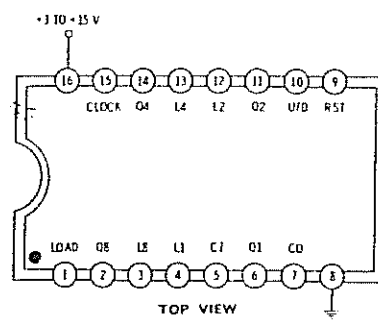
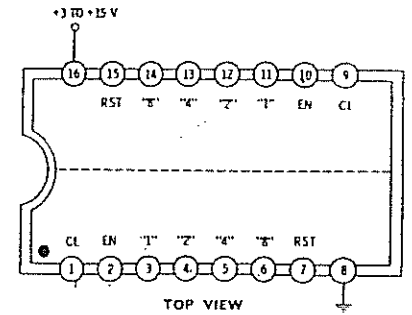


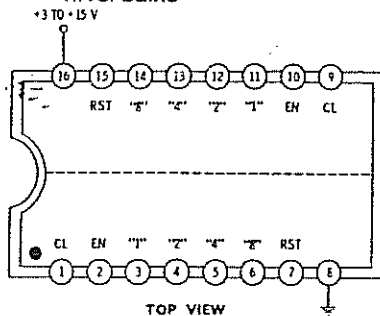
**4515** Demux 16 saídas, saída em nível baixo



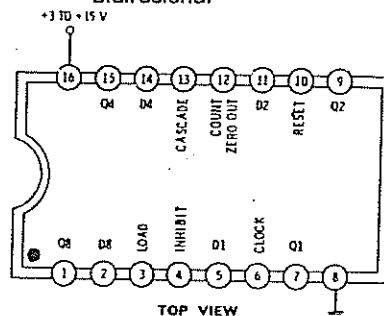
**4516** Contador binário até 16, bidirecional



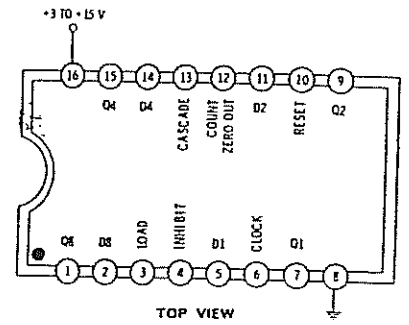
**4518** Duplo contador síncrono, BCD



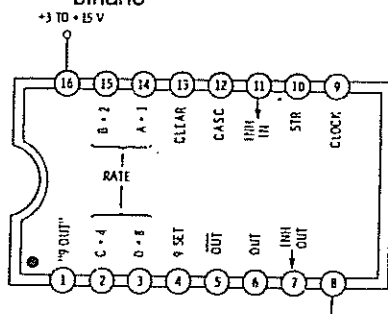
**4520** 2 contadores síncronos tipo binário



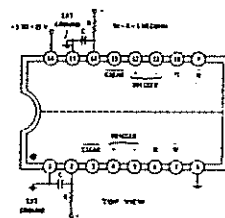
**4522** Contador decimal divisor por "N"



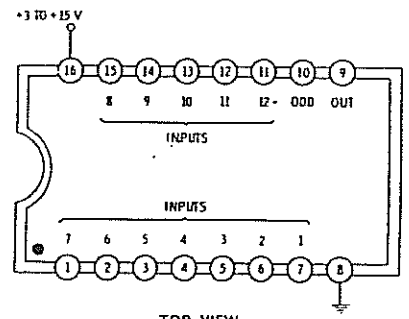
**4526** Contador binário divisor por "N"



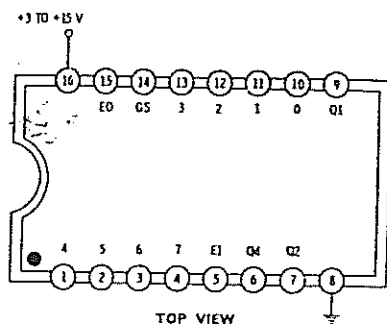
**4527** Multiplicador decimal de pulso de saída



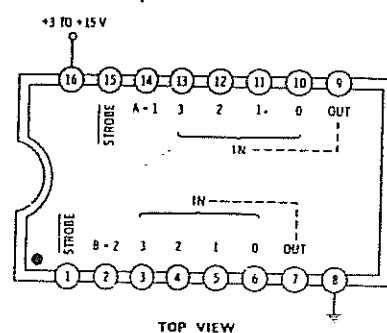
**4528** Duplo monoestável redispável



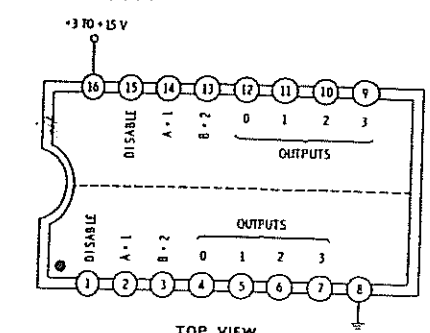
**4531** Gerador de paridade de 12 entradas



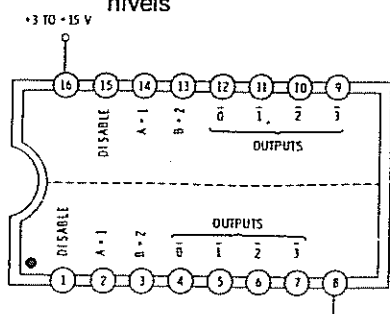
**4532** Encoder de prioridade 8 níveis



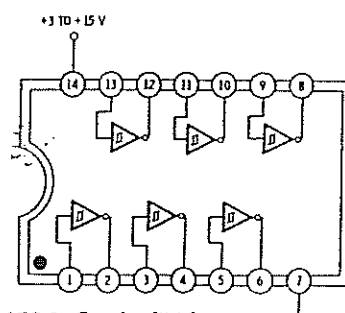
**4539** Duplo seletor de dados 4 entradas



**4555** Duplo decoder 4 saídas, não inversoras



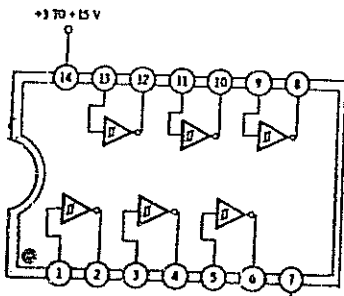
**4556** Duplo decoder 4 saídas, inversoras



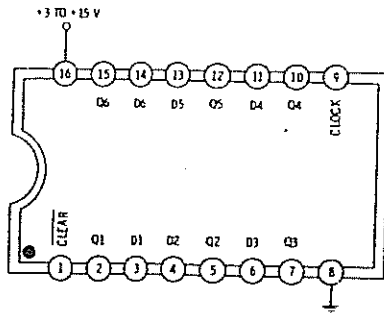
**4584** 6 schmitt triggers

VIDE FINAL DO APÊNDICE

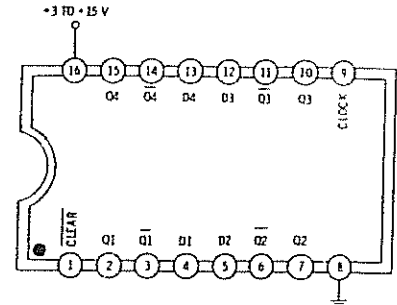
**4702** Gerador de sinais para comunicação serial



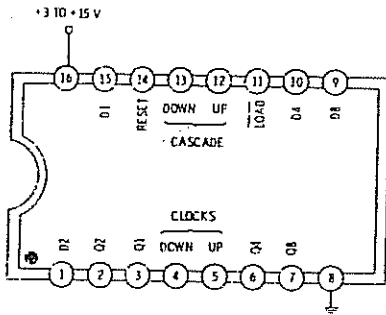
**40106** 6 shmitt triggers



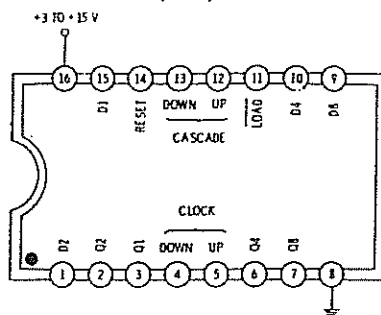
**40174** 6 flip-flops D



**40175** 4 flip-flops D

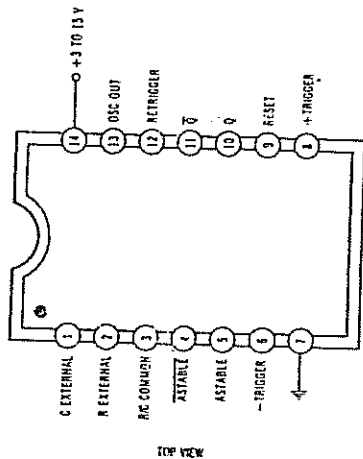


**40192** Contador BCD up-down



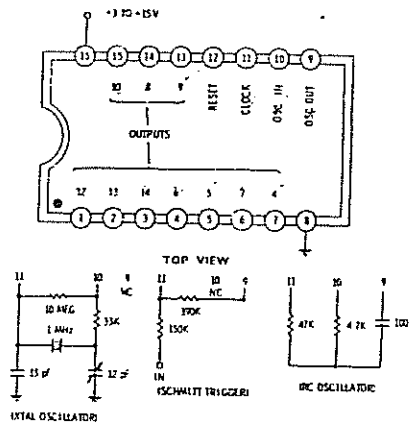
**40193** Contador binário up-down

**4047 MULTIVIBRATOR**



TOP VIEW

**4060 14-STAGE (÷16,384) BINARY RIPPLE COUNTER (With Internal Oscillator)**



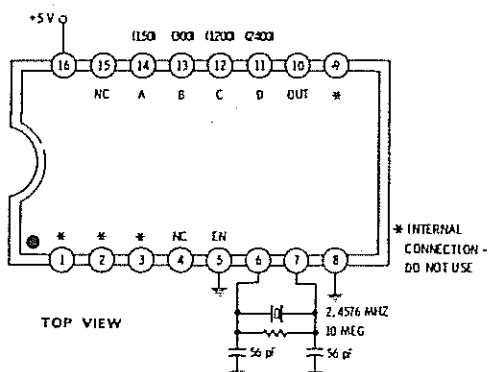
TOP VIEW

INTERNAL OSCILLATOR

SCHMITT TRIGGER

RC OSCILLATOR

**4702 (FAIRCHILD) BIT-RATE GENERATOR**



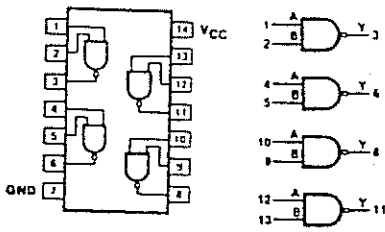
TOP VIEW

\* INTERNAL CONNECTION - DO NOT USE

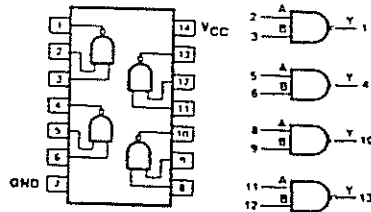
IMPORTANTE: nem todos os circuitos integrados estão sendo fabricados; no caso de falta, encontrar outro equivalente ou consultar o fabricante

APÊNDICE D

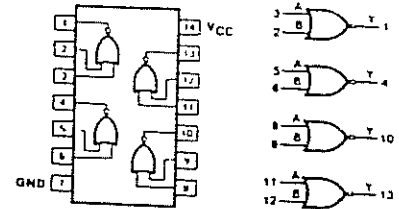
TABELA DE BANCADA DE INTEGRADOS TTL - PINAGEM E FUNÇÃO



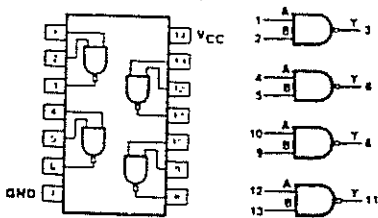
7400 4 portas NE 2 entradas



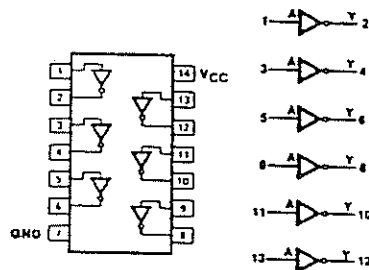
7401 4 portas NE 2 entradas



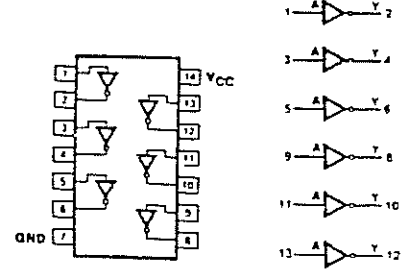
7402 4 portas NOU 2 entradas



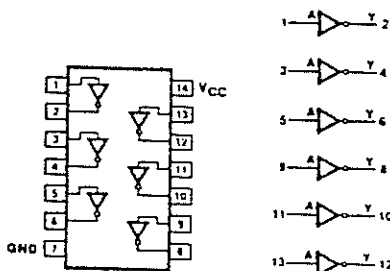
7403 4 portas NOU 2 entradas



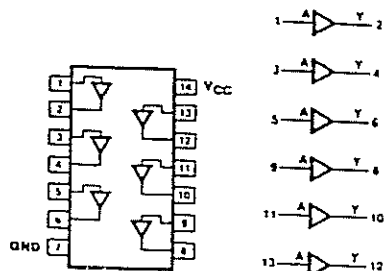
7404 6 inversores



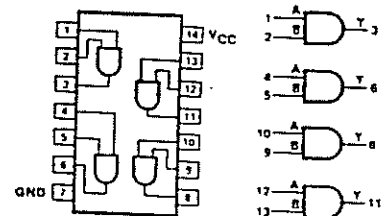
7405 6 inversores



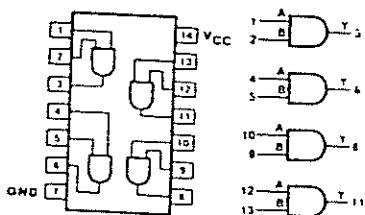
7406 6 inversores buffers / drivers



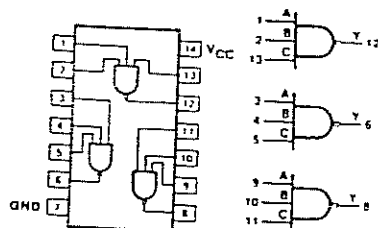
7407 6 buffers / drivers



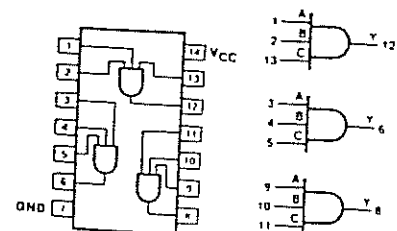
7408 4 portas E 2 entradas



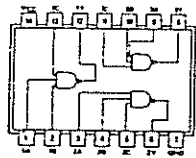
7409 4 portas E 2 entradas



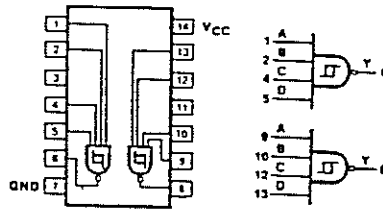
7410 3 portas NE 2 entradas



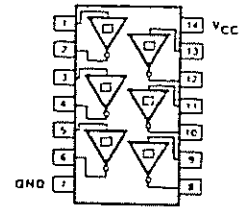
7411 3 portas E 3 entradas



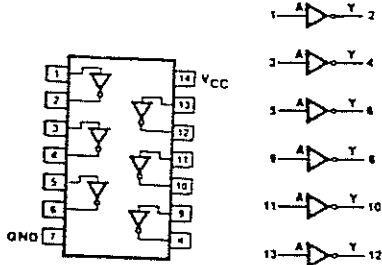
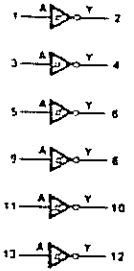
**7412** 3 portas NE 3 entradas



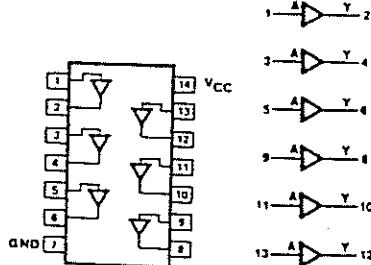
**7413** 2 portas NE Schmitt triggers 4 entradas



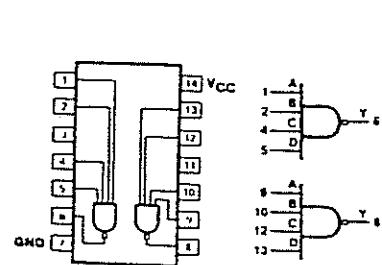
**7414** 6 inversores Schmitt triggers



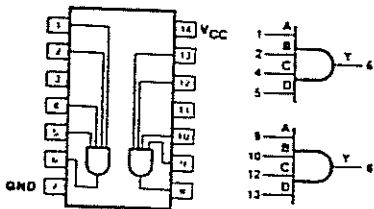
**7416** 6 inversores buffers / drivers



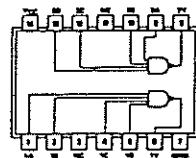
**7417** 6 buffers / drivers



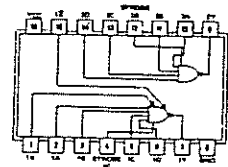
**7420** 2 portas NE 4 entradas



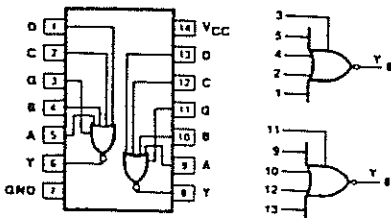
**7421** 2 portas E 4 entradas



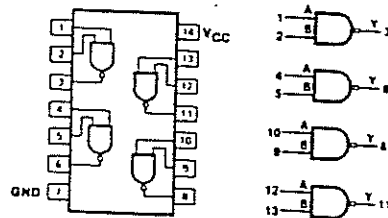
**7422** 2 portas NE 4 entradas



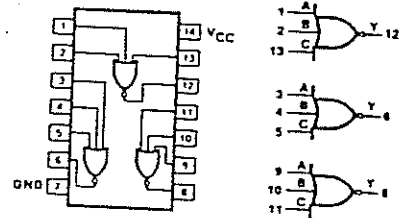
**7423** 2 portas NOU ampliáveis 4 entradas (strobe)



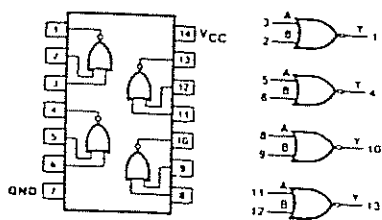
**7425** 2 portas NOU 4 entradas (strobe)



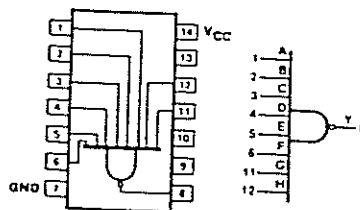
**7426** 4 portas NE 2 entradas (interface)



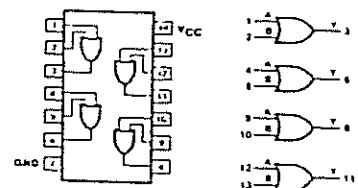
**7427** 3 portas NOU 3 entradas



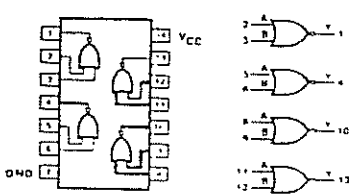
**7428** 4 portas NOU buffers 2 entradas



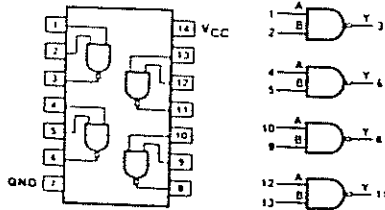
**7430** Porta NE 8 entradas



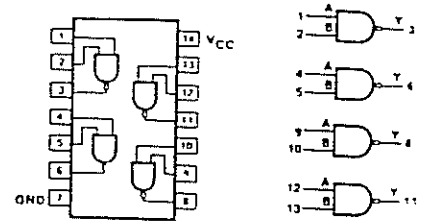
**7432** 4 portas OU 2 entradas



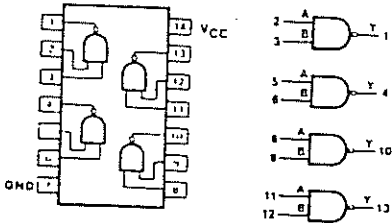
**7433** 4 portas NOU buffers / 2 entradas C. A.



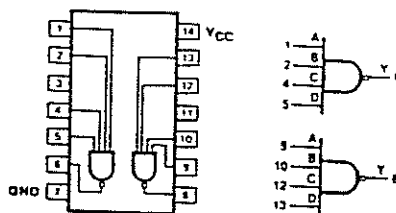
**7437** 4 portas NE buffers / 2 entradas



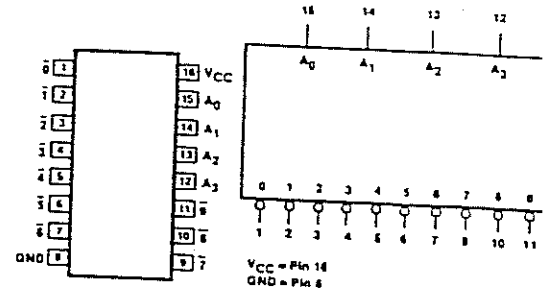
**7438** 4 portas NE buffers / 2 entradas C. A.



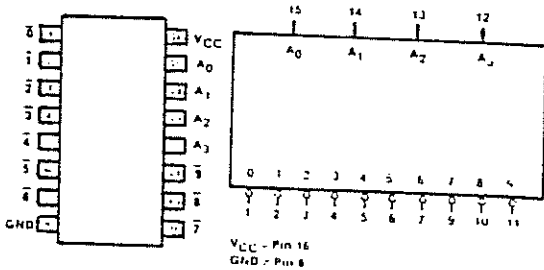
**7439** 4 portas NE 2 entradas



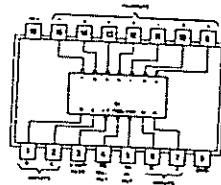
**7440** 2 portas NE buffers 4 entradas



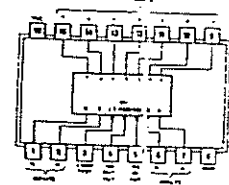
**7442** Decodificadores 4 p/ 10 linhas  
**7443** BCD/decimal  
**7443** Excesso 3/ decimal  
**7444** Excesso 3 Gray/decimal



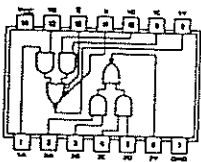
**7445** Decodificador/excit. BCD / decimal



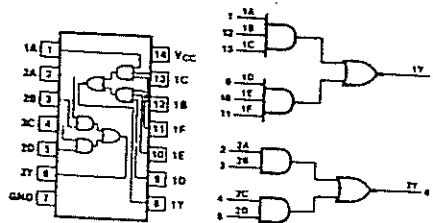
**7446** Decodif. BCD 7 segmentos:  
 Saldas 30 V C. A.  
**7447** Saldas 15 V C. A.



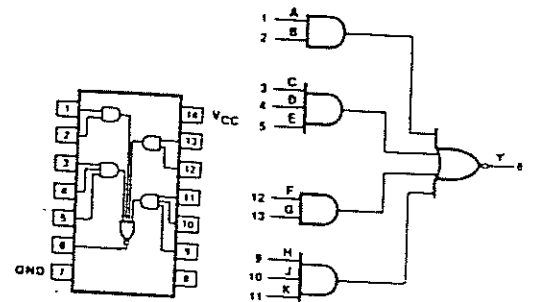
**7448** Decodificador / excit. BCD 7 segmentos (pull-up interno)



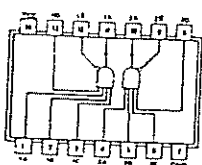
**7450** 2 portas E-OU inversoras 2 entr.



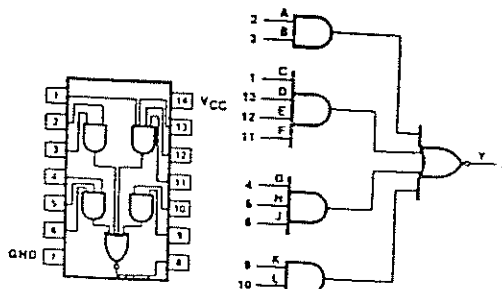
**7451** 2 portas E-OU inversoras



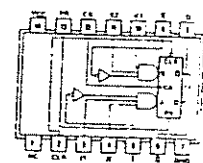
**7454** Portas E-OU inversoras



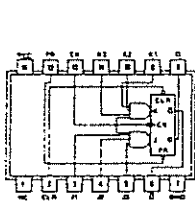
**7460** 2 expansores 4 entradas



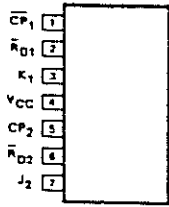
**7464** 4 portas E-OU inversoras



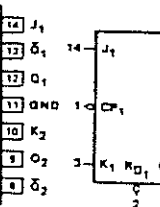
**7470** F. F. JK c/preset e clear ativado por frente positiva



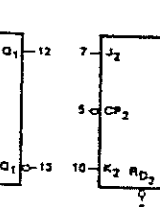
7472 F. F. JK mestre-escravo c/preset e clear



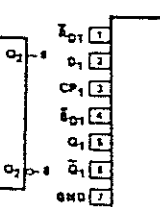
7473 2 F. F. JK c/clear



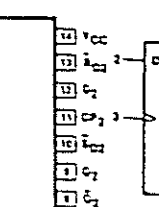
7474 2 F. F. D c/preset e clear ativados por frente positiva



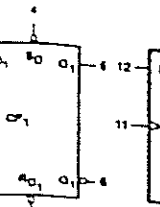
7475 Latch biestável 4 bits



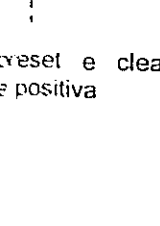
7476 2 F. F. JK c/preset e clear



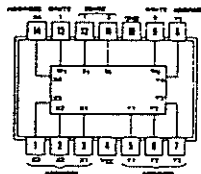
7480 Somador pleno



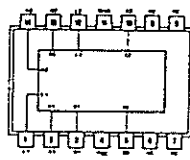
7482 Somador pleno binário 2 bits



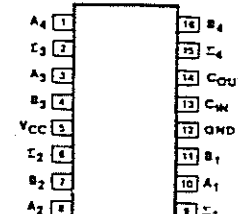
7483 Somador pleno binário 4 bits transporte rápido



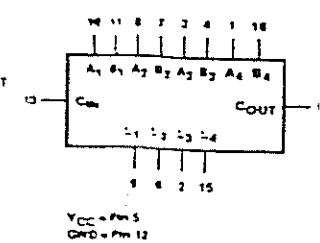
7481 Memória RAM 16 bits



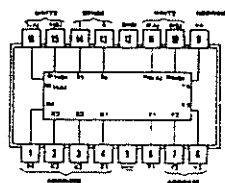
7485 Comparador de magnitude 4 bits



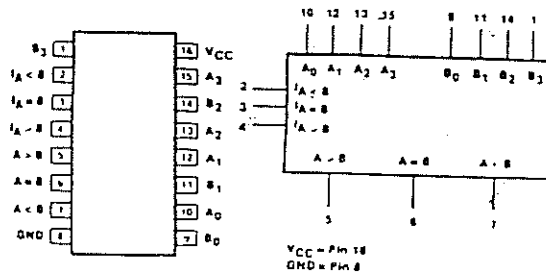
7484 Memória RAM 16 bits



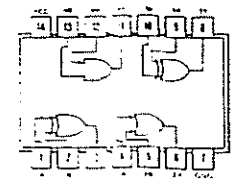
7486 4 portas OU exclusivo 2 entradas



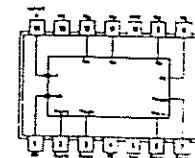
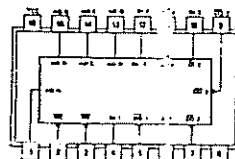
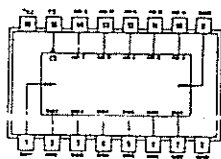
7488 Memória RAM 256 bits

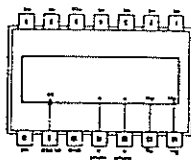


7489 Memória leitura/escrita 64 bits

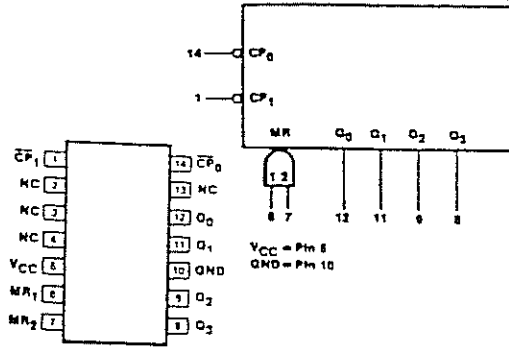


7490 Contador por década

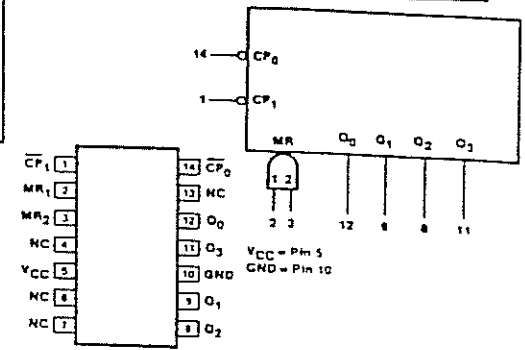




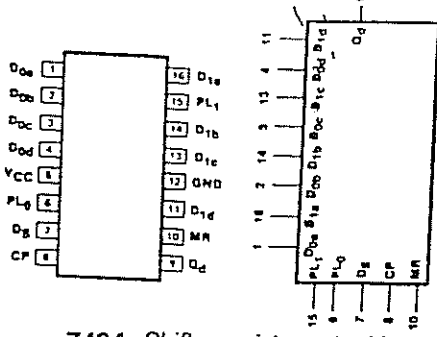
7491 Shift Register 8 bits



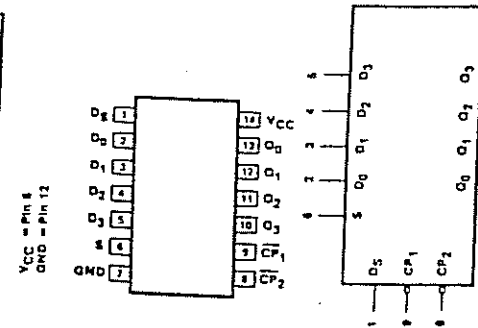
7492 Contador divisor por 12



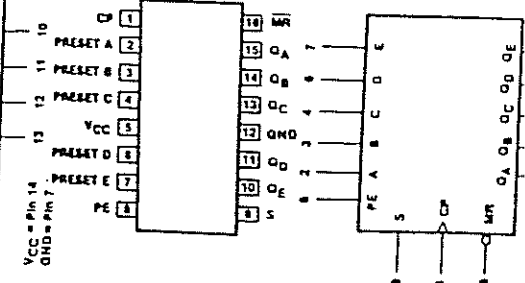
7493 Contador binário 4 bits



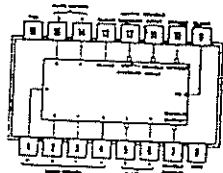
7494 Shift register 4 bits (2 presets assíncronos)



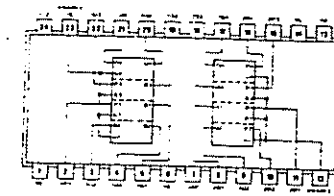
7495 Shift register 4 bits (entrada/ saída paralela)



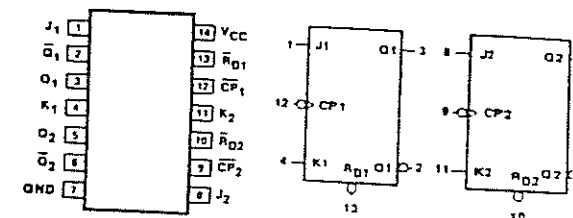
7496 Shift register 5 bits (preset assíncrono)



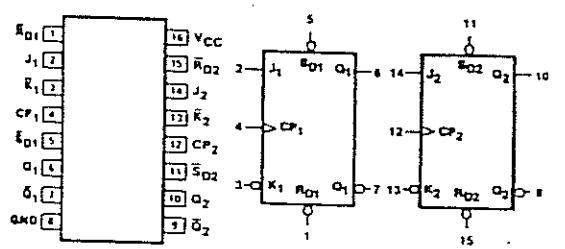
7497 Multiplicador síncrono 6 bits



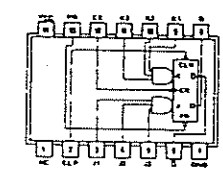
74100 2 latches biestáveis 8 bits binário



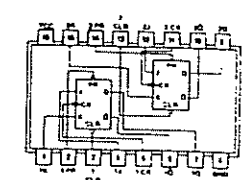
74107 2 F. F. JK mestre-escravo com clear



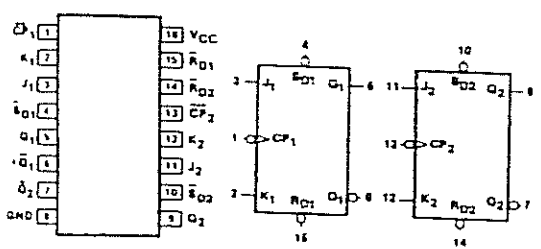
74109 2 F. F. JK c preset e clear (ativados por frente positiva)



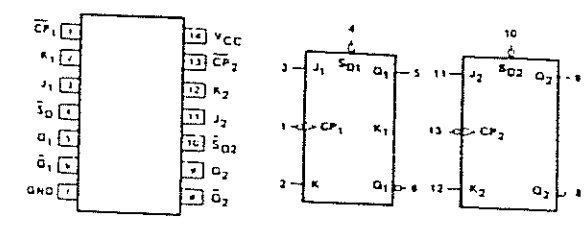
74110 F. F. JK mestre-escravo com trava de dados



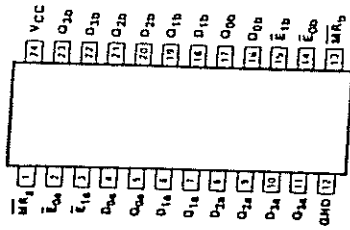
74111 2 F.F. JK mestre-escravo com trava de dados



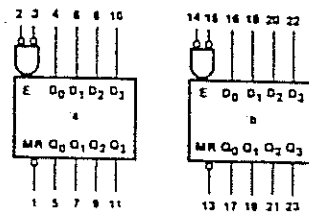
74112 2 F. F. JK



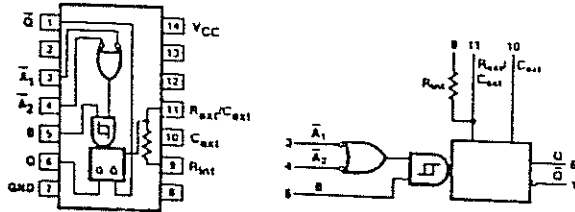
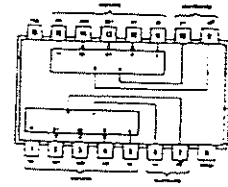
74113 2 F. F. JK



74116 2 latches 4 bits

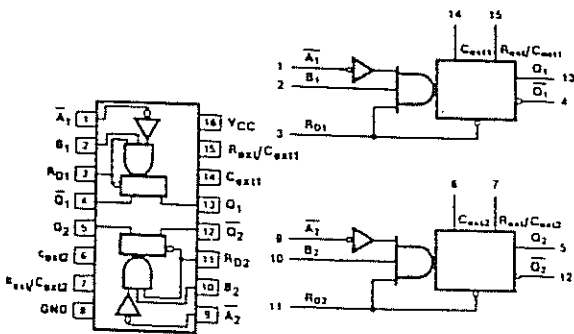
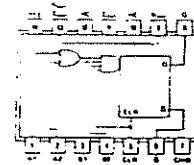


74120 2 excit. Sincroniz. de pulsos

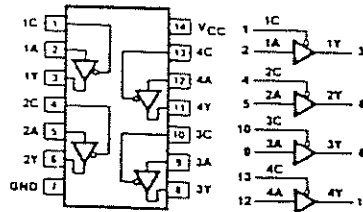


74121 Multivibrador monoestável

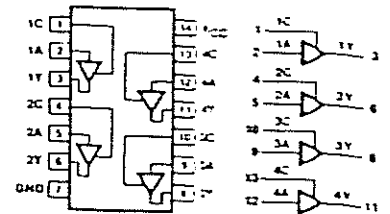
74122 multivibrador monoestável c/clear (reativavel)



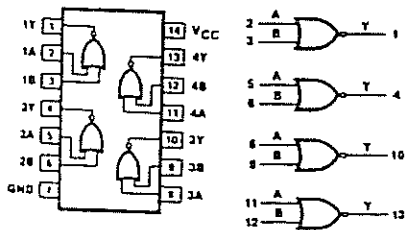
74123 2 multivibr. Monoestáveis c/clear (reativáveis)



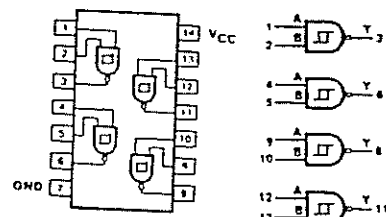
74125 4 buffers de barra c/ saídas tri-state



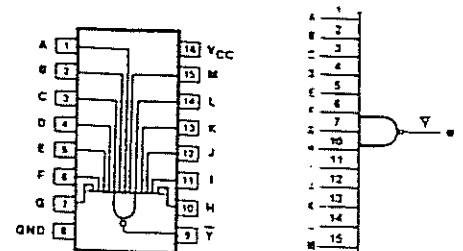
74126 4 buffers de barra c/ saídas tri-state



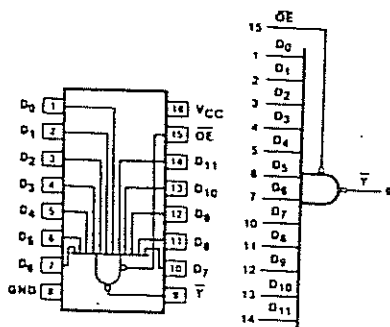
74128 4 excitadores de linha 50Ω



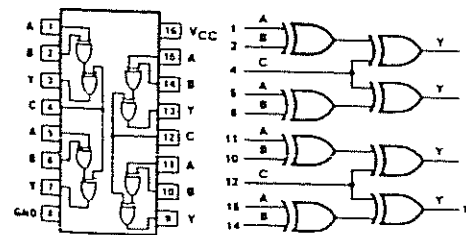
74132 4 Schmitt triggers 2 entradas



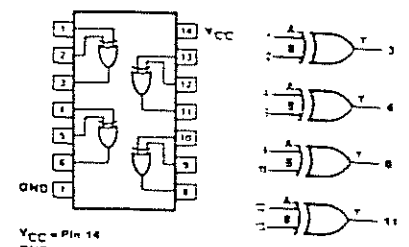
74133 Porta NE 13 entradas



74134 Porta NE 12 entr. c/habilit.

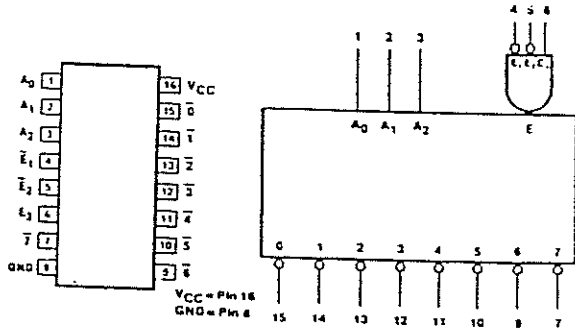


74135 4 portas OU/NOU exclusivo

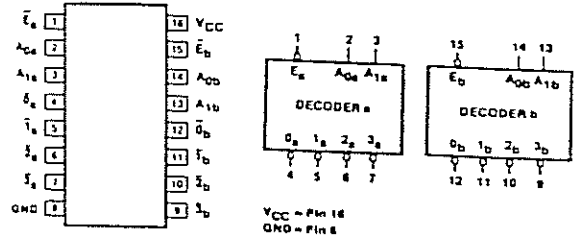


74136 4 portas OU-exclusivo

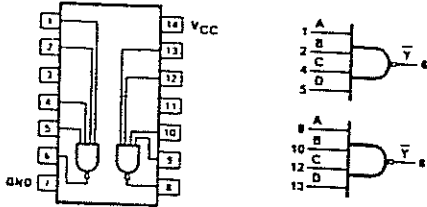




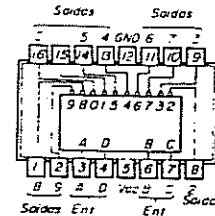
74138 Decodificador/ Demux 1 para 8



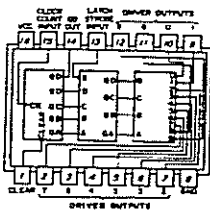
74139 Decodificador/ Demux 1 para 4



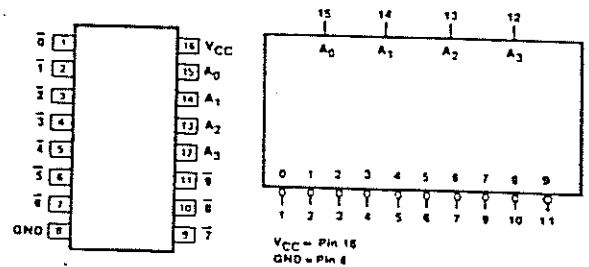
74140 Driver line 4 entradas NE duplo



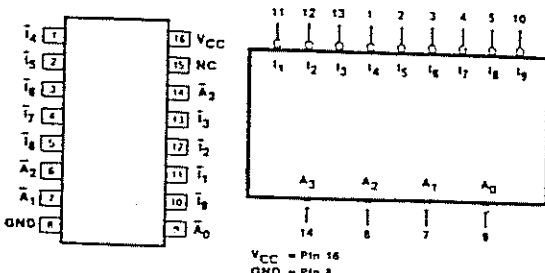
74141 Decodificador/excitador p/válvulas



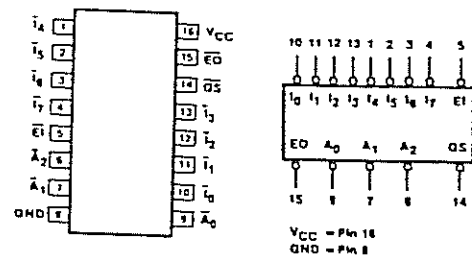
74142 Contador/divisor por 10/ latic. 4 bits / decodif. 4 bits / 7 Seg. / excitador para nixies



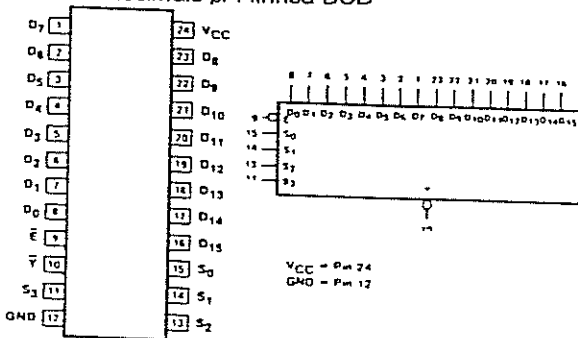
74145 Decodif. Excit BCD/Decimal p/lâmpadas, relés, MOS



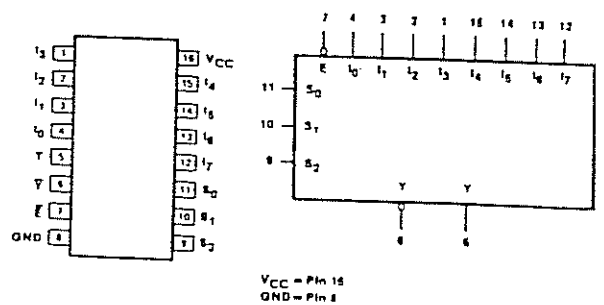
74147 Codif. De prioridades 10 linhas decimais p/4 linhas BCD



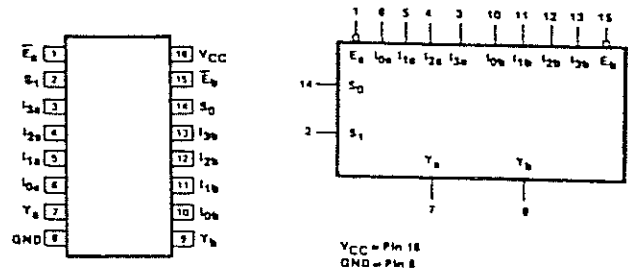
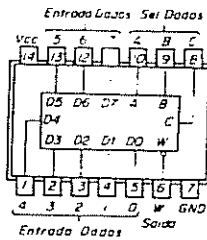
74148 Codificador de prioridade 8 linhas p/3 linhas octais



74150 Multiplexador/seletor de dados 1 de 16

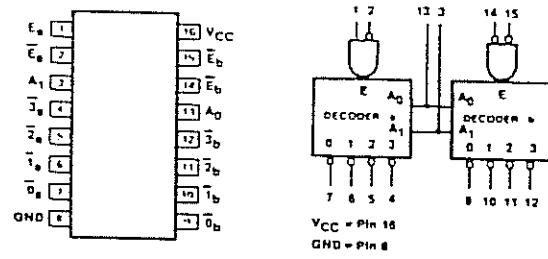
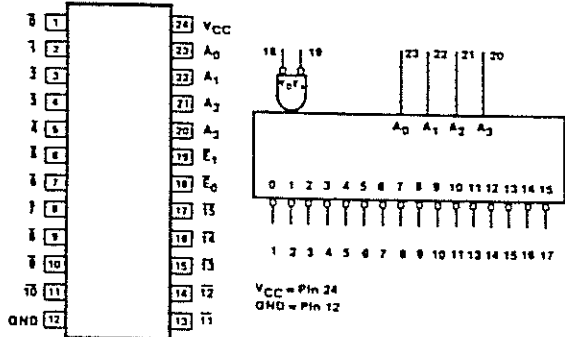


74151 Multiplexador/seletor de dados 1 de 8



74152 Multiplexador/seletor de dados 1 de 8

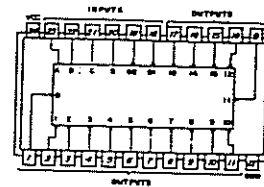
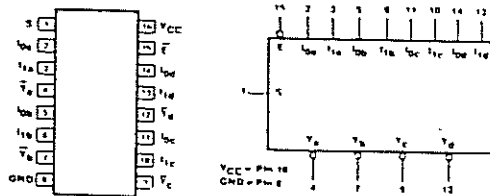
74153 2 multiplexadores/ seletores de dados 4 linhas p/1 linha



74154 Multiplexador/ seletor de dados 4 p/ 16 linhas

Decodificadores/ multiplexadores 2 decodif. 2 p/4 linhas / 2 demultiplex 1 p/ 4 linhas decodif. 3 p/ 8 linhas / demultiplex 1 p/ 8 linhas:

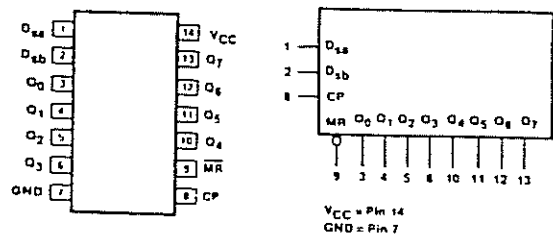
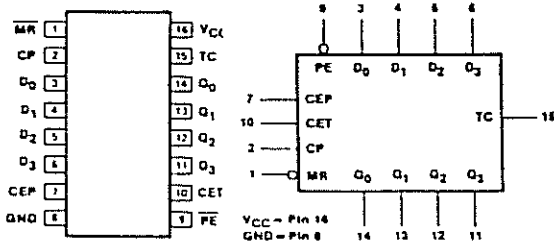
74155 – saídas totem-pole  
74156 – saídas coletor aberto



4 multiplex / seletores de dados 2 p/ 1 linha

74159 Multiplexador/ decodificador 4 p/16 linhas – saídas C. A.

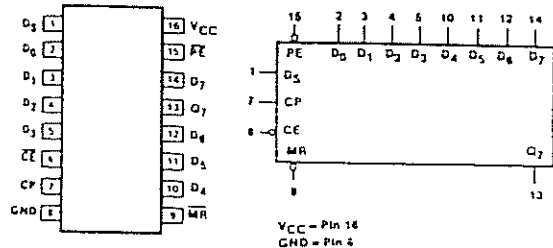
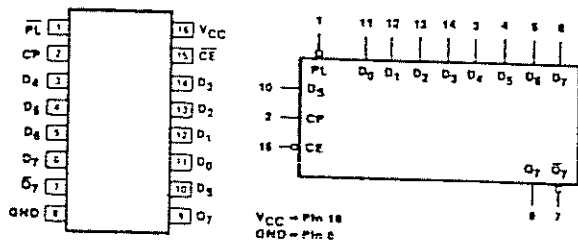
74157 – saídas c/ dados não invertidos  
74158 – saídas com dados invertidos



Contadores síncronos de 4 bits:

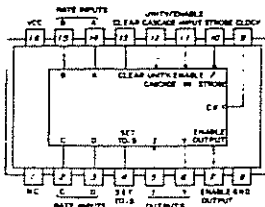
74160 – por década, clear direto  
74161 – binário, clear direto  
74162 – por década, clear síncrono  
74163 – binário, clear síncrono

74164 Shift register seriado / saída 8 bits paralelos / clear assíncrono

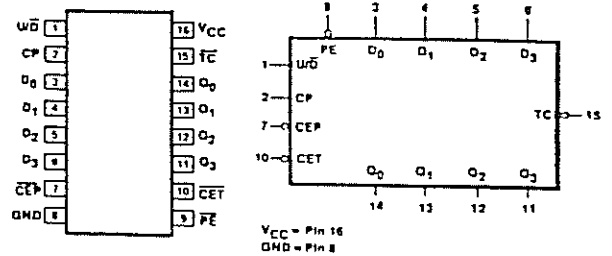
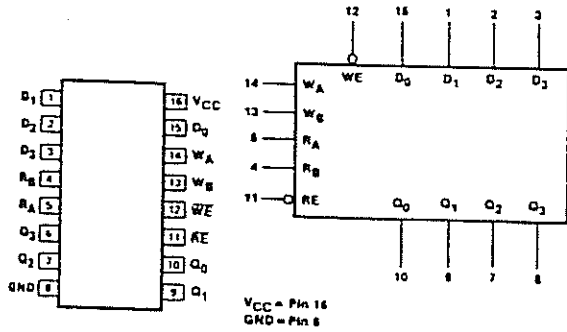


74165 Shift register 8 bits / carregamento paralelo / saídas complementares

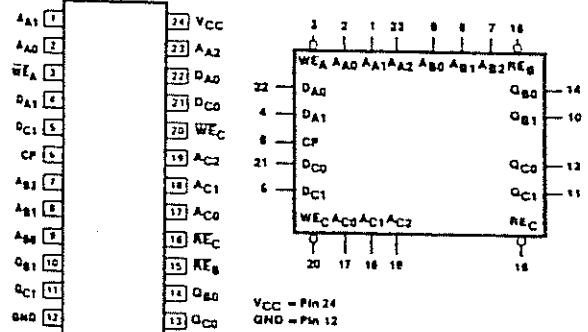
74166 Shift register 8 bits entr. Paralela / série (saída seriada)



74167 Multiplicador síncrono, por década, de ritmos

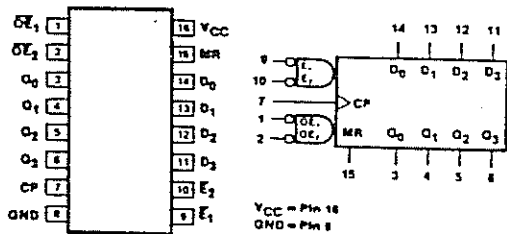


Contador progressivo/regressivo síncrono  
74168 - módulo 10  
74169 - módulo 16

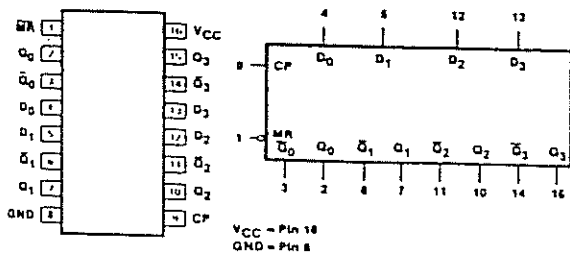


74172 Arquivo registr. 16 bits endereçam escr. leit. Simultâneas 8 palavras de 2 bits saídas tri-state

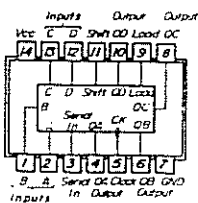
74170 Arquivo registr. 4 x 4 endereçam. Escr./leit. Separado escr./leit. Simultâneas saídas C. A . ampliável p/ 1024 palavras



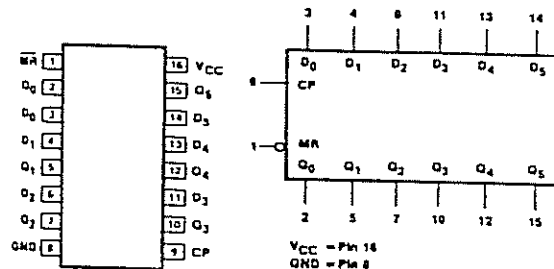
74173 Registrador tipo D 4 bits (saídas tri-state)



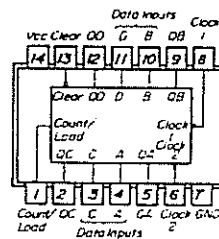
74175 4 F. F. D (saídas complementares (clear direto comum)



74178 Shift register universal de 4 bits

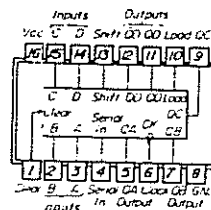


74174 6 F. F. tipo D (clear direto comum)

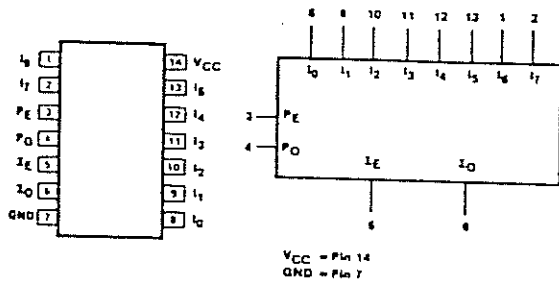


Contadores/latches pré-ajustáveis:

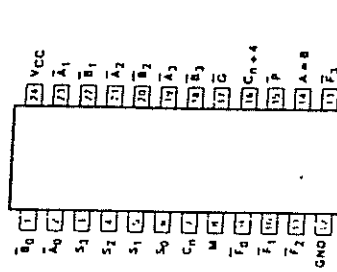
74176 - por década  
74177 - binário



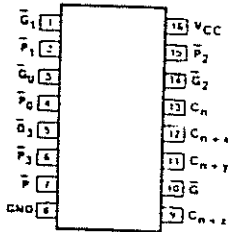
74179 Shift register universal de 4 bits (clear direto / saídas complemen. Q<sub>D</sub>)



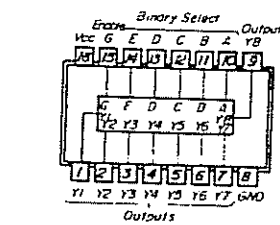
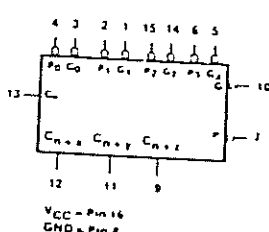
**74180** Gerador/ verificador de paridade par/ impar – 9 bits



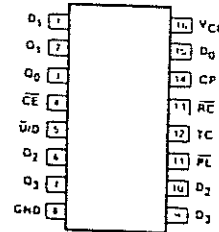
**74181** Gerador de funções/ ULA (16 operações / 16 funções lógicas)



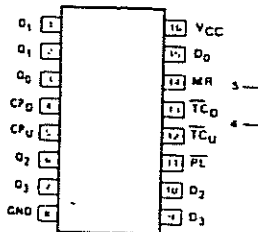
**74182** Gerador de transporte tipo previsão (look ahead)



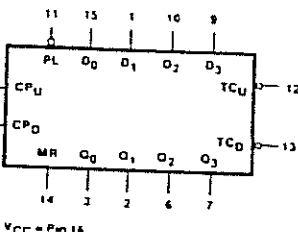
Conversor de código (cascata até N bits):  
**74184** – BCD/binário  
**74185** – binário/BCD



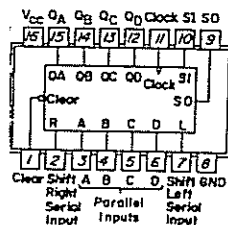
Contadores síncronos bidirecionais:  
**74190** – BCD  
**74191** – binário



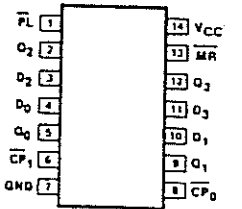
Contadores de clock bidirecionais síncronos:  
**74192** – BCD c/ clear  
**74193** – binário c/ clear



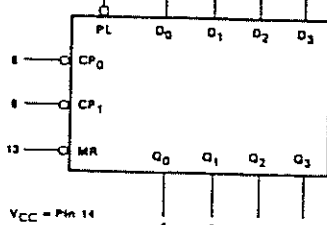
**74194** Shift register universal bidirecional / 4 bits



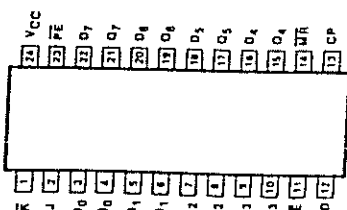
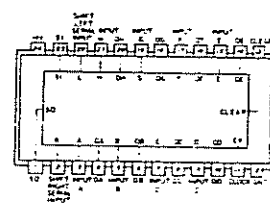
**74195** Shift register 4 bits de acesso paralelo



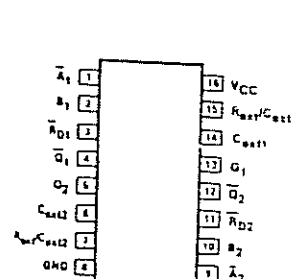
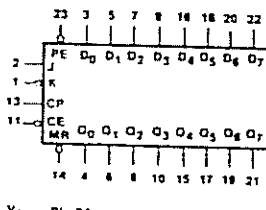
Contadores/ latches pré-ajustáveis:  
**74196** – por década/bi-quinário  
**74197** – binário



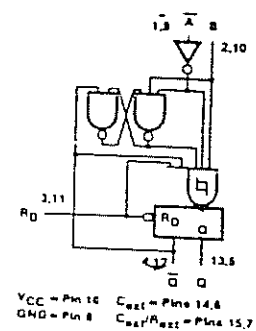
**74198** Shift register bidirecional de 8 bits



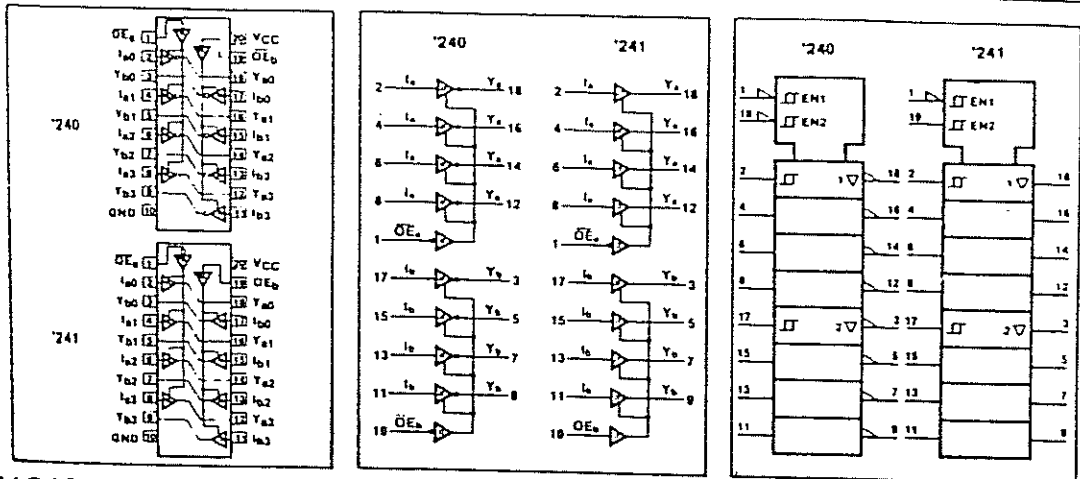
**74199** Shift register universal bidirecional 8 bits



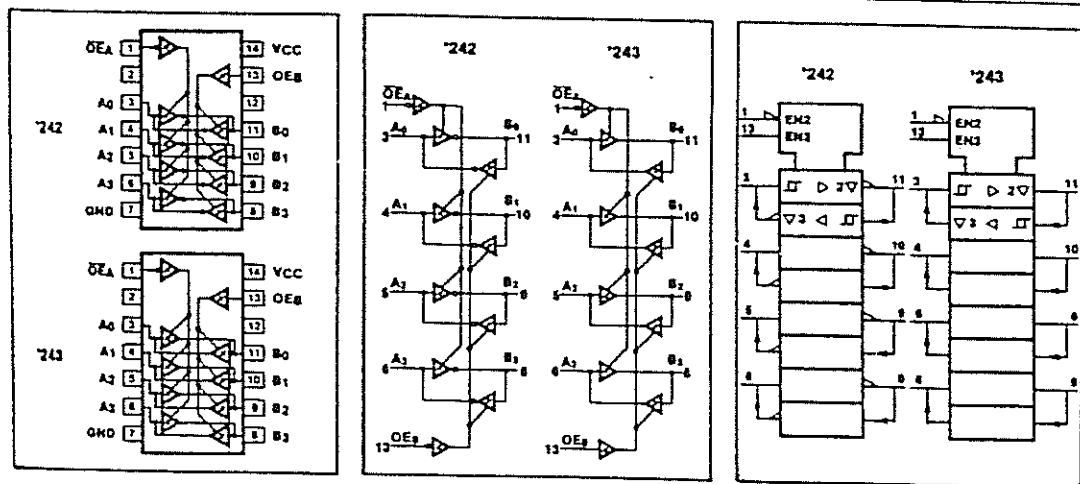
**74221** 2 multivibradores monoestáveis



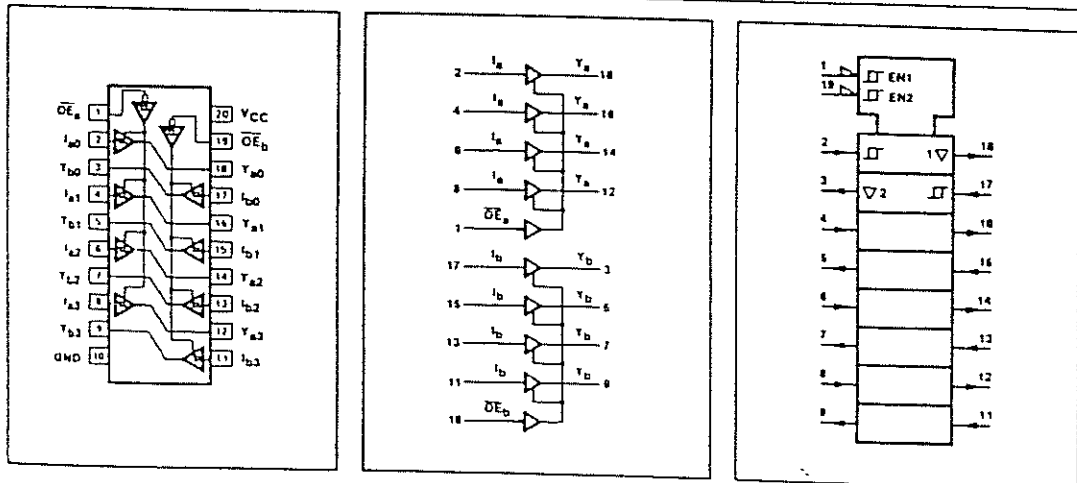
74240/74241



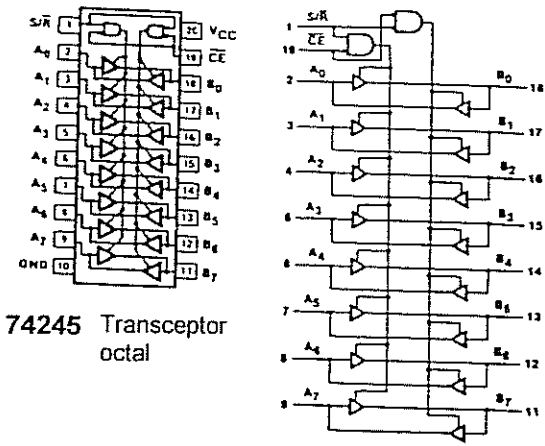
74242/74243



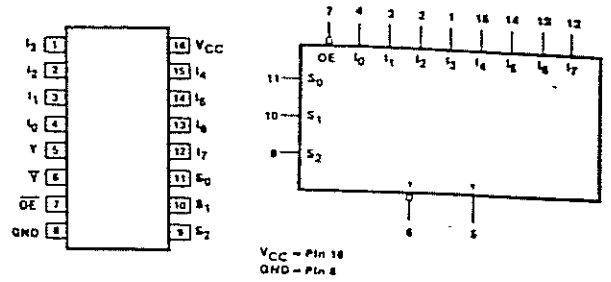
74244



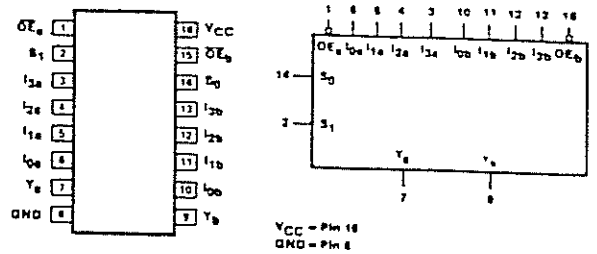
74240/74241 – buffers 3-state octal  
 74242/74243 – buffer transceptor quádruplo  
 74244- buffer 3-state octal



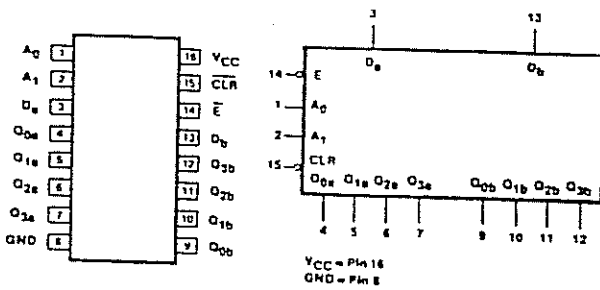
74245 Transceptor octal



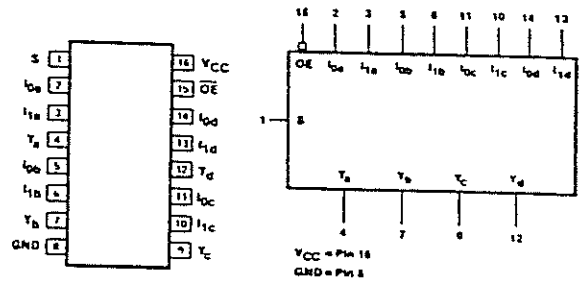
74251 Multiplexador/seletor de dados 8 entradas



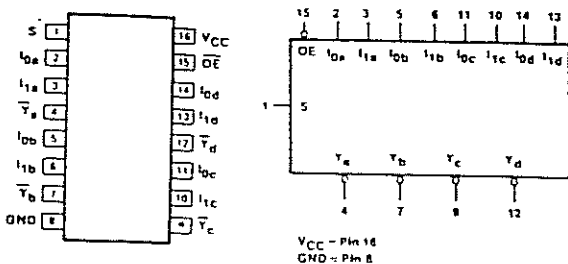
74253 Multiplexador 4 entradas duplo



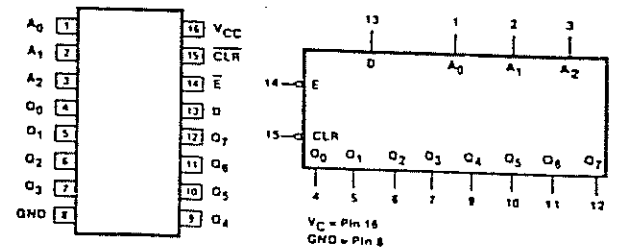
74256 Latches D 4 bits



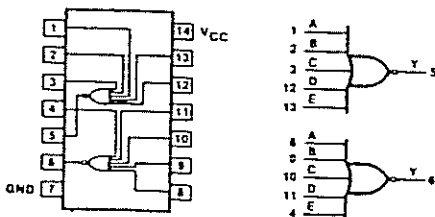
74257 Multiplexador 2 entradas - quádruplo



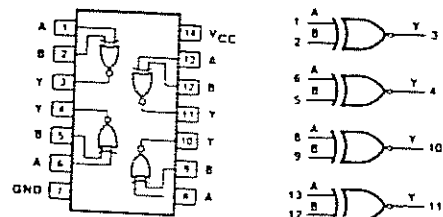
74258 Multiplexador 2 entradas - quad.



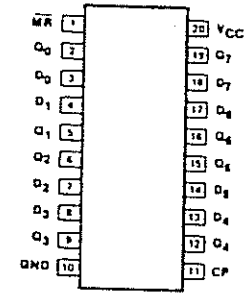
74259 Latches D 8 bits



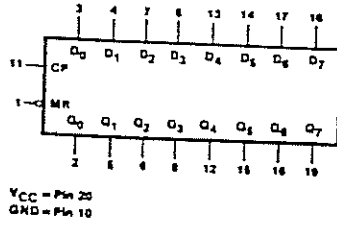
74260 2 portas NOU 4 entradas



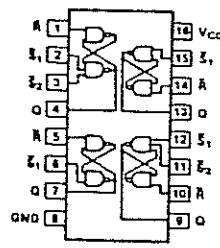
74266 4 portas NOU exclusivo 2 entradas



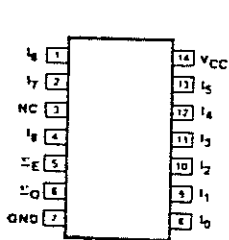
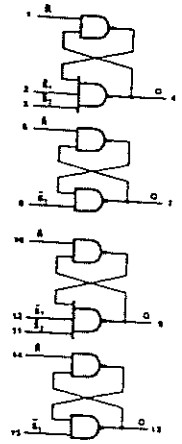
74273 8 F.F. D



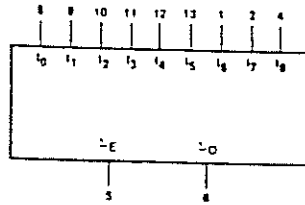
VCC = Pin 20  
GND = Pin 10



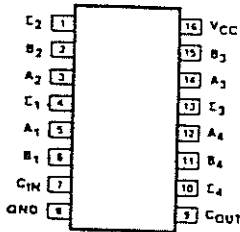
74279 4 latches RS



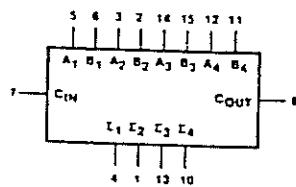
74280 Gerador/verificador de paridade par/impar 9 bits



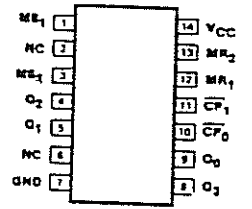
VCC = Pin 14  
GND = Pin 7



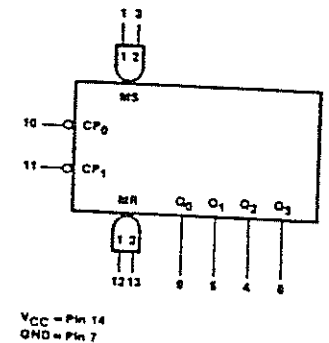
74283 Somador completo binário, ripple rápido



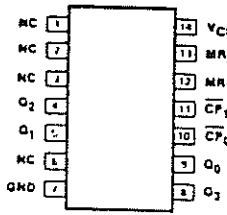
VCC = Pin 16  
GND = Pin 8



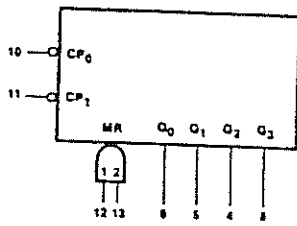
74290 Contador assíncrono 2x5



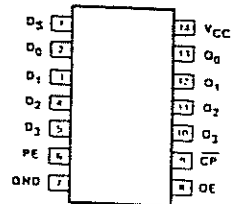
VCC = Pin 14  
GND = Pin 7



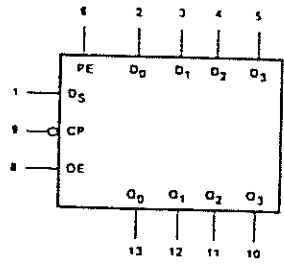
74293 Contador assíncrono 2 x 8



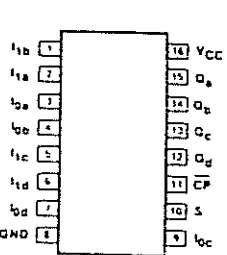
VCC = Pin 14  
GND = Pin 7



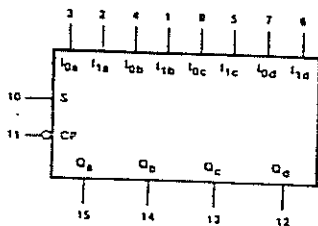
74295 Registrador de deslocamento PI-SI (entrada paralela/serial) / POR (saída paralela com deslocamento para a direita)



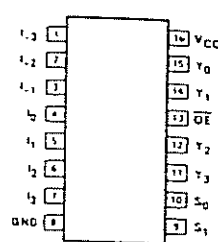
VCC = Pin 14  
GND = Pin 7



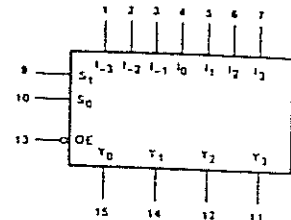
74298 Multiplexador 2 entradas quádruplo



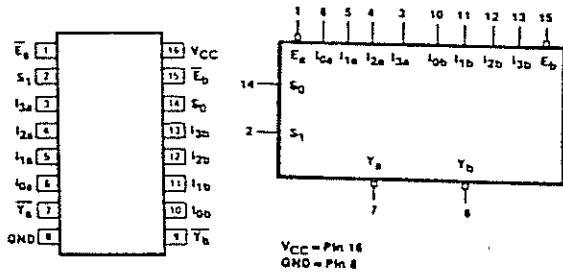
VCC = Pin 14  
GND = Pin 8



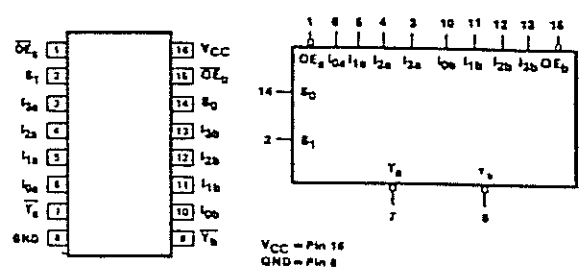
74350 Demultiplexador



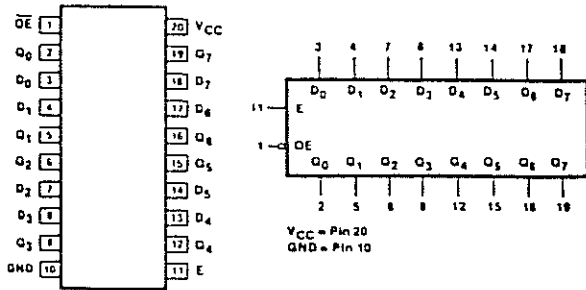
VCC = Pin 14  
GND = Pin 8



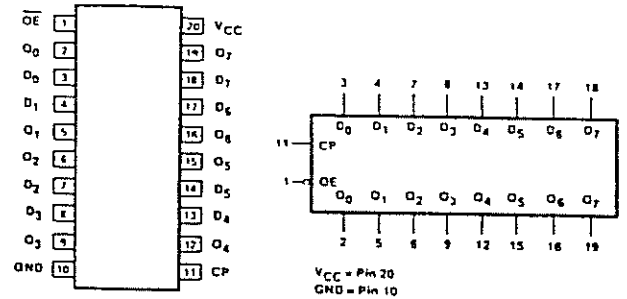
74352 Multiplexador 4 entradas duplo



74353 Multiplexador 4 entradas duplo

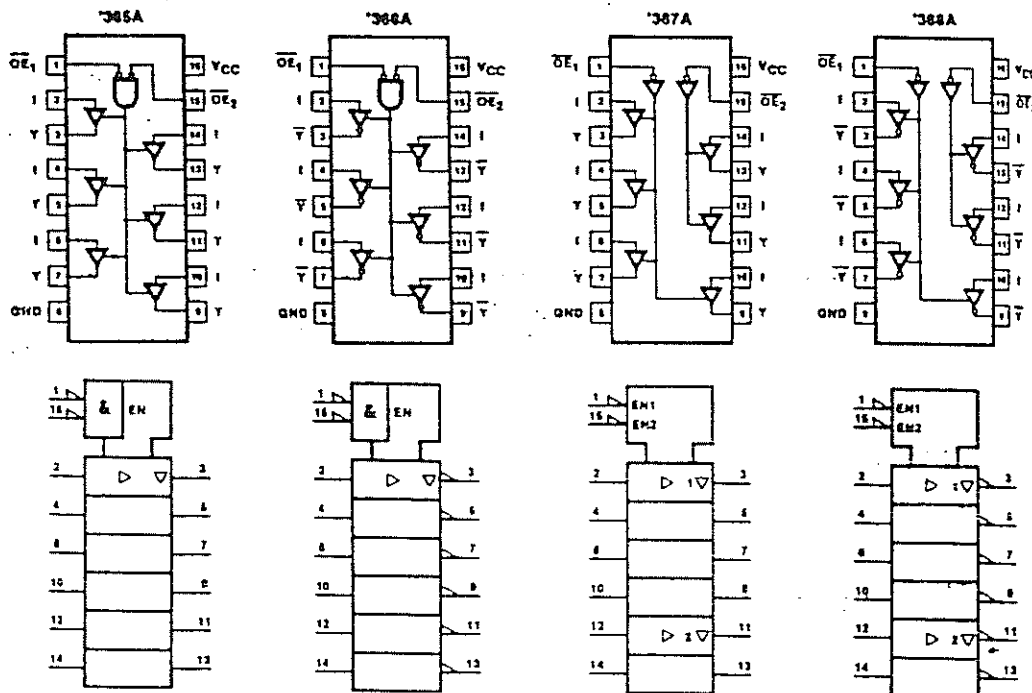


74363 Latches D 8 bits

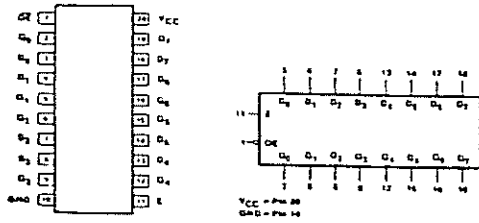


74364 8 flip-flops D

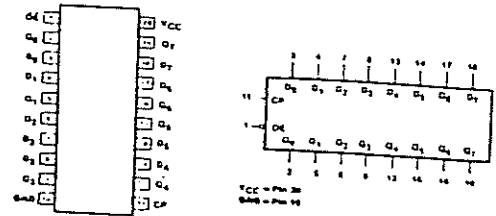
74365 / 74366 / 74367 / 74368  
buffer / inversor hexadecimal 4 e 2 bits



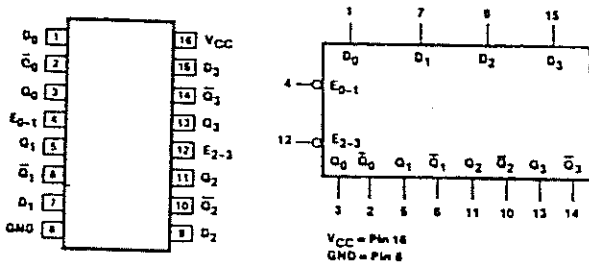




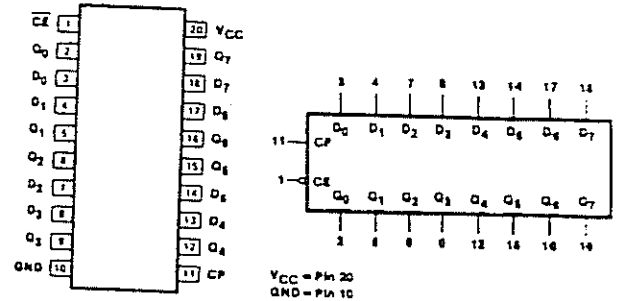
74373 Latches D 8 bits



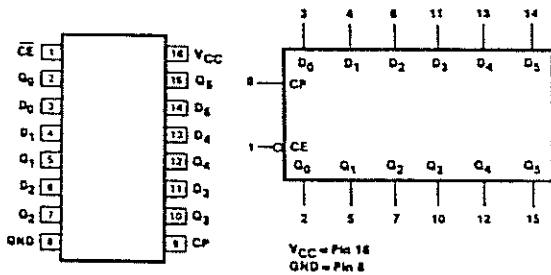
74374 8 flip-flops D



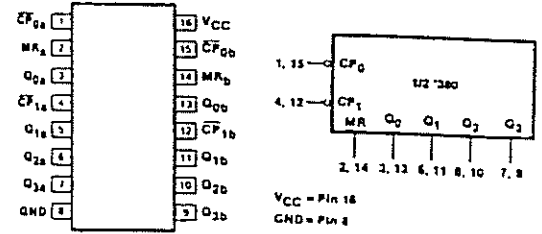
74375 Latches D 4 bits



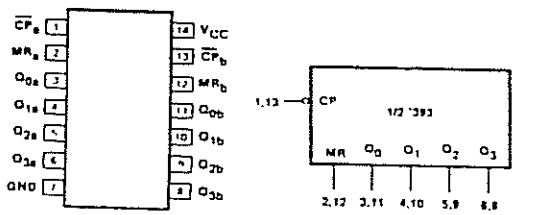
74377 8 flip-flops D



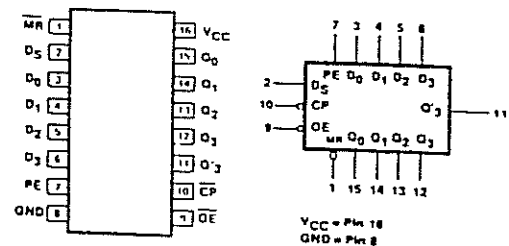
74378 Contador assíncrono 2 x 5



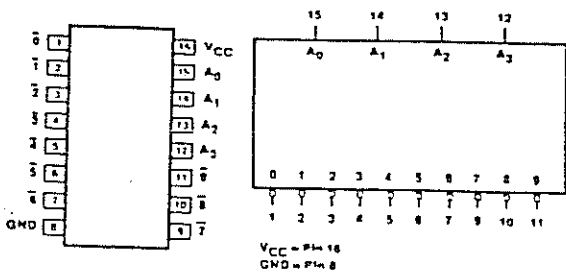
74390 Contador assíncrono 2 x 5



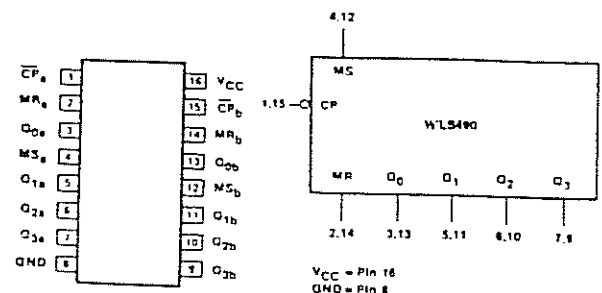
74393 Contador assíncrono 2 x 8



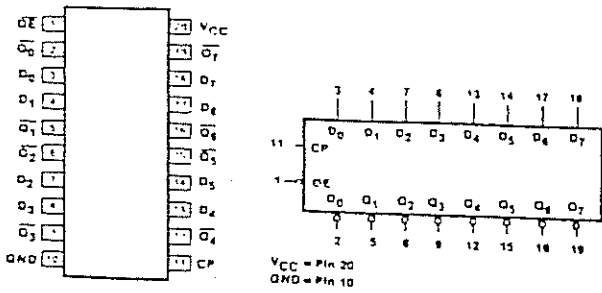
74395 Registrador de deslocamento PI-SI (entrada paralela/serial) / POR (saída paralela com deslocamento para a direita) 4 bits



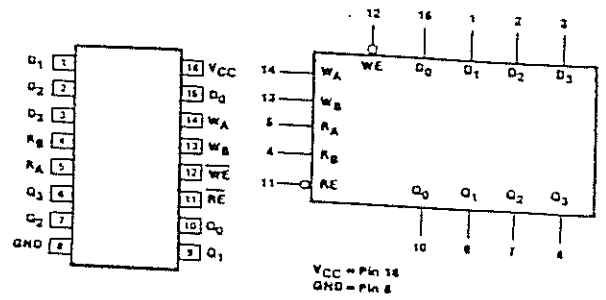
74445 Decodificador/Demux 1 p/10 4 entradas BCD



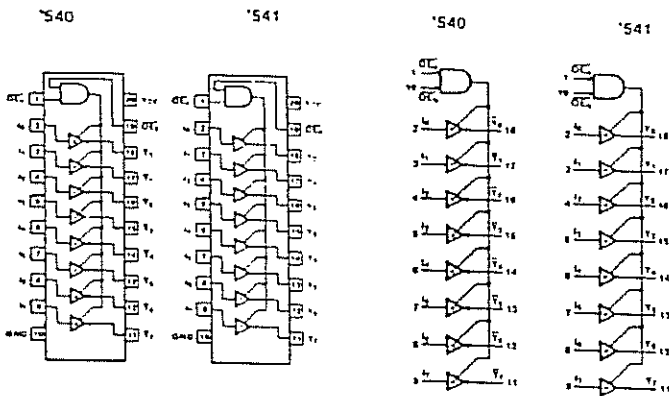
74490 Contador assíncrono 2 x 8



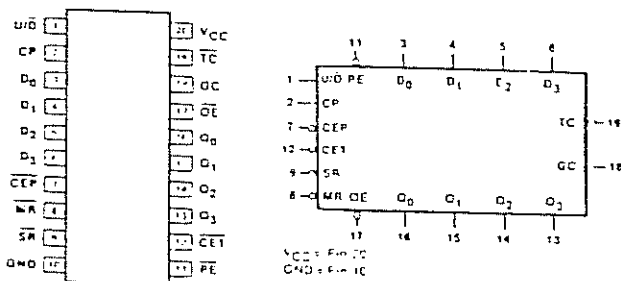
74534 – 8 flip-flops D



74670 – RAM 4 x 4



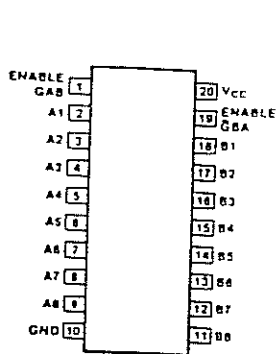
74540/ 74541 – buffers octais



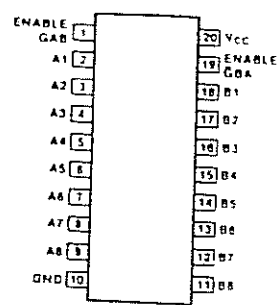
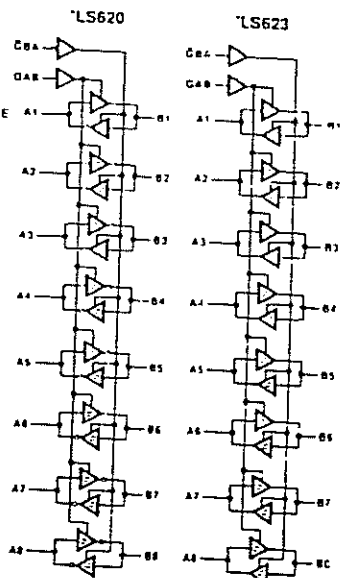
contador progressivo/regressivo síncrono:

74568 – módulo 10

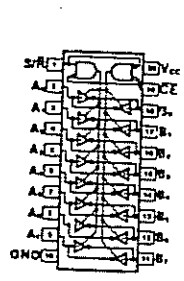
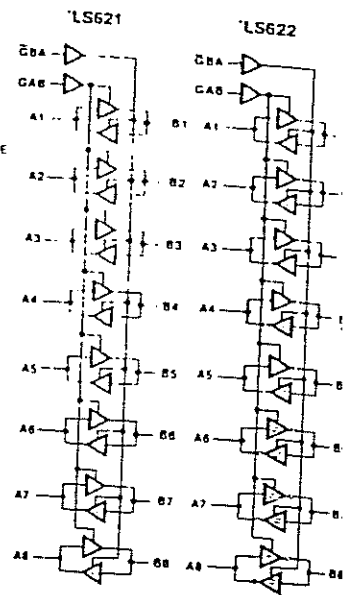
74569 – módulo 16



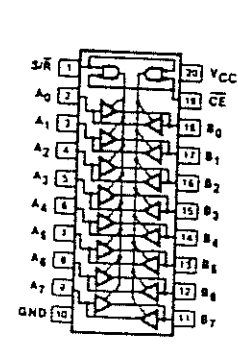
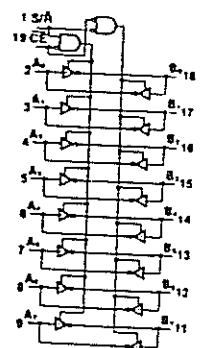
74620/74623



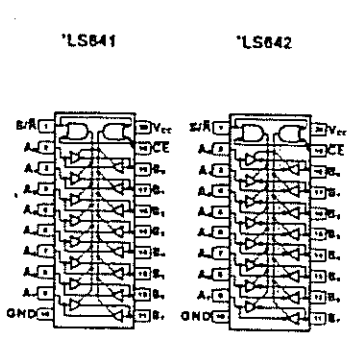
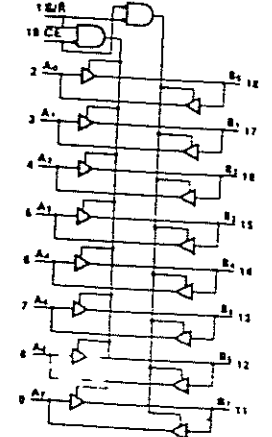
74621/74622



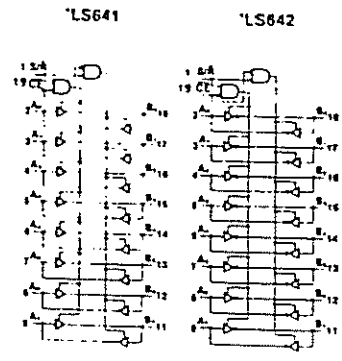
74640



74645



74641/74642



Transceptores octais

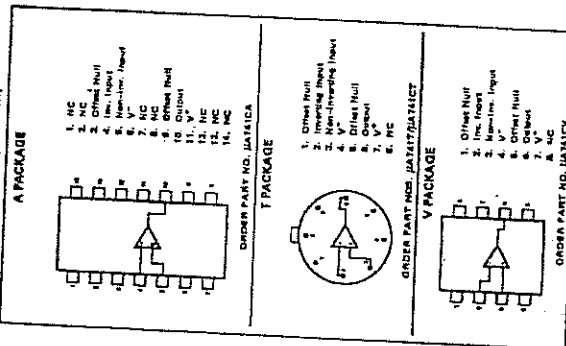
APÊNDICE E

FOLHA DE DADOS DO CI 741

**Signetics**  
GENERAL PURPOSE OPERATIONAL AMPLIFIER  $\mu$ A741  
OPERATING AMPLIFIER

LINEAR INTEGRATED CIRCUITS

PIN CONFIGURATION (TOP VIEW)



**DESCRIPTION**  
The  $\mu$ A741 is a high performance operational amplifier with high open loop gain, internal compensation, high common mode range and excellent temperature stability. The  $\mu$ A741 is short-circuit protected and allows for nulling of offset voltage.

**FEATURES**

- INTERNAL FREQUENCY COMPENSATION
- SHORT CIRCUIT PROTECTION
- OFFSET VOLTAGE NULL CAPABILITY
- INTERNAL FREQUENCY COMPENSATION
- TEMPERATURE STABILITY
- HIGH INPUT VOLTAGE RANGE
- NO LATCH-UP

**ABSOLUTE MAXIMUM RATINGS**

	$\mu$ A741C	$\mu$ A741
Supply Voltage	$\pm 18V$	$\pm 22V$
Input Current	500nA	500nA
Differential Input Voltage (Note 1)	300V	300V
Input Voltage (Note 2)	$\pm 18V$	$\pm 18V$
Voltage between Output and $V^+$	$\pm 0.5V$	$\pm 0.5V$

**Operating Temperature Range**  
0°C to +70°C -55°C to +125°C

**Storage Temperature Range**  
-65°C to +150°C -65°C to +150°C

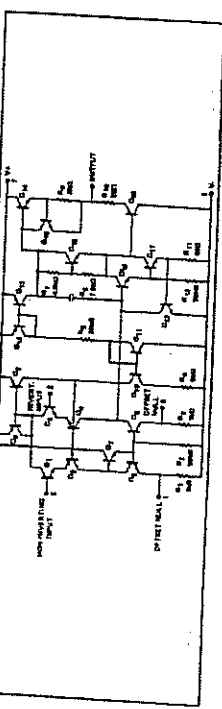
**Lead Temperature (Solder, 60 sec)**  
300°C

**Output Short Circuit Duration (Note 3)**  
Indefinite

**Notes:**

- For maximum performance at 25°C, the load impedance should be at least 2k $\Omega$  and the load capacitance should be less than 100pF.
- Short-circuit current may be as high as 20mA.
- Input lead temperature is 125°C.

EQUIVALENT CIRCUIT



SIGNETICS GENERAL PURPOSE OPERATIONAL AMPLIFIER  $\mu$ A741  
ELECTRICAL CHARACTERISTICS  $V_S = \pm 18V$ ,  $V_A = 25^\circ C$  unless otherwise specified

PARAMETER	MIN.	TPP.	MAX.	UNITS	TEST CONDITIONS
Input Offset Voltage	0.2	2.0	8.0	mV	$R_L \leq 10k\Omega$
Input Offset Current		20	200	nA	
Input Bias Current		2.0	500	nA	
Input Resistance		1.4		M $\Omega$	
Offset Voltage		1.4		mV	
Offset Voltage Adjustment Range		10	100	mV	
Common Mode Rejection Ratio	137	10		dB	$V_{in} \leq 10k\Omega$
Supply Voltage Rejection Ratio	70	10		dB	$V_{in} \leq 10k\Omega$
Large-Signal Voltage Gain	20,000	10		V	$V_{in} \leq 10k\Omega$
Output Voltage Swing	1.4	1.4		V	$V_{in} \leq 10k\Omega$
Output Resistance		2.0		$\Omega$	$V_{in} \leq 10k\Omega$
Output Current		2.0		mA	$V_{in} \leq 10k\Omega$
Power Consumption		0.5		mW	$V_{in} \leq 10k\Omega$
Transient Response (unity gain)		0.3		$\mu$ s	$V_{in} \leq 10k\Omega$
Distortion		0.5		%	$V_{in} \leq 10k\Omega$
Slew Rate		0.5		V/ $\mu$ s	$V_{in} \leq 10k\Omega$
The following specifications apply for $V_{in} \leq 10k\Omega$ , $V_{out} \leq 10V$					
Input Offset Voltage	0.3	1.0	7.5	mV	$R_L \geq 2k\Omega$ , $V_{out} \leq 10V$
Input Offset Current		20	200	nA	
Input Bias Current		2.0	250	nA	
Input Resistance		1.4		M $\Omega$	
Offset Voltage		1.4		mV	
Offset Voltage Adjustment Range		10		mV	
Common Mode Rejection Ratio	50,000	10		dB	
Supply Voltage Rejection Ratio		1.4		dB	
Large-Signal Voltage Gain		0.3		dB	
Output Resistance		2.0		$\Omega$	
Output Current		2.0		mA	
Power Consumption		0.5		mW	
Transient Response (unity gain)		0.3		$\mu$ s	
Distortion		0.5		%	
Slew Rate		0.5		V/ $\mu$ s	
The following specifications apply for $V_{in} \leq 10k\Omega$ , $V_{out} \leq 10V$					
Input Offset Voltage	0.3	1.0	7.5	mV	$R_L \geq 2k\Omega$ , $V_{out} \leq 10V$
Input Offset Current		20	200	nA	
Input Bias Current		2.0	250	nA	
Input Resistance		1.4		M $\Omega$	
Offset Voltage		1.4		mV	
Offset Voltage Adjustment Range		10		mV	
Common Mode Rejection Ratio	50,000	10		dB	
Supply Voltage Rejection Ratio		1.4		dB	
Large-Signal Voltage Gain		0.3		dB	
Output Resistance		2.0		$\Omega$	
Output Current		2.0		mA	
Power Consumption		0.5		mW	

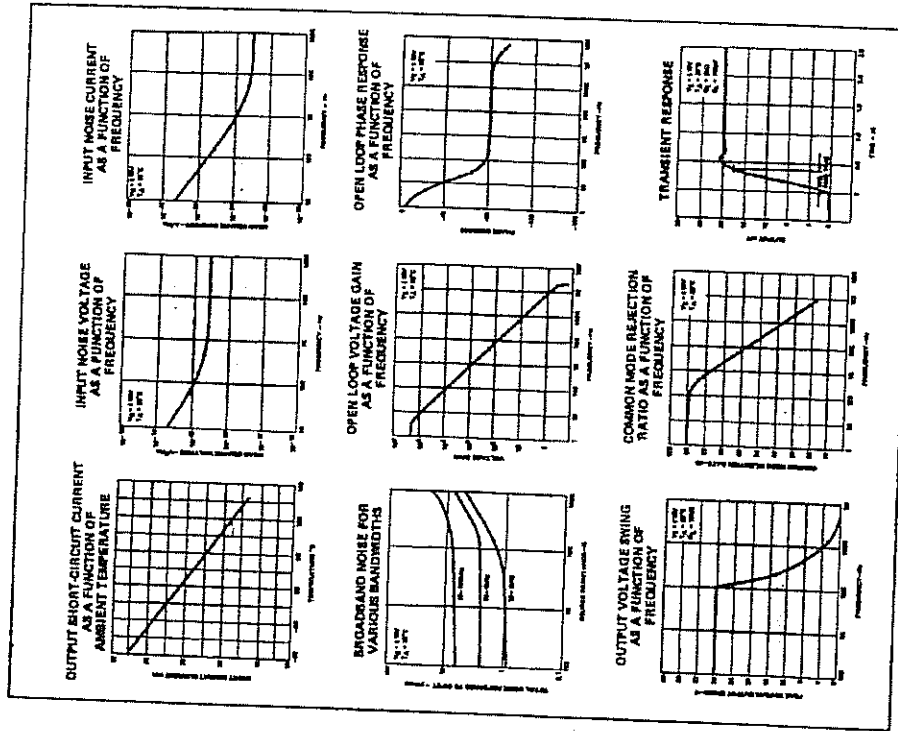
Cortesia da Signetics Corp.

FIGURA 1-2 (Continuação)  $\mu$ A741 de alto desempenho

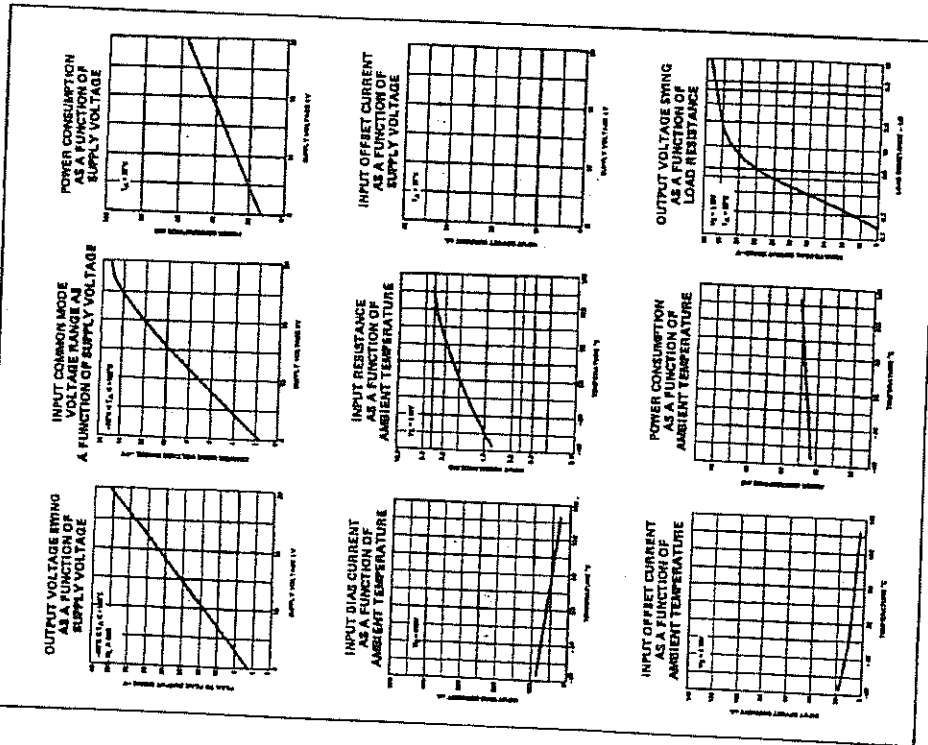
Cortesia da Signetics Corp.

FIGURA 1-2.  $\mu$ A741 de alto desempenho.

SIGNETICS GENERAL PURPOSE OPERATIONAL AMPLIFIER -  $\mu$ A741



SIGNETICS GENERAL PURPOSE OPERATIONAL AMPLIFIER -  $\mu$ A741  
TYPICAL CHARACTERISTIC CURVES



Cortesia da Signetics Corp.

FIGURA 1-2 (Continuação)  $\mu$  A741 de alto desempenho

Cortesia da Signetics Corp.

FIGURA 1-2 (Continuação)  $\mu$  A741 de alto desempenho

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