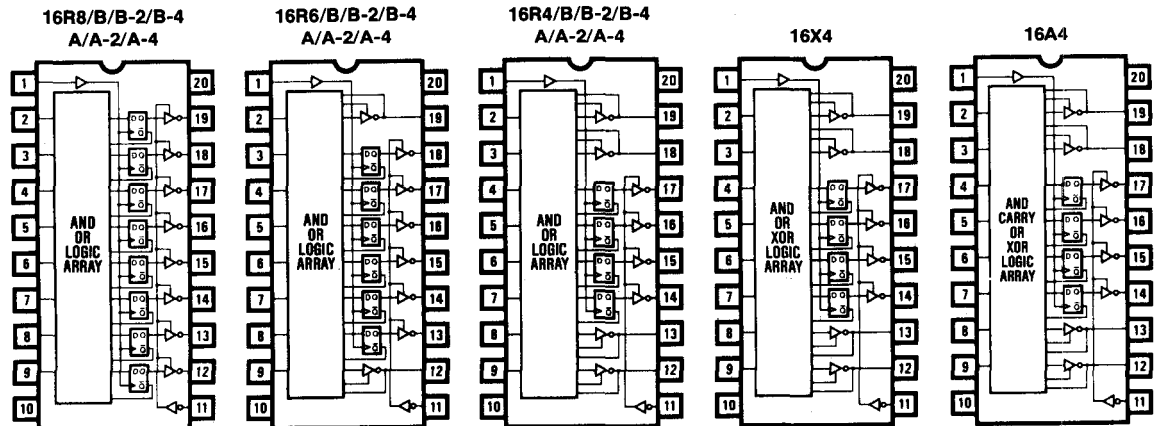
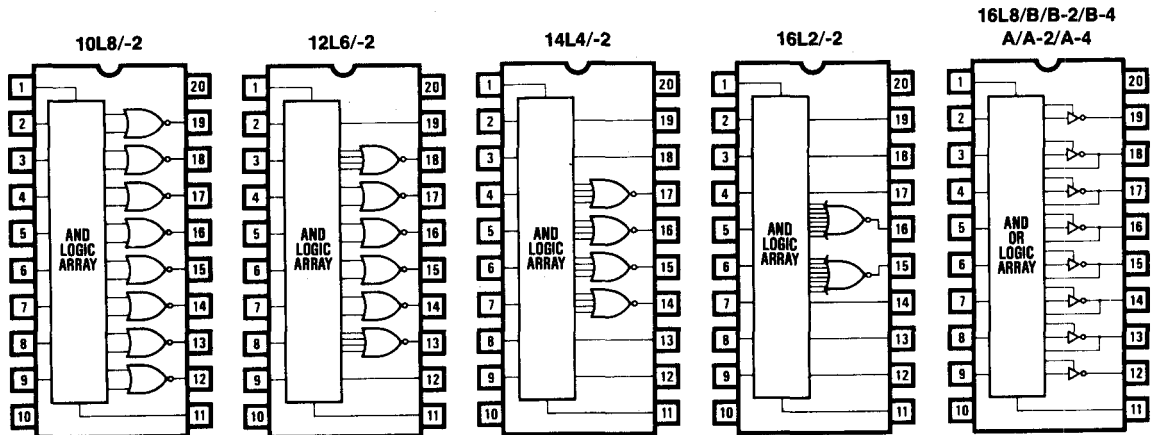
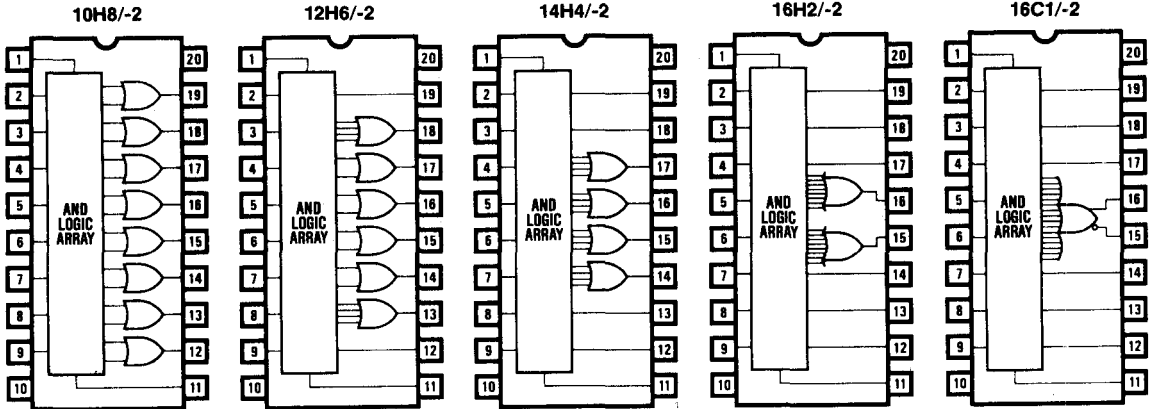
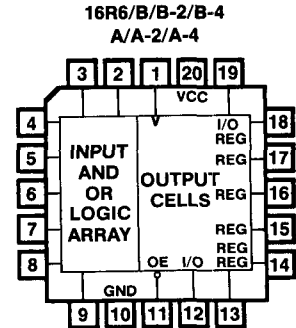
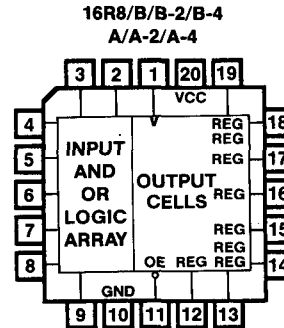
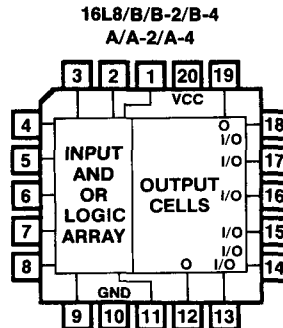
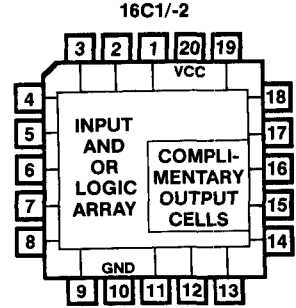
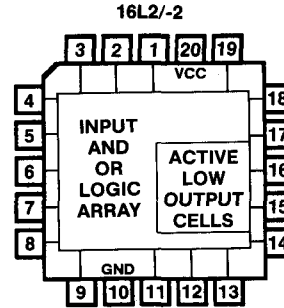
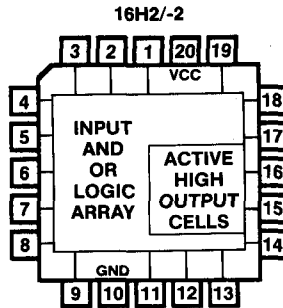
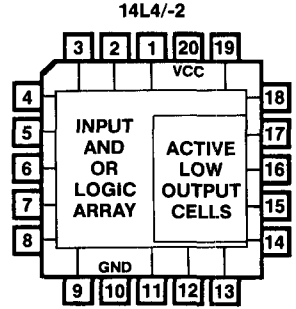
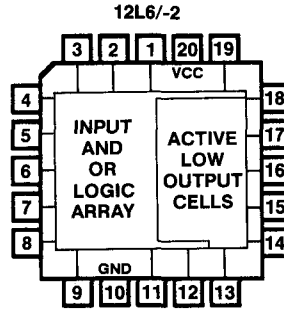
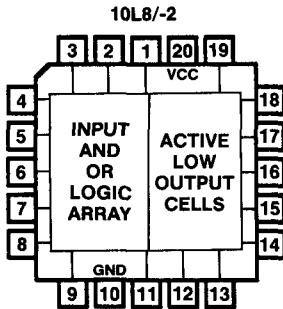
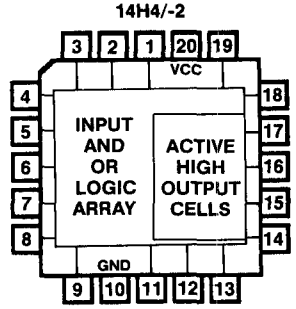
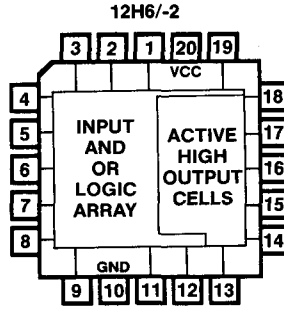
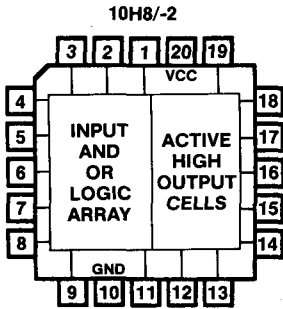


20-Pin PAL/HAL Devices



20-Pin PAL/HAL Devices-PLCC



Half Power Series 20A-2
16L8A-2, 16R8A-2, 16R6A-2, 16R4A-2

Operating Conditions

SYMBOL	PARAMETER			MILITARY			COMMERCIAL			UNIT		
				MIN	TYP	MAX	MIN	TYP	MAX			
V _{CC}	Supply voltage			4.5	5	5.5	4.75	5	5.25	V		
t _w	Width of clock	Low			25	10		25	10	ns		
		High			25	10		25	10			
t _{su}	Set up time from input or feedback to clock	16R6A-2	16R4A-2	16R8A-2	50	25		35	25	ns		
t _h	Hold time				0	-15		0	-15	ns		
T _A	Operating free-air temperature						-55		125	0	75	°C

Electrical Characteristics Over Operating Conditions

SYMBOL	PARAMETER	TEST CONDITIONS			MIN TYP MAX			UNIT		
					MIN	TYP	MAX			
V _{IL} *	Low-level input voltage						0.8	V		
V _{IH} *	High-level input voltage				2			V		
V _{IC}	Input clamp voltage	V _{CC} = MIN	I _I = -18mA				-0.8	-1.5	V	
I _{IL}	Low-level input current †	V _{CC} = MAX	V _I = 0.4V				-0.02	-0.25	mA	
I _{IH}	High-level input current †	V _{CC} = MAX	V _I = 2.4V					25	μA	
I _I	Maximum input current	V _{CC} = MAX	V _I = 5.5V					1	mA	
V _{OL}	Low-level output voltage	V _{CC} = MIN	Mil	I _{OL} = 12mA			0.3	0.5	V	
			Com	I _{OL} = 24mA						
V _{OH}	High-level output voltage	V _{CC} = MIN	Mil	I _{OH} = -2mA			2.4	2.8	V	
			Com	I _{OH} = -3.2mA						
I _{OZL}	Off-state output current †	V _{CC} = MAX	V _O = 0.4V					-100	μA	
I _{OZH}			V _O = 2.4V					100	μA	
I _{OS}	Output short-circuit current **	V _{CC} = 5V	V _O = 0V				-30	-70	-130	mA
I _{CC}	Supply current	V _{CC} = MAX						60	90	mA

Switching Characteristics Over Operating Conditions

SYMBOL	PARAMETER		TEST CONDITIONS	MILITARY			COMMERCIAL			UNIT
				MIN	TYP	MAX	MIN	TYP	MAX	
t _{PD}	Input or feedback to output	16L8A-2 16R6A-2 16R4A-2	R ₁ = 200Ω R ₂ = 390Ω		25	50		25	35	ns
t _{CLK}	Clock to output or feedback				15	25		15	25	ns
t _{PXZ/ZX}	Pin 11 to output disable/enable except 16L8A-2				15	25		15	25	ns
t _{PZX}	Input to output enable	16L8A-2 16R6A-2 16R4A-2			25	45		25	35	ns
t _{PXZ}	Input to output disable	16L8A-2 16R6A-2 16R4A-2			25	45		25	35	ns
f _{MAX}	Maximum frequency				14	25		16	25	