

UTE

Spécification française harmonisée
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CECC 90 101-022

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Nombre total de pages : 20
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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 42

Adoptée le 16 novembre 1987

BS9440 F0640 to F0652

Issue 1

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DESSIN ET DIMENSIONS :
OUTLINE AND DIMENSIONS :

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

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 47A

DECODEUR BCD POUR COMMANDE DIRECTE
D'UN CIRCUIT D'AFFICHAGE A 7 SEGMENTS,
A SORTIES COLLECTEUR OUVERT

*BCD TO SEVEN SEGMENT DECODERS/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 :

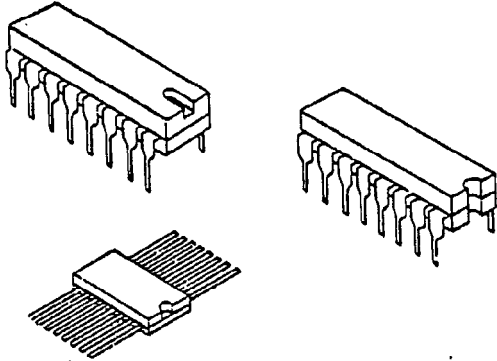
AMENDMENTS TO THE FOLLOWING CLAUSES

- § 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.

**Documents**

Document Sharing Hub

BRITISH STANDARDS INSTITUTION 2, PARK STREET, LONDON, W1A 2BS		BS9440 F0640 to F0652 ISSUE 1 JANUARY 1981	
Specification available from:— As shown in PD 9002		Page 1 of 19 Pages	
ELECTRONIC COMPONENTS OF ASSESSED QUALITY DETAIL SPECIFICATION IN ACCORDANCE WITH BS 9400: 1970		MANUFACTURER'S TYPE NUMBER 5447A 6447A 7447A	
Outlines not to scale . Isometric Projection. 		For ordering information see Clause 5.	
For detail dimensions : Marking Information - Clause 3 16 Lead Flat-Pack - see Appendix I 16 Lead Dual in-line - BS 3934 SO-87C		SILICON MONOLITHIC T.T.L. B.C.D-TO-SEVEN SEGMENT DECODERS/DRIVERS WITH OPEN COLLECTOR OUTPUTS. (See Clause 8)	
		CERAMIC/GLASS HERMETICALLY SEALED ENCAPSULATION OR DUAL-IN-LINE PLASTIC ENCAPSULATION	
		FULL ASSESSMENT LEVEL AND APPLICATION CATEGORIES S1, S2, S3 and S4	

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	5.5 V
$-V_{IN}$	Maximum continuous negative input voltage	0.5 V
$-I_{IN}$	Maximum negative input current (clamping mode)	12mA
$V_{O(OFF)}$	Maximum high state output voltage	15.0 V
T_{amb}	Ambient operating temperature range	5447A -55°C to +125 °C
		6447A -40°C to + 85 °C
		7447A 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

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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.

		<u>Min.</u>	<u>Max.</u>	<u>Unit</u>
V_{CC}	Positive supply voltage 5447A	4.5	5.5	V
	6447A, 7447A	4.75	5.25	V
I_{CC}	Total supply current per package at V_{CC} maximum. 5447A	-	85	mA
	6447A, 7447A	-	103	mA
V_{IH}	HIGH state input voltage	2.0	5.5	V
V_{IL}	LOW state input voltage	-0.3	0.8	V
V_{OH}	HIGH state output voltage			
	Outputs a to g	-	15	V
	Output B2/RBO	2.4	-	V
V_{OL}	LOW state output voltage for output BI/RBO	-	0.4	V
$V_{O(ON)}$	LOW state output voltage for outputs a to g	-	0.4	V
$I_{IH(1)}$	HIGH state input current			
	$V_{IN} = V_{IH} \text{ max.}$ Any input except BI/RBO	-	1	mA
$I_{IH(2)}$	HIGH state input current			
	$V_{IN} = 2.4V$ Any inputs except BI/RBO	-	40	μA
$-I_{IL}$	LOW state input current			
	$V_{IN} = V_{OL} \text{ max.}$			
	$V_{CC} = \text{max. value}$			
	Any input except BI/RBO	-	1.6	mA
	BI/RBO	-	4	mA
$-I_{OH}$	HIGH state output current for BI/RBO	-	200	μA

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2. Recommended Conditions of Use and Associated Characteristics (Cont'd)

			<u>Min.</u>	<u>Max.</u>	<u>Unit</u>
I_{OL}	LOW state output current	BI/RBO	-	8	mA
		a-to-g	-	40	mA
I_{OHX}	HIGH state output current for outputs a-to-g.		-	250	μ A
$-V_{IC}$	Input clamping voltage at $-I_{IN} = 12$ mA		-	1.5	V

Switching Characteristics

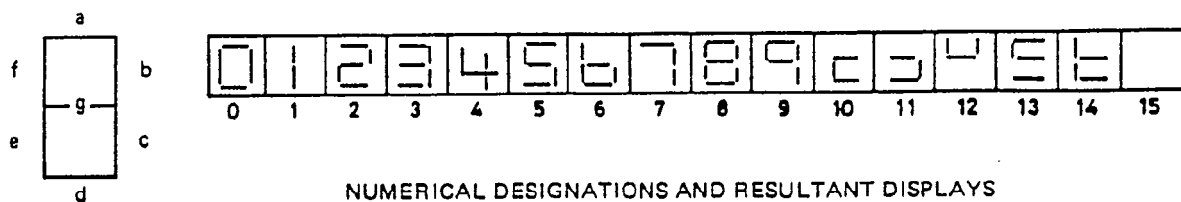
$V_{CC} = 5$ V, $T_{amb} = 25^{\circ}$ C, $C_L = 15$ pF, $R_L = 120\Omega$, $V_O = V_{CC}$

t_{PHL}	HIGH to LOW state propagation time	from A input to output	-	100	ns
		from RBI input to output	-	100	ns
t_{PLH}	LOW to HIGH state propagation time	from A input to output	-	100	ns
		from RBI input to output	-	100	ns

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TABLE I

FUNCTION TABLE

SEGMENT
IDENTIFICATION

DECIMAL OR FUNCTION	INPUTS					BI/RBO†	OUTPUTS							NOTE
	LT	RBI	D	C	B	A	a	b	c	d	e	f	g	
0	H	H	L	L	L	L	H	ON	ON	ON	ON	ON	OFF	1
1	H	X	L	L	L	H	H	OFF	ON	ON	OFF	OFF	OFF	
2	H	X	L	L	H	L	H	ON	ON	OFF	ON	ON	OFF	
3	H	X	L	L	H	H	H	ON	ON	ON	ON	OFF	OFF	
4	H	X	L	H	L	L	H	OFF	ON	ON	OFF	OFF	ON	
5	H	X	L	H	L	H	H	ON	OFF	ON	ON	OFF	ON	
6	H	X	L	H	H	L	H	OFF	OFF	ON	ON	ON	ON	
7	H	X	L	H	H	H	H	ON	ON	ON	OFF	OFF	OFF	
8	H	X	H	L	L	L	H	ON	ON	ON	ON	ON	ON	
9	H	X	H	L	L	H	H	ON	ON	ON	OFF	OFF	ON	
10	H	X	H	L	H	L	H	OFF	OFF	OFF	ON	ON	OFF	
11	H	X	H	L	H	H	H	OFF	OFF	ON	ON	OFF	OFF	
12	H	X	H	H	L	L	H	OFF	ON	OFF	OFF	OFF	ON	
13	H	X	H	H	L	H	H	ON	OFF	OFF	ON	OFF	ON	
14	H	X	H	H	H	L	H	OFF	OFF	OFF	ON	ON	ON	
15	H	X	H	H	H	H	H	OFF	OFF	OFF	OFF	OFF	OFF	
BI	X	X	X	X	X	X	L	OFF	OFF	OFF	OFF	OFF	OFF	2
RBI	H	L	L	L	L	L	L	OFF	OFF	OFF	OFF	OFF	OFF	3
LT	L	X	X	X	X	X	H	ON	ON	ON	ON	ON	ON	4

H = HIGH state
L = LOW state
X = Logic state irrelevant

NOTES

- The blanking input (BI) must be open or held at a HIGH logic state when output functions 0 through 15 are desired. The ripple blanking input (RBI) must be open or HIGH if blanking of a decimal zero is not desired.
- When a LOW logic state is applied directly to the blanking input (BI) all segment outputs are off regardless of the state of any other input.
- When a ripple blanking input (RBI) and inputs A, B, C and D are at a LOW state with the lamp test input HIGH, all segment outputs go off and the ripple-blanking output (RBO) goes to a LOW state (response condition).
- When the blanking input/ripple blanking output (BI/RBO) is open or held HIGH and a LOW is applied to the lamp test input, all segment outputs are on.

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TABLE II

LOGIC DIAGRAM AND CONNECTIONS