



**SIGNETICS  
INTEGRATED CIRCUITS**

**DTL**

These are a group of DTL integrated circuits intended for use in high-speed, low-power digital systems. Each device is fabricated within a single monolithic silicon chip by the planar technique. These DTL products include the (8)100 Series, 700 Series and (8)400 Series.

**FUNCTIONS AND  
CHARACTERISTICS**

**MAXIMUM RATINGS**

Rating	Value	Unit
Input Current	±30	mA
Input Voltage - $V_{in}$	8.0	V
Output Voltage - $V_{out}$	8.0	V
Storage Temperature - $T_{stg}$	-65 to +175	°C
Operating Temperature - $T_A$	-55 to +125	°C

**PACKAGING AVAILABLE**

(See page 88):

**C - 14-LEAD DUAL INLINE   D - 14-LEAD FLAT PACK  
H - 10-LEAD FLAT PACK   I - 10-LEAD CAN**

**DTL**

FUNCTION	TYPE/PKG	OUTPUT CURRENT mA	POWER DISSIPATION
4-Input NAND/NOR Gate	101/H,I	100	—
3-Input NAND/NOR Gate	102/H,I	100	—
6-Input Gate Expander	105/H,I	—	—
Dual 5-Input Gate Expander	106/C,D	30	250
3-Input NAND/NOR Gate	110/H,I	100	—
Dual 4-Input NAND/NOR Gate	111/C,D	125	250
Dual 3-Input NAND/NOR Gate	112/C,D	125	250
Dual 3-Input NAND/NOR Gate	113/I	100	—
Dual 2-Input NAND/NOR Gate	115/H,I	100	—
Dual 4-Input NAND/NOR Gate	116/C,D	100	250
RS/T Binary Element	124/C,D,H,I	100	250
J-K Binary Element	125/C,D	100	250
2-Input Clock/Capacitive Line Driver	150/H,I	100	—
Dual 4-Input Clock/Capacitive Line Driver	155/C,D	125	250
Dual 4-Input Clock/Capacitive Line Driver	156/C,D	125	250
Dual 3-Input Clock/Capacitive Line Driver	157/I	100	—

**DTL** FUNCTIONS AND CHARACTERISTICS (continued)

FUNCTION	TYPE/PKG	OUTPUT CURRENT mA	POWER DISSIPATION
Monostable Multivibrator	160/H,I	50	250
Monostable Multivibrator	161/C,D,I	50	250
Monostable Multivibrator	162/C,D	50	250
Triple 3-Input NAND/NOR Gate	170/C,D	100	250
Quad 2-Input NAND/NOR Gate	180/C,D	100	250
Quad Inverter	181/I	100	—
Dual 5-Input NAND Gate	415/C,D	30	—
Dual Expandable 4-Input NAND Gate	416/C,D	30	—
Dual 3-Input NAND/NOR Gate	417/C,D	30	—
Dual Exclusive-OR Gate	440/C,D	30	—
Dual 4-Input Buffer/Driver	455/C,D	100	—
Triple 3-Input NAND Gate	470/C,D	—	—
Triple 3-Input NAND Gate	471/C,D	30	—
Quad 2-Input NAND Gate	480/C,D	30	—
Quad 2-Input NAND Gate	481/C,D	30	—
Hex Inverter	490/C,D	30	—
Dual 3-2-Input NAND/NOR Gate	700/H,I	100	—
Dual 3-2-Input NAND/NOR Gate	701/H,I	100	—
RS/T Binary Element	704/H,I	100	250
Dual 3-Input Gate Expander	705/H,I	—	—
Dual 3-Input Gate Expander	709/H,I	—	—
Dual 2-Input NAND/NOR Gate	716/I	100	—
Quad 2-Input NAND Gate	720/C,D	100	250
Triple 3-Input NAND/NOR Gate	721/C,D	100	250
Triple 2-Input NAND/NOR Gate	727/C,D	100	250
RS/T Binary Element	729/C,D	100	250
Dual 5-Input NAND/NOR Gate	730/C,D	100	250
Quad 2-Input Gate Expander	731/C,D	30	250

**DTL** FUNCTIONS AND CHARACTERISTICS (continued)

<b>FUNCTION</b>	<b>TYPE/PKG</b>	<b>OUTPUT CURRENT mA</b>	<b>POWER DISSIPATION</b>
12-Input Gate Expander	732/C,D	30	250
Monostable Multivibrator	8162/C,D	50	250
Dual 5-Input NAND Gate	8415/C,D	30	—
Dual Expandable 4-Input NAND Gate	8416/C,D	30	—
Dual 3-Input NAND/NOR Gate	8417/C,D	30	—
Dual Exclusive-OR Gate	8440/C,D	30	—
Dual 4-Input Buffer/Driver	8455/C,D	100	—
Triple 3-Input NAND Gate	8470/C,D	—	—
Triple 3-Input NAND Gate	8471/C,D	30	—
Quad 2-Input NAND Gate	8480/C,D	30	—
Quad 2-Input NAND Gate	8481/C,D	30	—
Hex Inverter	8490/C,D	30	—