NBCD ADDER

MC4356
MC4056

Input Loading Factor: C_{in} = 5
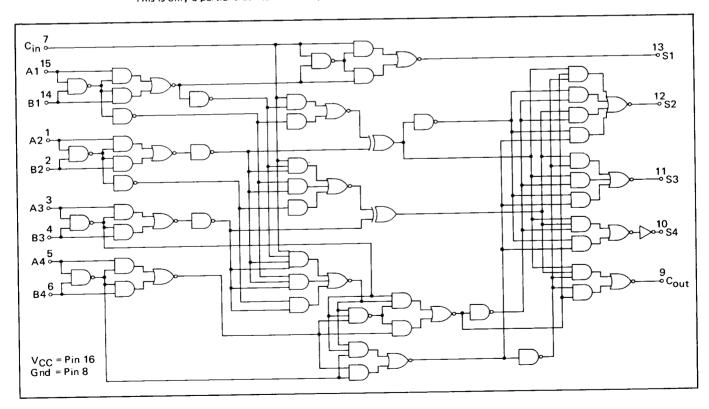A, B = 2
Output Loading Factor = 10
Total Power Dissipation = 300 mW typ/pkg
Propagation Delay Time = 30 ns typ

The MC4356/4056 adds two 4-bit numbers in NBCD (Natural Binary Coded Decimal) format. Sum and Carry outputs are generated, also in NBCD code.

NBCD adders are used in such applications as machine controls (to avoid conversion of NBCD data to binary numbers), and in phase-locked loops together with programmable counters. This adder can also subtract, when coupled to a 9's complement logic function.

TRUTH TABLE*

INPUT									OUTPUT				
A4	A3	A2	A1	B4	B3	B2	B1	C_{in}	C_{out}	S4	S3	S2	S1
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	1
0	1	0	0	0	1	0	0	0	0	1	0	0	0
0	1	0	0	0	1	0	0	1	0	1	0	0	1
0	1	1	1	0	1	0	0	0	1	0	0	0	1
0	1	1	1	0	1	0	0	1	1	0	0	1	0
1	0	0	1	1	0	0	1	1	1	1	0	0	1
1	0	0	1	0	0	0	0	1	1	0	0	0	0
1	0	0	1	0	0	0	1	0	1	0	0	0	0

*This is only a partial truth table and is provided to illustrate the logic function of this device.

V_{CC} = Pin 16
Gnd = Pin 8

133