

Video signal switcher

BA7605N

The BA7605N is a switching IC developed for use in VCRs. It has two two-channel analog multiplexers with a large dynamic range, and wide operating frequency range. The switch has sync-tip clamped inputs and is ideal for switching video signals.

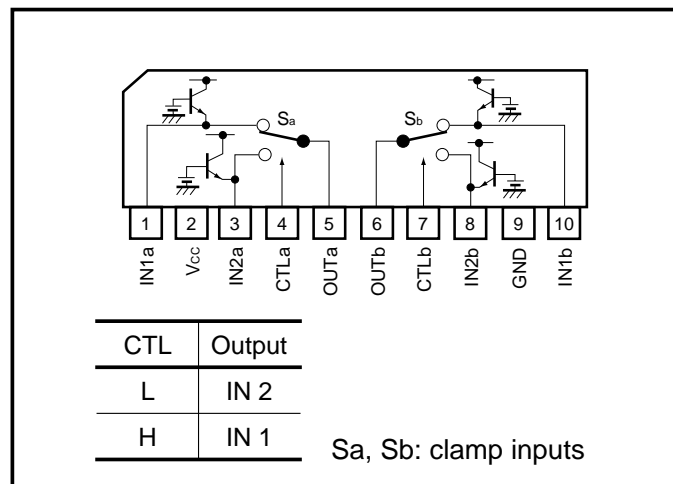
●Applications

Video cassette recorders and televisions

●Features

- 1) Two 2-input / 1-output switches.
- 2) Sync-tip clamped inputs.
- 3) 5V power supply.
- 4) Low power consumption (42mW Typ.).
- 5) Excellent frequency characteristics (10MHz, 0dB Typ.).
- 6) Wide dynamic range (2.9V_{P-P} Typ.).
- 7) Fast switching speed (50ns Typ.).

●Block diagram

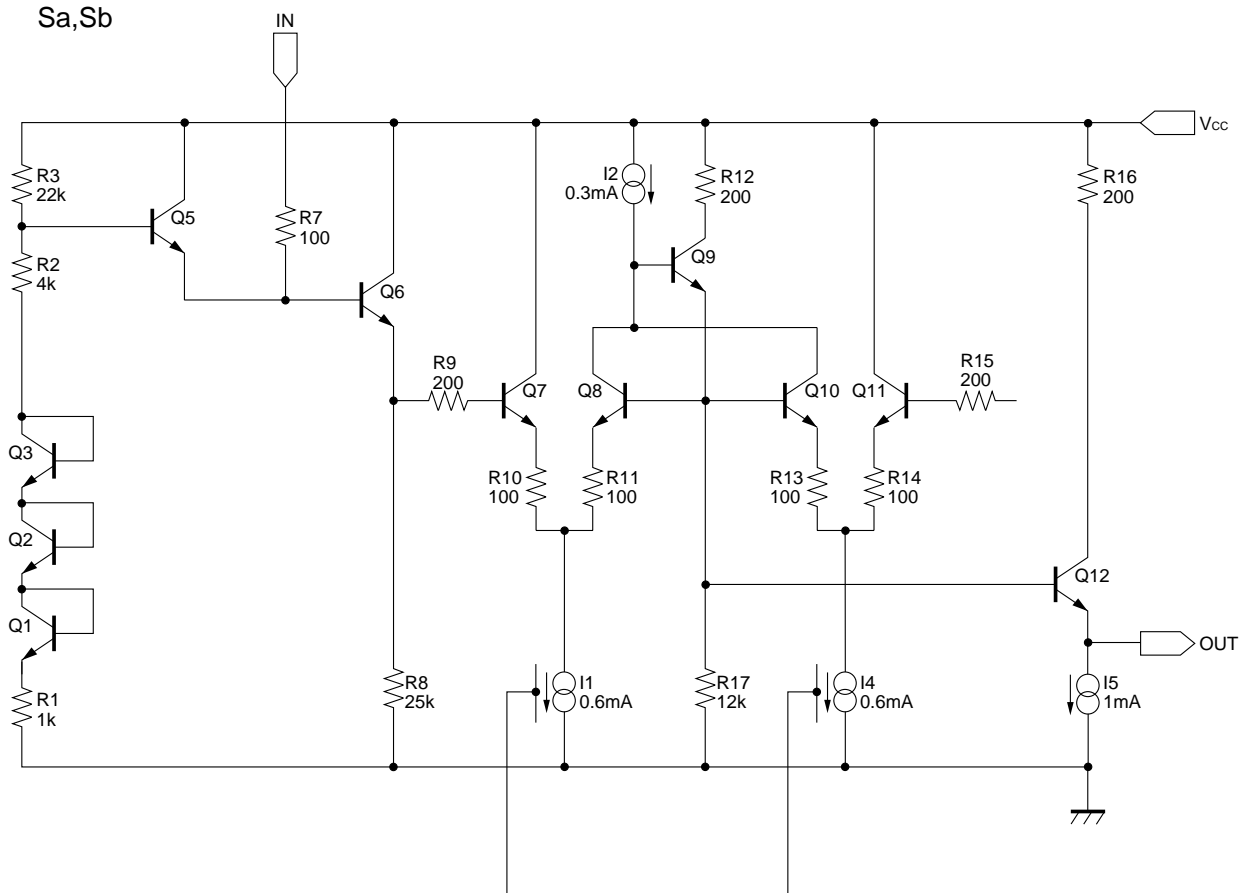


●Absolute maximum ratings (Ta = 25°C)

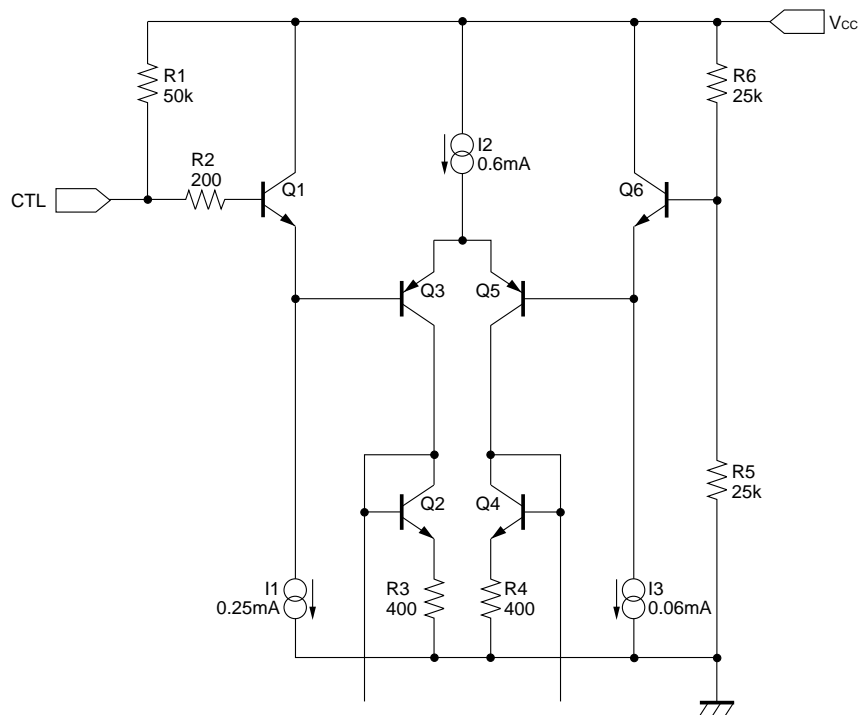
Parameter	Symbol	Limits	Unit
Power supply voltage	V _{cc}	9	V
Power dissipation	P _d	500*	mW
Operating temperature	T _{opr}	- 40 ~ + 85	°C
Storage temperature	T _{stg}	- 55 ~ + 125	°C

* Reduced by 5.0mW for each increase in Ta of 1°C over 25°C.

●Equivalent circuits



CTL



●Electrical characteristics (unless otherwise noted, Ta = 25°C and V_{CC} = 5V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating voltage	V _{CC}	4.5	5.0	5.5	V	—
Supply current	I _{CC}	—	8.4	10.0	mA	—
Maximum output level	V _{om}	2.6	2.9	—	V _{P-P}	f = 1kHz, THD = 0.5%
Voltage gain	G _v	-0.5	0	0.5	dB	f = 1MHz, V _{IN} = 1V _{P-P}
Interchannel crosstalk	C _T	—	-65	—	dB	f = 4.43MHz, V _{IN} = 1V _{P-P}
Frequency characteristics	G _f	-3	0	1	dB	10MHz / 1MHz, V _{IN} = 1V _{P-P}
CTL pin switch level	V _{TH}	2.0	2.5	3.0	V	—

Note: Refer to the measurement circuit given in Fig. 1.

●Reference data

Pin DC voltages (reference values)

Units: V_{dc}

Pin No.	DC voltage	Pin No.	DC voltage
1	2.05	6	0.65
2	5.00	7	4.91
3	2.05	8	2.05
4	4.91	9	0
5	0.65	10	2.05

Electrical characteristics

Parameter	Min.	Typ.	Max.	Unit
Sync tip clamp level	0.49	0.65	0.80	V _{dc}
Input impedance (with clamp)	—	1.7M	—	Ω
Output impedance	—	30	—	Ω

The input coupling capacitor values should be 0.1μF to 1μF.

● Measurement circuit

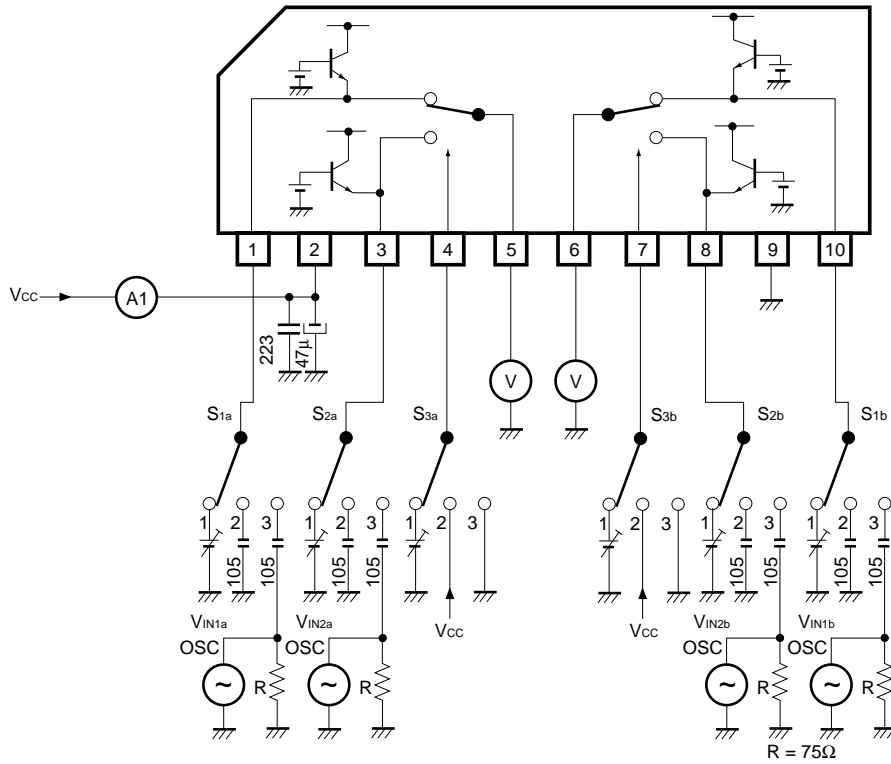


Fig.1

