PLESSEY
Semiconductors

ML237B

T-77-07-05

6-CHANNEL TOUCH CONTROL INTERFACE

The ML237B is a six-channel sense circuit designed specifically for touch tuning in colour and monochrome television receivers. Using low threshold P-MOS technology, the circuit can be driven directly from two-terminal touch plates - replacing conventional mechanical push-buttons for channel selection. Neons can be used to indicate the selected channel, while the latched output of the ML237B drives the varicap tuner via a bias selection network.

A stepping facility is included whereby the application of a suitable negative-going pulse to the step input causes the selected channel output to advance by one.

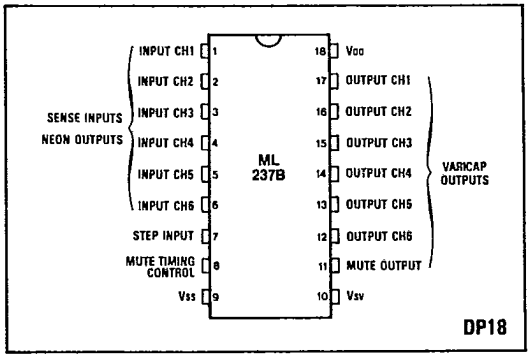

Fig.1 Pin connections - top view

FEATURES

- 6-Channel Capability
- Direct Neon Drive
- Low Impedance Drive to Varicap
- Uses 33V Varicap Supply
- Remote Control Stepping Facility
- Sound Muting During Selection
- Selected Channel 1 on Power-up
- Channels Are Selected With a Negative (or Earth) Input

ABSOLUTE MAXIMUM RATINGS

Ambient operating temperature	-10° C to +65° C
Storage temperature	-10° C to +85° C
Supply, Vss-VDD	36V
Varicap voltage VSV	Vss +0.3V

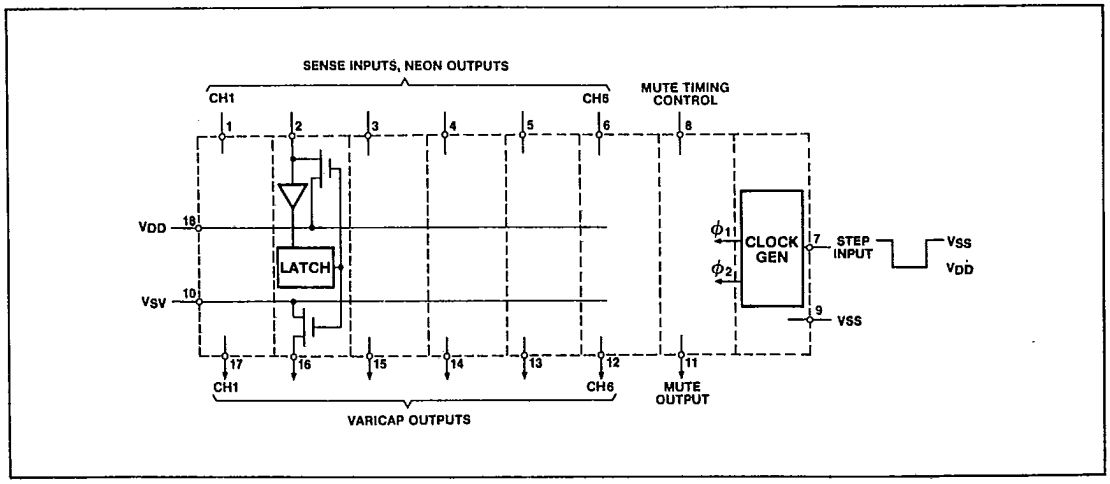

Fig.2 Functional block diagram

ELECTRICAL CHARACTERISTICS

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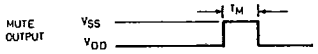
Test Conditions (unless otherwise stated):
T_{amb} = +25°C, V_{DD} = 0, V_{SS} = V_{SV} = 30V to 36V

Characteristic	Value			Units	Conditions
	Min.	Typ.	Max.		
Input current			1	μA	V_{IN} = V_{SS}
Output leakage			1	μA	V_{OUT} = 0
Mute switch O/P leakage			10	μA	V_{OUT} = 0
Supply current		5	8	mA	
R_{ON} of varicap switch		50	100	Ω	I_{OUT} = 10mA
Step pulse width	0.2			ms	>.05Tm
Neon switch output current			2	mA	
Mute switch R_{ON}		100	200	Ω	I_{OUT} = 5mA
Input threshold	0.4	0.5	0.6	Vss	
Step input current	10		1000	μA	V_{IN} = 0
Mute period		400		ms	C_M = 0.68 μF
Step pulse level	0		Vss −29	V	

NOTES
The mute timing can be increased by using a higher value of capacitor (C_M)

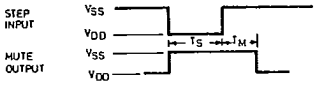
Touch plate selection:



Tm ≃ Cm x 0.6ms/nF

If the channels are selecting by stepping then the mute output is extended by the clock pulse width T_S

Stepping selection:



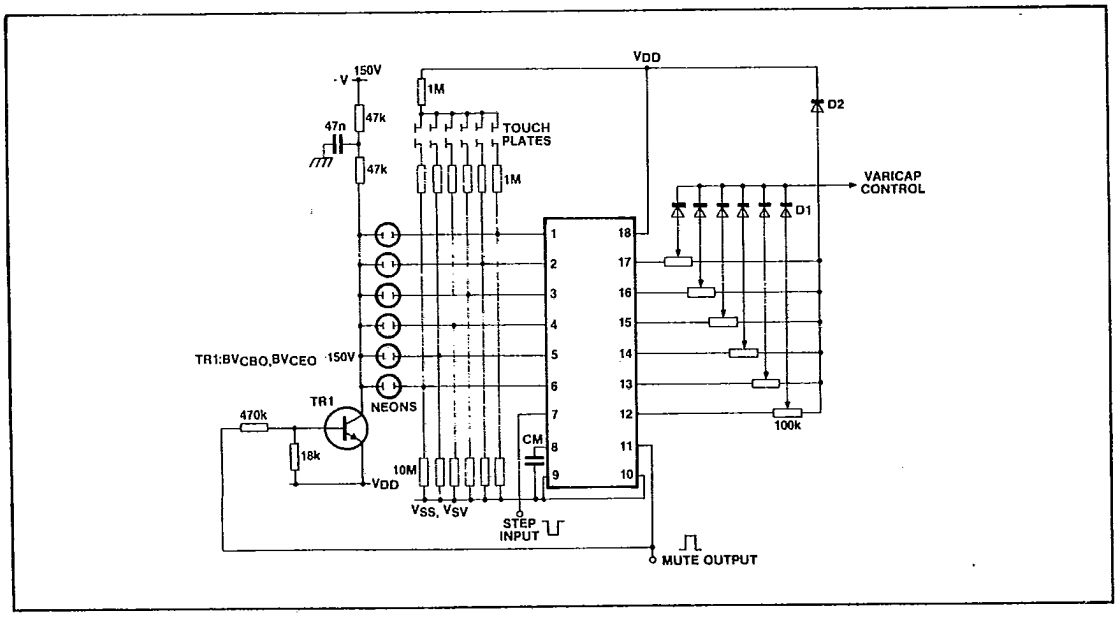


Fig. 3 Typical applications using neons as channel indicators