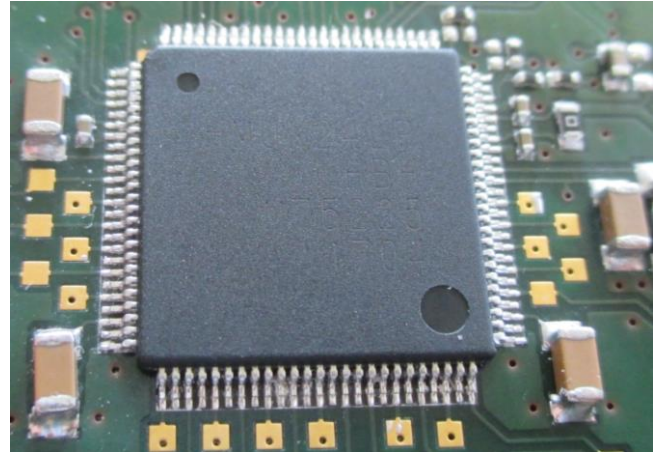


- Level shifter for PIN-Diode driving applications
- Converts 3-5V logic to 0V/180V
- 24 bits
- Latched outputs
- Serial or parallel input
- TQFP-100L EP package
- EVAL-board available upon request



## Description

The HMUX24LP consists of 24 High Voltage Output switches. Each switch output  $O[x]$  ( $x=0\dots23$ ) is either connected to  $VDDH$  or  $VSSH$  depending on the logic level of the corresponding digital input.

Digital Control data for the switches can be written to the HMUX24LP either by a serial or a parallel interface.

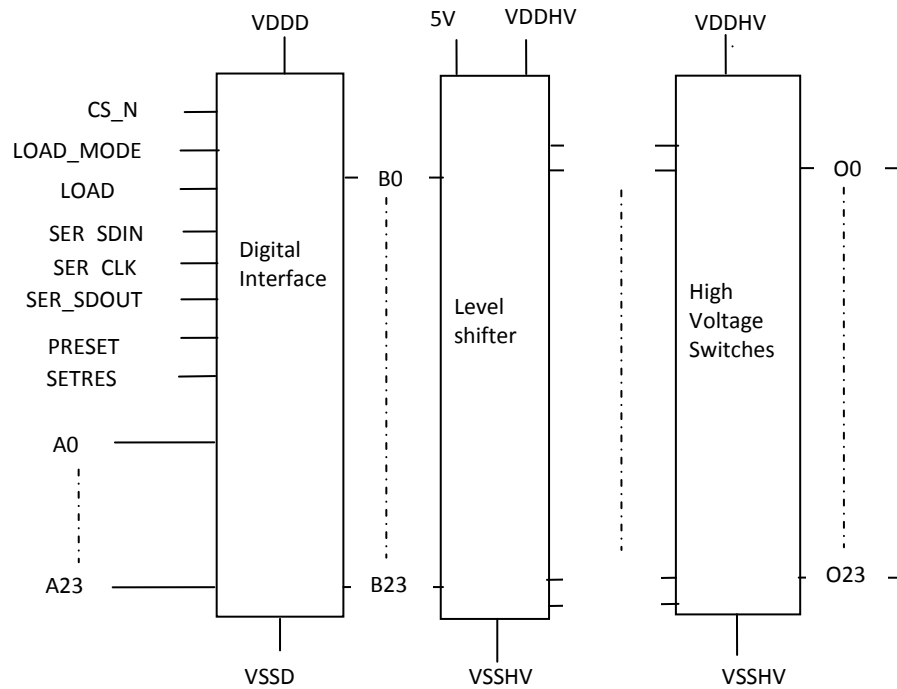
In Serial Mode the serial switch control data  $D[x]$  ( $x=0\dots23$ ) is clocked into the serial input  $SER\_SDIN$  by the rising edge of the clock signal at  $SER\_CLK$  starting with  $D23$ . After 24 clock cycles the data  $D[x]$  is shifted out of the device at  $SER\_SDOUT$  by the falling edge of the clock signal at  $SER\_CLK$  starting with  $D23$ . The device also has 24 parallel digital inputs  $A0 \dots A23$ . The Load-Mode Signal defines if either the serial input data or the parallel input data is used. If  $LOAD\_MODE = "H"$  serial data is used.

A rising edge at pin  $LOAD$ , stores the selected data in the parallel registers  $B[x]$ . For a level High at  $PRESET$  the data at pin  $SETRES$  is directly fed to the driver inputs, turning all switches  $O(x)$  either ON or OFF. The  $PRESET$  signal always overrides the  $LOAD$ -Signal. Level Low signal at pin " $PRESET$ " set the interface to normal operating.

## Logic Table

A[x]	D[x]	SETRES	Preset	O[x]
x	x	0	1	"on"
x	x	1	1	"off"
0	0	x	0	"on"
1	1	x	0	"off"

**Block Diagram**



**Specification**

Symbol	Description	min	typ	max	Unit	cond
VDDH	Supply voltage : High Voltage block	50		200	V	
VDDD	Supply voltage : digital block	3.2	3.3	5.1	V	
VDD5V	Supply voltage Level shifter	4.9	5.0	5.1	V	
IDDH	Static supply current for Level shifter at VDDHV to Ground, no output load			1	mA	
IDD5V	Supply current Level shifter			20	mA	
IDDD	Digital Supply current			20	mA	
Tj functional	Junction Temperature	-25		125	°C	
RPON	On Resistance to VDDH		150	300	Ohm	
RPOFF	Off Resistance to VDDH	10			MOhm	
RNON	On Resistance to VSSH		15	30	Ohm	
RNOFF	Off Resistance to VSSH	10			MOhm	
IPON	Static high level output current from VDDH			0.2	mA	
IPON_pk	Peak high level output current from VDDH			1	A	for 5µs max
INON	Low level output current to VSSH			30	mA	2
Tdon	Rising Switch delay A[x] to O[x]			5	us	@1nF load
Tdoff	Falling Switch delay A[x] to O[x]			5	us	@1nF load
Trise	Rising time P-Channel ON at O(x)			5	us	@1nF load
Tfall	Falling time N-Channel ON at (Ox)			5	us	@1nF load