

Projet 4 - AIGUILLAGES / Commande de 4 aiguillages

Projet : TRAIN1

Info : [DATA083]

Révision : 3 du 20 janvier 2001

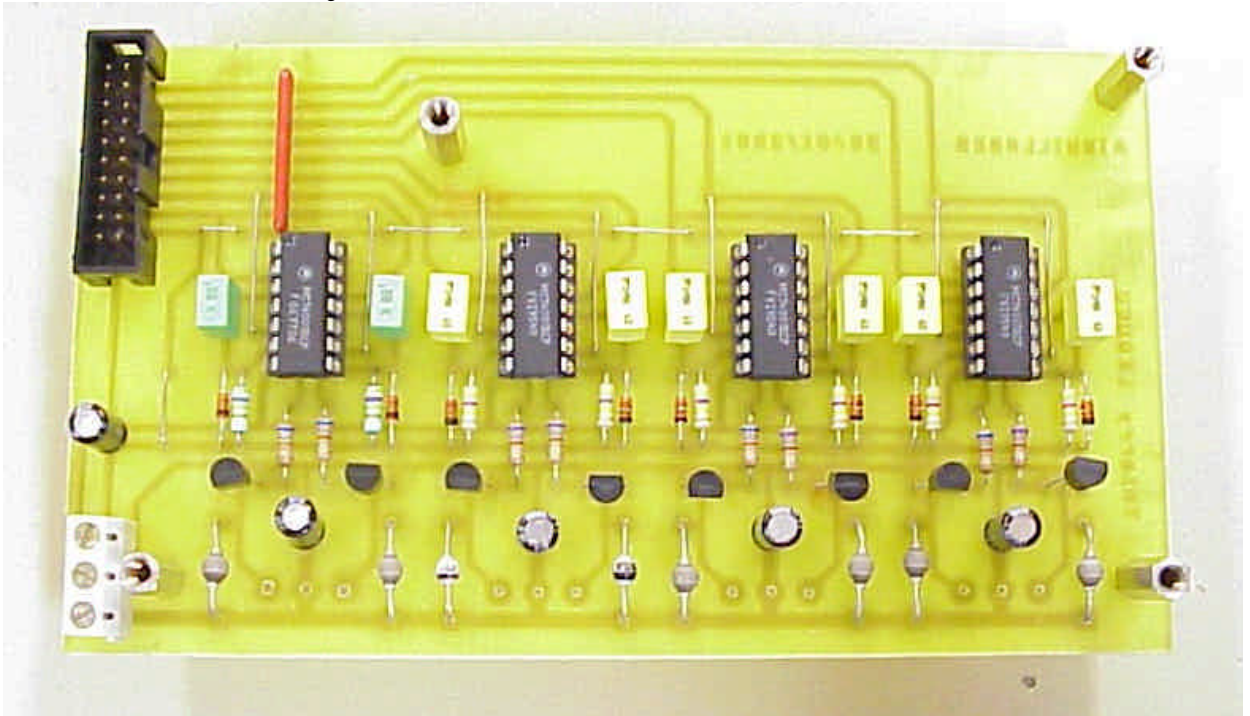


Figure 4.1. Commande de 4 aiguillages (images_maquettes\aiguillages-11.jpg).

4.1 Liste des documents

- Liste des composants.
- Prix du montage.
- Schéma électronique général.
- Schéma électronique d'un commande.
- Implantation des composants
- Circuit imprimé coté composants (strap).
- Circuit imprimé coté cuivre.
- Documentations : HEF4001B, TIPP111, BYV95A.

4.2 Liste des composants

Tableau 4.1. Liste de composants (projets-train.xls / AIGUILLAGES).

No	Quantité	Référence	Désignation	Empreinte
1	4	C1,C5,C8,C11	1uF	RADIAL06
2	8	C2,C3,C6,C7,C9,C10,C12,C13	1uF	CK06
3	1	C4	10uF	RADIAL06
4	8	D2,D7,D10,D15,D18,D23,D23,D31	BYV95A	DO41
5	8	D3,D8,D11,D16,D19,D24,D27;D32	1N4148	DO35
6	4	JP1,JP5,JP6,JP7	SORTIE	WEID3
7	1	JP2	CONNECTEUR DATA	20SH100
8	1	JP3	ALIM	3PL2
9	8	R1,R4,R7,R10,R13,R16,R19,R22	470k	RC04
10	1	R2	8x4.7k	9PL1
11	8	R3,R6,R9,R12,R15,R18,R21,R24	680	RC04
12	8	T1,T2,T3,T4,T5,T6,T7,T8	TIPP111	TO92L
13	4	U1,U2,U3,U4	HEF4001B	14DIP300L
14	4	VIS1,VIS2,VIS3,VIS4	VISSERIE	M3

4.3 Allure des principaux composants

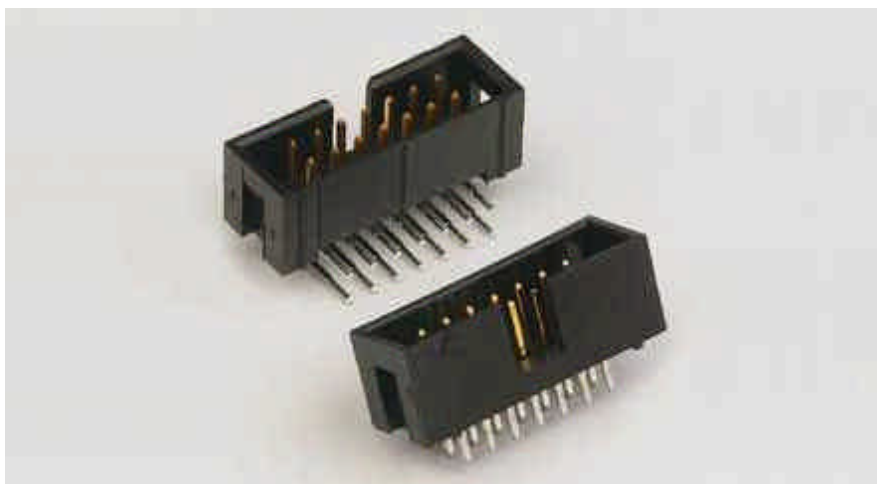


Figure 4.2. Connecteur HE10 mâle droit économique (images-composants\he10-eco.jpg).

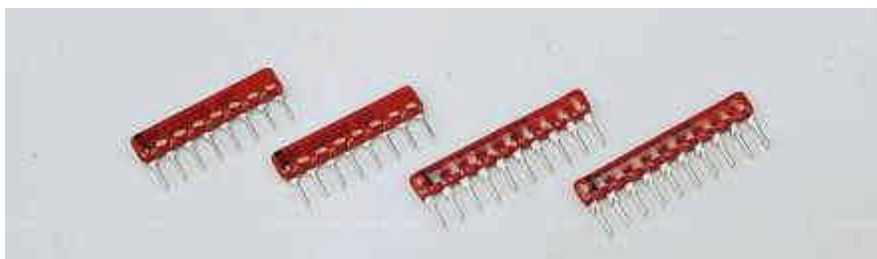
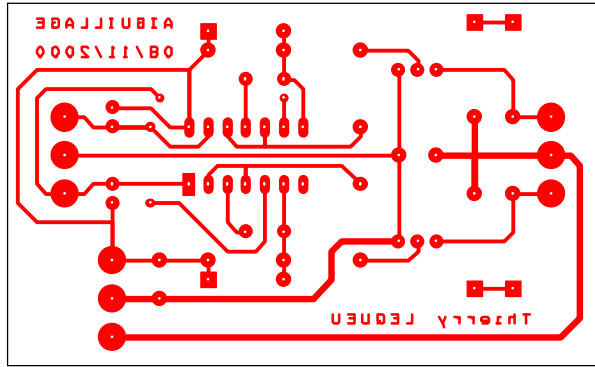
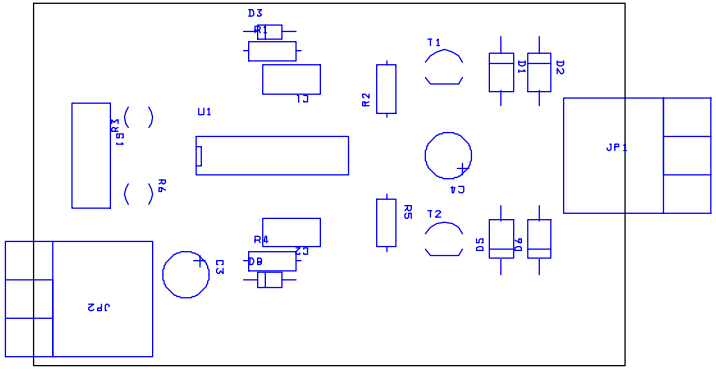


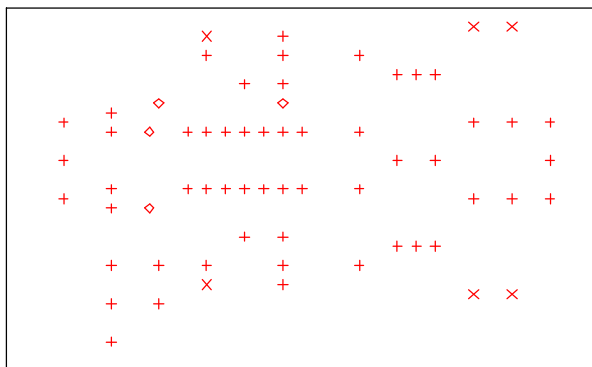
Figure 4.3. Réseau de 8 résistances (images-composants\réseau-8R.jpg).

Réf.	Désignation	Qu.	Fournisseur	Date	Code Cde	Page	U.D.V.	Prix U.H.T.	Prix T.H.T.
C1,C2	1uF 16V radial	2	IUT	2000			1	1,00 F	2,00 F
C3	10uF 16V radial	1	IUT	2000			1	1,00 F	1,00 F
C4	10uF 25V radial	1	IUT	2000			1	1,00 F	1,00 F
D1,D5	Zener 15V	2	Radiospare	2000/2001			1	1,50 F	3,00 F
D2,D6	BYV95A	2	Radiospare	2000/2001			1	1,00 F	2,00 F
D3,D8	1N4148	2	IUT	2000			1	0,50 F	1,00 F
JP1,JP2	Connecteur embases Weidmuller 3 broches male	2	Radiospare	2000/2001	404-008		5	5,00 F	2,00 F
R4,R1	470K 1/4W	2	IUT	2000/2001			1	0,10 F	0,20 F
R2,R5	680 1/4W	2	IUT	2000/2001			1	0,10 F	0,20 F
R6,R3	4.7K 1/4W	2	IUT	2000/2001			1	0,10 F	0,20 F
S1	Interrupteur C&K ON/OFF	1	Radiospare	2000/2001	352-761		1	20,61 F	20,61 F
TR1,TR	TIPP111	2	Radiospare	2000/2001	638-598		1	5,26 F	10,52 F
U1	HEF4001BP	1	IUT	2000			1	3,00 F	3,00 F
Divers	Support 14 broches	1	IUT	2000			1	2,00 F	2,00 F
Divers	Circuit imprimé simple face	43	IUT	2000			1	0,15 F	6,38 F
							1		0,00 F
							1		0,00 F

TOTAL H.T. :	55,11 F
Dont TVA : 19,60%	10,80 F
TOTAL T.T.C. :	65,91 F







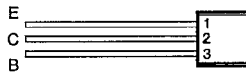
DRILL CHART				
SYM	DIAM	TOL	QTY	NOTE
x	0.010		6	
+	0.020		55	
◇	0.02B		4	
TOTAL			65	

TIPP110, TIPP111, TIPP112 NPN SILICON POWER DARLINGTONS

MAY 1989 - REVISED APRIL 1995

- 20 W Pulsed Power Dissipation
- 100 V Capability
- 2 A Continuous Collector Current
- 4 A Peak Collector Current

LP PACKAGE
(TOP VIEW)



MDTRAB

absolute maximum ratings at 25°C case temperature (unless otherwise noted)

RATING		SYMBOL	VALUE	UNIT
Collector-base voltage ($I_E = 0$)	TIPP110	V_{CBO}	60	V
	TIPP111		80	
	TIPP112		100	
Collector-emitter voltage ($I_B = 0$)	TIPP110	V_{CEO}	60	V
	TIPP111		80	
	TIPP112		100	
Emitter-base voltage		V_{EBO}	5	V
Continuous collector current		I_C	2	A
Peak collector current (see Note 1)		I_{CM}	4	A
Continuous base current		I_B	50	mA
Continuous device dissipation at (or below) 25°C case temperature (see Note 2)		P_{tot}	0.8	W
Pulsed power dissipation (see Note 3)		P_T	20	W
Operating junction temperature range		T_j	-55 to +150	°C
Storage temperature range		T_{stg}	-55 to +150	°C
Lead temperature 3.2 mm from case for 10 seconds		T_L	260	°C

- NOTES: 1. This value applies for $t_p \leq 0.3$ ms, duty cycle $\leq 10\%$.
 2. Derate linearly to 150°C case temperature at the rate of 0.32 W/°C.
 3. $V_{CE} = 20$ V, $I_C = 1$ A, $P_W = 10$ ms, duty cycle $\leq 2\%$.

PRODUCTION DATA Information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all the parameters.



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NOR GATE

- 4000B-DUAL 3 INPUT PLUS INVERTER**
- 4001B-QUAD 2 INPUT**
- 4002B-DUAL 4 INPUT**
- 4025B TRIPLE 3 INPUT**

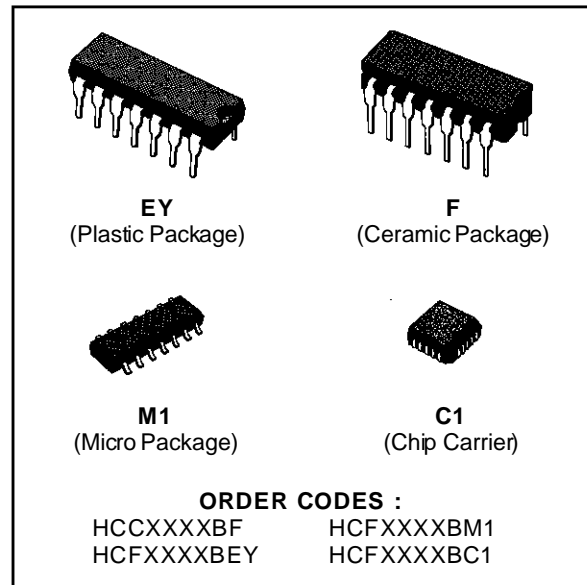
- PROPAGATION DELAY TIME = 60 ns (typ.) AT $C_L = 50$ pF, $V_{DD} = 10$ V
- BUFFERED INPUTS AND OUTPUTS
- STANDARDIZED SYMMETRICAL OUTPUT CHARACTERISTICS
- QUIESCENT CURRENT SPECIFIED TO 20 V FOR HCC DEVICE
- 5V, 10V AND 15V PARAMETRIC RATINGS
- INPUT CURRENT OF 100nA AT 18V AND 25 °C FOR HCC DEVICE
- 100% TESTED FOR QUIESCENT CURRENT
- MEETS ALL REQUIREMENTS OF JEDEC TENTATIVE STANDARD N. 13A, "STANDARD SPECIFICATIONS FOR DESCRIPTION OF B SERIES CMOS DEVICES"

DESCRIPTION

The **HCC4000B**, **HCC4001B**, **HCC4002B** and **HCC4025B** (extended temperature range) and **HCF4000B**, **HCF4001B**, **HCF4002B** and **HCF4025B** (intermediate temperature range) are monolithic integrated circuit, available in 14-lead dual in line plastic or ceramic package and plastic

micropackage.

The **HCC/HCF4000B**, **HCC/HCF4001B**, **HCC/HCF4002B** and **HCC/HCF4025B** nor gate provide the system designer with direct implementation of the nor function and supplement the existing family of COS/MOS gates. All inputs and outputs are buffered.



PIN CONNECTIONS

