J. Wittje

decimal to bcd converter

This converter can be used as a manual encoder which will convert decimal coded signals into BCD codes and drive digital circuits. Furthermore, the converter can be used as a teaching aid for explaining the BCD code.

One IC and six germanium diodes are sufficient for converting a decimal number into a BCD number. A switch for zero is not provided because the converter automatically indicates zero when all switches are open. The reverse resistance of the diodes must be as high as possible (if necessary, check with an ohmmeter) and the gate inputs can be provided with a pull-up resistor connected to the positive supply voltage.

If the circuit is to be used to explain the BCD code, the BCD-output conditions can be indicated by means of LED's. The circuit for the required buffer stage is shown in figure 2.

D1... D6 = DUG
N1... N4 = 7400

4043-1d
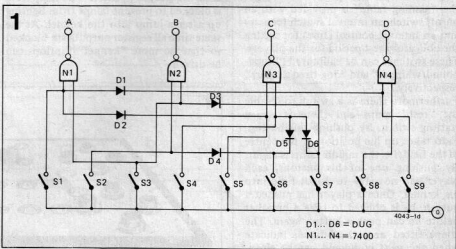
Table

D	C	B	A	Decimal
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9

D.C.B.A   TUN

4x

4043-2d