	48.0	mA
V_{IL}	LOW state input voltage		-	0.8	V
V_{OH}	HIGH state output voltage		-	15.0	V
V_{OL}	LOW state output voltage		-	0.7	V
I_{OHX}	HIGH state output current		-	250.0	μ A
I_{OL}	LOW state output current	5416	-	30.0	mA
		6416 and 7416	-	40.0	mA
$-I_{IL}$	LOW state input current at $V_{IL} = 0.4$ V		-	1.6	mA
$I_{IH(1)}$	HIGH state input current at $V_{IH} = 5.5$ V		-	1.0	mA
$I_{IH(2)}$	HIGH state input current at $V_{IH} = 2.4$ V		-	40.0	μ A
t_{PHL}	HIGH to LOW state propagation time at 25 °C $C_L = 15$ pF $R_L = 110 \Omega$		-	23.0	ns
t_{PLH}	LOW to HIGH state propagation time at 25 °C $C_L = 15$ pF $R_L = 110 \Omega$		-	15.0	ns

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TABLE IFUNCTION TABLE

INPUT	OUTPUT
H	L
L	H

H = HIGH state L = LOW state

TABLE IILOGIC CONNECTIONS

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3. MARKING

3.1 Each integrated circuit shall bear the following markings :

- (a) Terminal Identification.
- (b) The Manufacturer's type number.
- (c) The factory identification code.
- (d) The date code.

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

- (e) The B.S. detail specification number.

4. RELATED DOCUMENTS

This specification shall be read in conjunction with :

- 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 :

The integrated circuit type and package identification suffix to BS 9403 F.... as defined below :

		APPLICATION CATEGORY				FULL ASSESSMENT LEVEL
		S1	S2	S3	S4	
<u>CERAMIC</u> Dual-in-line (J) and Flat-pack (W)	5416	F109	F110	F111	F112	F113
	6416		F114	F115	F116	F117
	7416		F118	F119	F120	F121
<u>PLASTIC</u> Dual-in-line (N)	5416					F113
	6416					F117
	7416					F121
IDENTIFICATION PREFIX			SNB	SNN	SNX	SNS

EXAMPLE:

SNB 5416J to BS 9403 F110 defines a 5416 ceramic dual-in-line device to Application Category S2