SGS-THOMSON
MICROELECTRONICS

M34930

12 X 8 CROSSPOINT

- LOW ON RESISTANCE
  (typ. 40Ω at V_{DD} = 10V)
- INTERNAL CONTROL LATCHES
- ANALOG SIGNAL SWING CAPABILITY EQUAL TO POWER SUPPLY VOLTAGE
- LESS THAN 1% TOTAL DISTORT. AT 0dBm
- LESS THAN – 95dB CROSS-TALK AT 1kHz 1V_{PP}
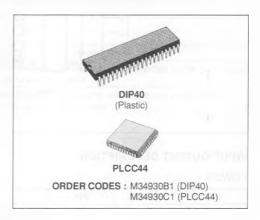- VERY LOW POWER CONSUMPTION
- EXPECIALLY OPTIMIZED FOR "ON-HOLD" APPLICATIONS

DESCRIPTION

The M34930 contains a 12 x 8 array of crosspoint together with a 7 to 96 line decoder and latch circuits. Anyone of the 96 switches can be addressed by selecting the appropriate 7 input bits. The selected switch can be turned on or off by applying a logical one or zero to the data in and the strobe input at logical one. A reset signal can be used to turn off all the switches together when is switched at logical one.
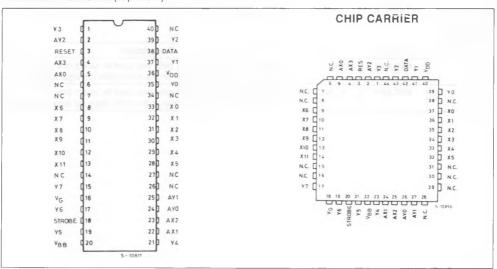
The M34930 can handle signals with an amplitude equal to the supply voltage.

Moreover the device guarantees excellent (60dB) Yi to Yj isolation (for any "i" and "j on Xo channel (grounded).
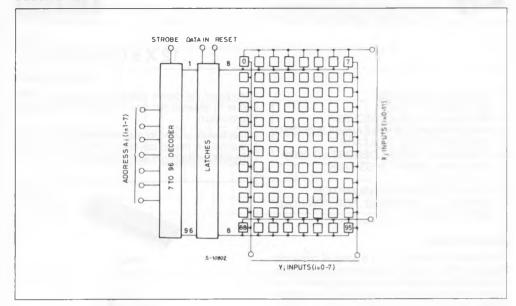
This feature is used for applications where a service channel (i.e. music) can feed several incoming lines (typically in waiting queue : "on-hold").

DIP40
(Plastic)

PLCC44

ORDER CODES : M34930B1 (DIP40)
M34930C1 (PLCC44)

PIN CONNECTIONS (top view)

Y3	1	40	N C
AY2	2	39	Y2
RESET	3	38	DATA
AX3	4	37	Y1
AX0	5	36	V_{DD}
N C	6	35	Y0
N C	7	34	N C
X6	8	33	X 0
X7	9	32	X 1
X8	10	31	X 2
X9	11	30	X 3
X10	12	29	X 4
X 11	13	28	X 5
N C	14	27	N C
Y 7	15	26	N C
V_G	16	25	AY1
Y6	17	24	AY0
STROBE	18	23	AX2
Y5	19	22	AX1
V_{BB}	20	21	Y4

S - 10811

CHIP CARRIER

S - 10810

This is advanced information on a new product now in development or undergoing evaluation. Details are subject to change without notice.

BLOCK DIAGRAM

INPUT/OUTPUT DESCRIPTION

POWER

I/O	Symbol	Pin	Description
I	V_{DD}	36	Positive Power Supply
I	V_{BB}	20	Negative Power Supply
I	V_G	16	Digital Signal Ground

ADDRESS

I/O	Symbol	Pin	Description
I	AX0-AX3	4, 5, 22, 23	X Address Lines. These 4 pins are used to select one of the 16 rows of switches. Refer to the truth table for legal address.
I	AY0-AY2	2, 24, 25	Y Address Lines. These 3 pins are used to select one of the 8 columns of switches. Refer to the truth table for legal address.

CONTROL

I/O	Symbol	Pin	Description
I	DATA	38	This input determines if the selected switch will be turned on (closed) or off (opened). If the pin is held high, the selected switch will be closed. If the pin is held low, the switch will be opened.
I	STROBE	18	This pin enables whatever action is selected by the ADDRESS and DATA pins. When the STROBE pin is held low, no switch openings or closings take place. When the STROBE pin is held high, the switch addressed by the select lines will be opened or closed (depending upon the state of the DATA pin)
I	RESET	3	Master Reset. This pin turns off (opens) all 96 switches. The states of the above control lines are irreleant. This pin is active high.

DATA

I/O	Symbol	Pin	Description
I/O	X0-X11	8-13, 28-33	Analog Input/Outputs. These pins are connected to the Y0-Y7 pins in according to the truth table.
I/O	Y0-Y7	1,15,17,19,21 35,37,39	Analog Input/Outputs. These pins are connected to the X0-X11 pins in according to the truth table.

GENERAL INFORMATIONS

- TRUTH TABLE
  (see M3493 data sheet)
- ABSOLUTE MAXIMUM RATINGS
  (see M3493 data sheet)
- RECOMMENDED OPERATING CONDITIONS
  (see M3494 data sheet)
- STATIC AND DYNAMIC ELECTRICAL CHARACTERISTICS
  (see M3494 data sheet)