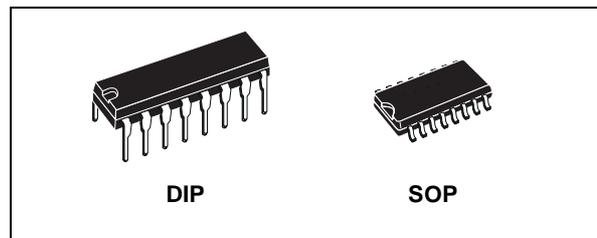# HCF4051B

SINGLE 8-CHANNEL
ANALOG MULTIPLEXER/DEMULTIPLEXER

- LOW "ON" RESISTANCE : 125Ω (Typ.) OVER 15V p.p SIGNAL-INPUT RANGE FOR V_{DD} - V_{EE} = 15V
- HIGH "OFF" RESISTANCE : CHANNEL LEAKAGE $\pm$ 100pA (Typ.) at V_{DD} - V_{EE} = 18V
- BINARY ADDRESS DECODING ON CHIP
- HIGH DEGREE OF LINEARITY : < 0.5% DISTORTION TYP. at f_{IS} = 1KHz, V_{IS} = 5 V_{pp}, V_{DD} - $V_{SS} \geq$ 10V, RL = 10KΩ
- VERY LOW QUIESCENT POWER DISSIPATION UNDER ALL DIGITAL CONTROL INPUT AND SUPPLY CONDITIONS : 0.2 μW (Typ.) at V_{DD} - V_{SS} = V_{DD} - V_{EE} =10V
- MATCHED SWITCH CHARACTERISTICS : R_{ON} = 5Ω (Typ.) FOR V_{DD} - V_{EE} = 15V
- WIDE RANGE OF DIGITAL AND ANALOG SIGNAL LEVELS : DIGITAL 3 to 20, ANALOG TO 20V p.p.
- QUIESCENT CURRENT SPECIFIED UP TO 20V
- 5V, 10V AND 15V PARAMETRIC RATINGS
- INPUT LEAKAGE CURRENT I_I = 100nA (MAX) AT V_{DD} = 18V T_A = 25°C
- 100% TESTED FOR QUIESCENT CURRENT
- MEETS ALL REQUIREMENTS OF JEDEC JESD13B " STANDARD SPECIFICATIONS FOR DESCRIPTION OF B SERIES CMOS DEVICES"

DIP   **SOP**

ORDER CODES

| PACKAGE	TUBE	T & R
DIP	HCF4051BEY	
SOP	HCF4051BM1	HCF4051M013TR

DESCRIPTION

The HCF4051B is a monolithic integrated circuit fabricated in Metal Oxide Semiconductor technology available in DIP and SOP packages.

The HCF4051B analog multiplexer/demultiplexer is a digitally controlled analog switch having low ON impedance and very low OFF leakage current. This multiplexer circuit dissipate extremely low quiescent power over the full V_{DD} - V_{SS} and V_{DD} - V_{EE} supply voltage range, independent of the logic state of the control signals.

When a logic "1" is present at the inhibit input terminal all channel are off. This device is a single 8-channel multiplexer having three binary control inputs, A, B, and C, and an inhibit input. The three binary signals select 1 of 8 channels to be turned on, and connect one of the 8 inputs to the output.

PIN CONNECTION
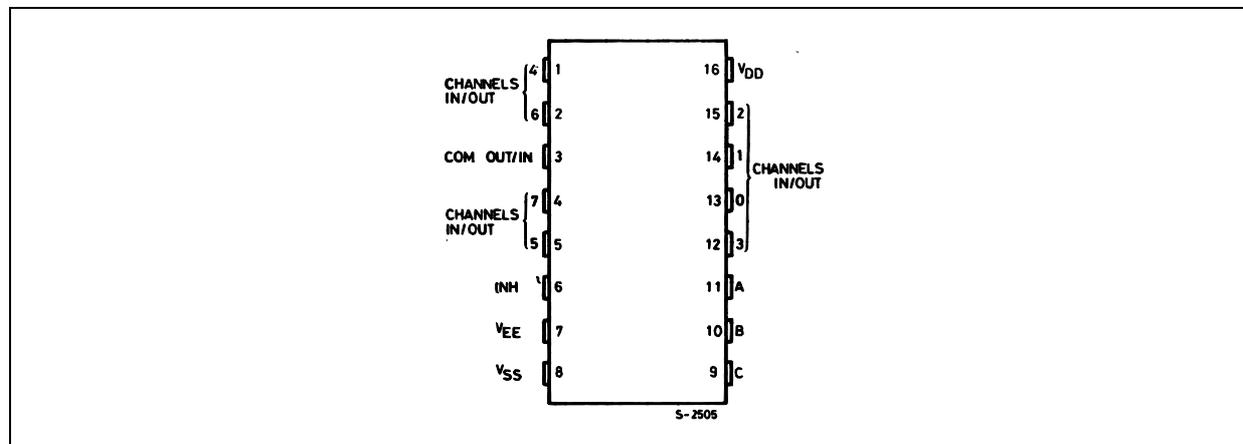
INPUT EQUIVALENT CIRCUIT

CS03790
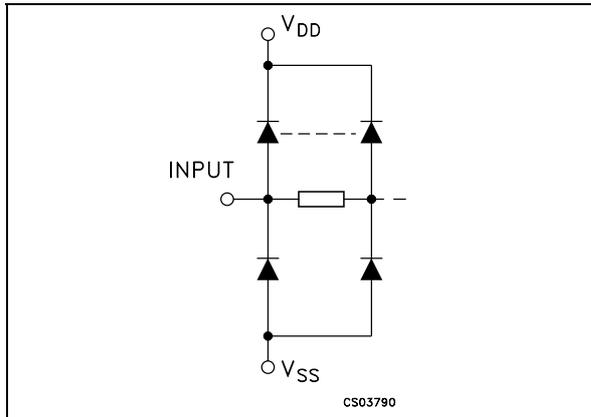
PIN DESCRIPTION

PIN No	SYMBOL	NAME AND FUNCTION
11, 10, 9	A, B, C	Binary Control Inputs
6	INH	Inhibit Inputs
13, 14, 15, 12, 1, 5, 2, 4	0 to 7 CHANNEL IN/OUT	Indipendent inputs/out-puts
3	COM OUT/IN	Common Output/Input
7	V$_{EE}$	Supply Voltage
8	V$_{SS}$	Negative Supply Voltage
16	V$_{DD}$	Positive Supply Voltage

TRUTH TABLE

INPUT STATES				"ON" CHANNEL (S)
INHIBIT	C	B	A	
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	X	X	X	NONE

FUNCTIONAL DIAGRAM

S-1441/1