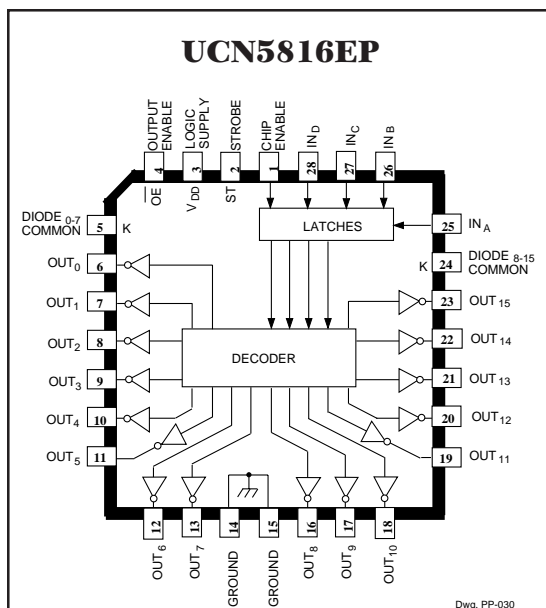


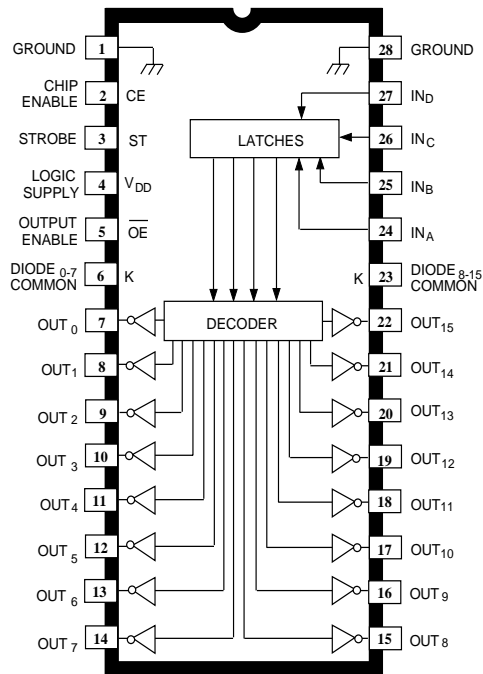
## 4-TO-16 LINE LATCHED DECODER/DRIVERS



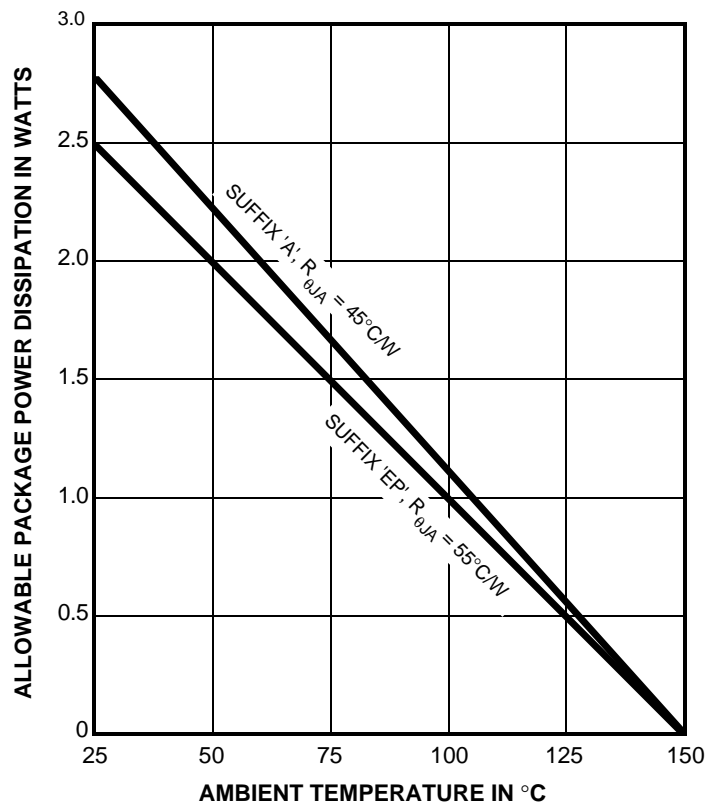
# 5816

## 4-TO-16 LINE LATCHED DECODER/DRIVERS

### UCN5816A

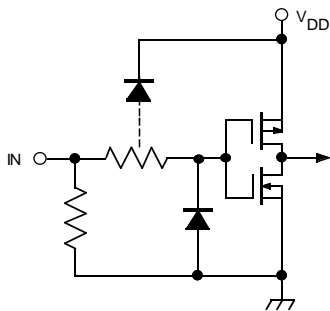


Dwg. PP-031

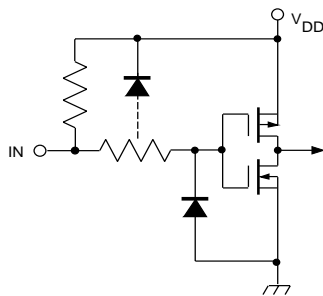


Dwg. GP-028-1A

### TYPICAL INPUT CIRCUITS

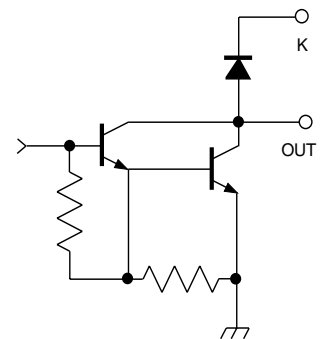


Dwg. EP-010-4A



Dwg. EP-010-3

### TYPICAL OUTPUT DRIVER



Dwg. EP-021-4

# 5816

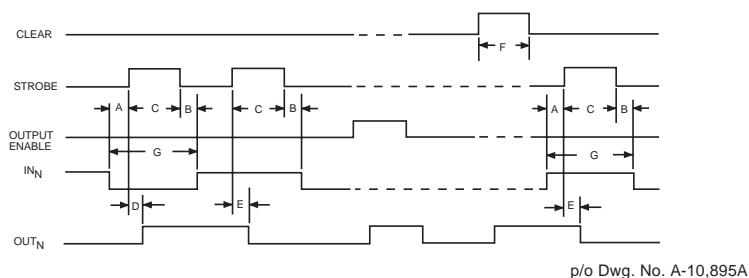
## 4-TO-16 LINE LATCHED DECODER/DRIVERS

**ELECTRICAL CHARACTERISTICS at  $T_A = 25^\circ\text{C}$ ,  $V_{DD} = 5\text{ V}$  (unless otherwise specified).**

Characteristic	Symbol	Test Conditions	Limits			Units
			Min.	Typ.	Max.	
Output Leakage Current	$I_{CEX}$	$V_{CE} = 60\text{ V}$ , $T_A = +25^\circ\text{C}$	—	—	50	$\mu\text{A}$
Output Saturation Voltage	$V_{CE(SAT)}$	$I_C = 100\text{ mA}$	—	0.9	1.1	V
		$I_C = 200\text{ mA}$	—	1.1	1.3	V
		$I_C = 350\text{ mA}$ , $V_{DD} = 7.0\text{ V}$	—	1.3	1.6	V
Input Voltage	$V_{IN(0)}$		-0.3	—	0.8	V
	$V_{IN(1)}$	$V_{DD} = 12\text{ V}$	10.5	—	—	V
		$V_{DD} = 5.0\text{ V}$	3.5	—	5.3	V
Input Resistance	$R_{IN}$	$V_{DD} = 12\text{ V}$	50	200	—	$\text{k}\Omega$
		$V_{DD} = 5.0\text{ V}$	100	600	—	$\text{k}\Omega$
Supply Current	$I_{DD(ON)}$	$V_{DD} = 12\text{ V}$ , Outputs Open	—	2.0	3.0	mA
		$V_{DD} = 5.0\text{ V}$ , Outputs Open	—	1.0	1.5	mA
	$I_{DD(OFF)}$	All Drivers OFF, All Inputs = 0 V, OE = $V_{DD} = 5.0\text{ V}$	—	—	100	$\mu\text{A}$
		All Drivers OFF, All Inputs = 0 V, OE = $V_{DD} = 12\text{ V}$	—	—	200	$\mu\text{A}$
Clamp Diode Leakage Current	$I_R$	$V_R = 60\text{ V}$ , $T_A = +25^\circ\text{C}$	—	—	50	$\mu\text{A}$
		$V_R = 60\text{ V}$ , $T_A = +70^\circ\text{C}$	—	—	100	$\mu\text{A}$
Clamp Diode Forward Voltage	$V_F$	$I_F = 350\text{ mA}$	—	1.5	2.0	V

# 5816

## 4-TO-16 LINE LATCHED DECODER/DRIVERS



### TIMING CONDITIONS (Logic Levels are $V_{DD}$ and Ground)

- A. Minimum Data Active Time Before Strobe Enabled (Data Set-Up Time) ..... **50 ns**
- B. Minimum Data Active Time After Strobe Disabled (Data Hold Time) ..... **50 ns**
- C. Minimum Strobe Pulse Duration ..... **125 ns**
- D. Typical Time Between Strobe Activation and Output On to Off Transition ..... **500 ns**
- E. Typical Time Between Strobe Activation and Output Off to On Transition ..... **500 ns**
- G. Minimum Data Pulse Duration ..... **225 ns**

### TRUTH TABLE

STROBE	CHIP ENABLE	IN <sub>D</sub> (MSB)	IN <sub>C</sub>	IN <sub>B</sub>	IN <sub>A</sub> (LSB)	OUTPUT ENABLE	OUTPUTS (OFF unless otherwise specified)
1	1	0	0	0	0	0	OUT <sub>0</sub> ON
1	1	0	0	0	1	0	OUT <sub>1</sub> ON
1	1	0	0	1	0	0	OUT <sub>2</sub> ON
1	1	0	0	1	1	0	OUT <sub>3</sub> ON
1	1	0	1	0	0	0	OUT <sub>4</sub> ON
1	1	0	1	0	1	0	OUT <sub>5</sub> ON
1	1	0	1	1	0	0	OUT <sub>6</sub> ON
1	1	0	1	1	1	0	OUT <sub>7</sub> ON
1	1	1	0	0	0	0	OUT <sub>8</sub> ON
1	1	1	0	0	1	0	OUT <sub>9</sub> ON
1	1	1	0	1	0	0	OUT <sub>10</sub> ON
1	1	1	0	1	1	0	OUT <sub>11</sub> ON
1	1	1	1	0	0	0	OUT <sub>12</sub> ON
1	1	1	1	0	1	0	OUT <sub>13</sub> ON
1	1	1	1	1	0	0	OUT <sub>14</sub> ON
1	1	1	1	1	1	0	OUT <sub>15</sub> ON
0	1	X	X	X	X	0	Q <sub>O</sub>
X	0	X	X	X	X	X	All OFF
X	X	X	X	X	X	1	All OFF

Q<sub>O</sub> = The output condition prior to the high-to-low transition of the STROBE input.

X = Irrelevant



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