

UTE

Spécification française harmonisée
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CECC 90 101-058

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Page 0

Nombre total de pages : 18
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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 78

Adoptée le 16 novembre 1987

BS9440 F0470 to F0482

Issue 1
July, 1980

DESSIN ET DIMENSIONS :
OUTLINE AND DIMENSIONS :

CEI 191-2 - Types 050 G 09 - 050 G 08
IEC 191-2 - Types 050 G 09 - 050 G 08

Référence française : F 117 - F 117A
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

54/64/74 221

MONOSTABLE AVEC REMISE A ZERO
ET ENTREES TRIGGER DE SCHMITT
*DUAL MONOSTABLE MULTIVIBRATORS
WITH SCHMITT TRIGGER INPUTS*

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 : $I_{IKB} = -12 \text{ mA}$, $V_{IKB} = -1,5 \text{ V}$

- Page 2, $I_{IH}(1)$ parameter : replace max. limit 0,1 mA by 1,0 mA

- Page 2, I_{OL} parameter : replace max. limit 15 mA by 16 mA

§ 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.

- Page 7, V_{OL} parameter : replace $I_{OUT} = 4 \text{ mA}$ by $I_{OUT} = 16 \text{ mA}$

- Page 8, V_{OH} parameter : condition $I_{OUT} = -800 \mu\text{A}$ must be added

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**

Document Sharing Hub

Specification available from:- As shown in PD 9002

Page 1 of 16 pages

ELECTRONIC COMPONENTS OF ASSESSED QUALITY

DETAIL SPECIFICATION IN ACCORDANCE WITH
BS 9400: 1970

MANUFACTURER'S TYPE NUMBER

54 221

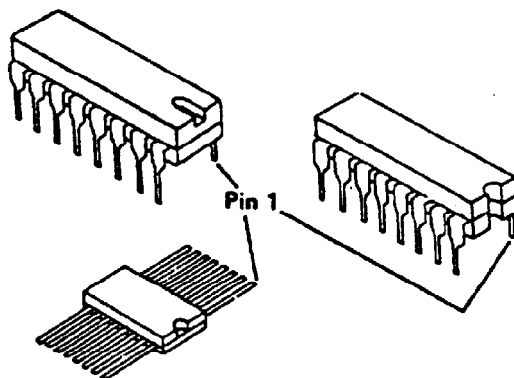
64 221

74 221

SEE PD 9002

For ordering information
see clause 5.SILICON MONOLITHIC TTL DUAL
MONOSTABLE MULTIVIBRATORS
WITH SCHMITT TRIGGER INPUTS.CERAMIC/GLASS HERMETICALLY
SEALED ENCAPSULATION OR
DUAL-IN-LINE PLASTIC
ENCAPSULATIONFULL ASSESSMENT LEVEL AND
APPLICATION CATEGORIES
S1, S2, S3 and S4

Outline not to scale. Isometric projection.



For detail dimensions:

16 Lead Flatpack — See Appendix I

16 Lead Dual-in-line — BS 3934 SO-87C

Marking information — See Clause 3

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
V_{IN}	Maximum continuous positive input voltage		7.0 V
$-V_{IN}$	Maximum continuous negative input voltage (non-clamping mode)		0.5 V
$-I_{IN}$	Maximum negative input current (clamping mode)		18.0 mA
T_{amb}	Ambient operating temperature range	54 221	-55°C to +125°C
		64 221	-40°C to +85°C
		74 221	0°C to +70°C
T_{stg}	Storage temperature range		-65°C to +150°C
	Shock (0.5 ms duration)		14 700 m/s ²
	Vibration		196 m/s ²

Refer to Qualified Products List PD 9002 for details of manufacturers approved to this specification

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 54 221 64 221 & 74 221	4.5 4.75	5.5 5.25	V V
I_{CC}	Total supply current per package Quiescent Triggered	— —	50.0 80.0	mA mA
V_{IN}	Maximum input voltage states	-0.3	5.5	V
V_{T+}	Positive-going threshold voltage Input A and B	—	2.0	V
V_{T-}	Negative-going threshold voltage Input A and B	0.8	—	V
V_{OH}	HIGH state output voltage	2.4	—	V
V_{OL}	LOW state output voltage $I_{OL} = 16.0\text{mA}$	—	0.4	V
$-V_{IC}$	Input clamping voltage $-I_{IN} = 18\text{mA}$	—	1.5	V
$I_{IH(1)}$	HIGH state input current $V_{IN} = V_{IN\text{ max.}}$	—	0.1	mA
$I_{IH(2)}$	HIGH state input current $V_{IN} = V_{OH\text{ min.}}$ Input A Input B, Clear	— —	40.0 80.0	μA μA
$-I_{IL}$	LOW state input current $V_{IN} = V_{OL\text{ max.}}$ Input A Input B) Clear)	— — —	1.6 3.2	mA mA mA
$-I_{OH}$	HIGH state output current	—	800.0	μA
I_{OL}	LOW state output current	—	15.0	mA
$-I_{OS}$	Short circuit output current 54221 64221, 74221	20.0 18.0	55.0 55.0	mA mA

2. RECOMMENDED CONDITIONS OF USE AND ASSOCIATED CHARACTERISTICS (Contd.)

SWITCHING CHARACTERISTICS (See figure 4)

 $V_{CC} = 5\text{ V}$, $T_{amb} = 25^{\circ}\text{C}$, $R_L = 2\text{ K}\Omega$, $C_L = 15\text{ pF}$

		Min.	Max.	Unit
t_{PHL}	HIGH to LOW state propagation delay time $C_{ext} = 80\text{ pF}$, $R_{ext} = 2\text{ K}\Omega$ A to $\bar{Q}$ B to $\bar{Q}$ Clear to Q	— — —	80.0 65.0 27.0	ns ns ns
t_{PLH}	LOW to HIGH state propagation delay time $C_{ext} = 80\text{ pF}$, $R_{ext} = 2\text{ K}\Omega$ A to Q B to Q Clear to $\bar{Q}$	— — —	70.0 55.0 40.0	ns ns ns
$t_{p(out)}$	Maximum output pulse width (See figure 2) $C_{ext} = 80\text{ pF}$, $R_{ext} = 2\text{ K}\Omega$ A to Q or $\bar{Q}$ B to Q or $\bar{Q}$ $C_{ext} = 0$, $R_{ext} = 2\text{ K}\Omega$ A to Q or $\bar{Q}$ B to Q or $\bar{Q}$ $C_{ext} = 100\text{ pF}$, $R_{ext} = 10\text{ K}\Omega$ A to Q or $\bar{Q}$ B to Q or $\bar{Q}$ $C_{ext} = 1\text{ }\mu\text{F}$, $R_{ext} = 10\text{ K}\Omega$ A to Q or $\bar{Q}$ B to Q or $\bar{Q}$	70.0 20.0 600.0 6.5	150.0 50.0 750.0 7.5	ns ns ns ms
$t_{p(in)}$	Maximum input pulse width A or B Clear	50.0 20.0	— —	ns ns
t_{set-up}	Clear—inactive—state set-up time	15.0	—	ns
R_{ext}	External timing resistor 54 221 64. 221 & 74 221	1.4 1.4	30.0 40.0	K Ω K Ω
C_{ext}	External timing capacitor	0	1000.0	μF

TABLE 1

FUNCTION TABLE

INPUTS			OUTPUTS	
CLEAR	A	B	Q	$\bar{Q}$
L	X	X	L	H
X	H	X	L	H
X	X	L	L	H
H	L	↑		
H	↓	H		
↑	L	H		

H = HIGH state

L = LOW state

X = Logic state irrelevant

↓ = Transition from HIGH to LOW state

↑ = Transition from LOW to HIGH state

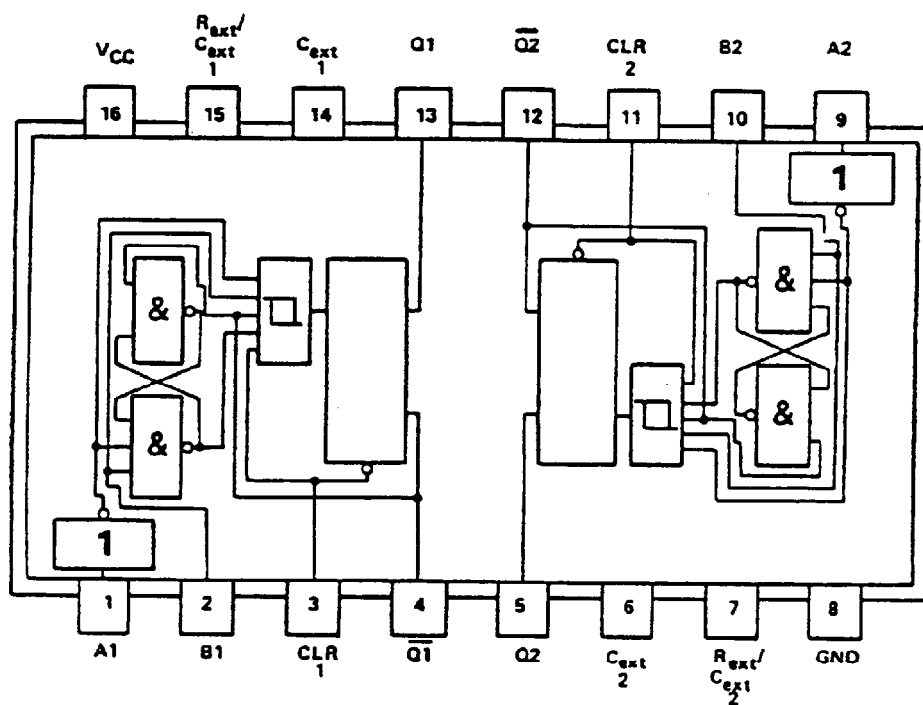


▬ = One high level pulse

▬ = One low level pulse

TABLE II

PIN CONNECTION DIAGRAM



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, or manufacturer's trade mark.
- (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.

- BS 2011 Basic environmental testing procedures.
- 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.
- BS 9400 Integrated electronic circuits of assessed quality: Generic data and methods of test.
- PD 9002 Qualified Products List for electronic components of assessed quality.

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 9440 F..... as defined below -

TYPE		APPLICATION CATEGORY				FULL ASSESSMENT LEVEL
		S1	S2	S3	S4	
CERAMIC Dual-in-line and Flatpack	54221	F0470	F0471	F0472	F0473	F0474
	64221	.	F0475	F0476	F0477	F0478
	74221	.	F0479	F0480	F0481	F0482
PLASTIC Dual-in-line	54221	.	.	.	.	F0474
	64221	.	.	.	.	F0478
	74221	.	.	.	.	F0482

Note: . Not available at present.