

Video signal switcher

BA7021

The BA7021 is a switching IC developed for use in VCRs and televisions. It contains a three-channel analog multiplexer, a built-in mute, and video clamp.

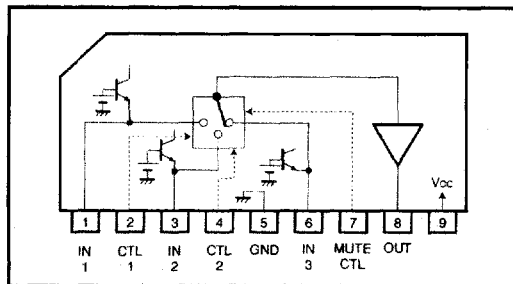
● Applications

Video cassette recorders, televisions and video disc players

● Features

- 1) 3-input / 1-output.
- 2) Built-in video clamp circuit.
- 3) Built-in mute circuit.
- 4) Operates of a 5V (Typ.) power supply and has low power consumption.

● Block diagram



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	Vcc	10	V
Power dissipation	Pd	950*	mW
Operating temperature	Topr	-25~60	°C
Storage temperature	Tstg	-55~125	°C

* Reduced by 9.5mW for each increase in Ta of 1°C over 25°C.

● Electrical characteristics (Unless otherwise specified Ta=25°C and Vcc=5.0V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating voltage	Vcc	4.5	5.0	6.0	V	—
Quiescent current	Iq	—	5.0	8.0	mA	—
Maximum output level	VOM	1.9	2.7	—	Vp-p	Switch operation 1
Voltage gain	Gv	-0.5	0.0	+0.5	dB	f=1MHz, VIN=2Vp-p, Switch operation 1
Interchannel crosstalk	Ct	—	-55	-45	dB	f=4.43MHz, VIN=2Vp-p, Switch operation 2
Mute function	CTM	—	-50	-40	dB	f=4.43MHz, VIN=2Vp-p, Switch operation 3
Frequency characteristic	ΔGv	-0.5	0.0	+0.5	dB	f=4.43MHz / 1MHz, VIN=2Vp-p, Switch operation 1
CTL pin switch level	VTH	0.1	0.7	2.0	V	2pin, 4pin, 7pin

● Measurement circuit

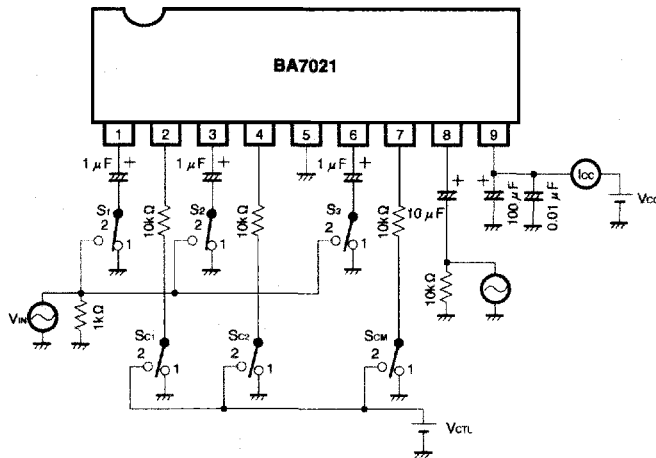


Fig.1

● Switch table

Measurement parameter	Input mode	S ₁	S ₂	S ₃	S _{C1}	S _{C2}	S _{CM}	Remarks	
1	Input/output characteristic	1pin	2	1	1	2	1	1pin→8pin	
		3pin	1	2	1	1	2	1	3pin→8pin
		6pin	1	1	2	1	1	1	6pin→8pin
2	Crosstalk	1pin	1	2	1	2	1	1	Input from pin 3
			1	1	2				Input from pin 6
		3pin	2	1	1	1	2	1	Input from pin 1
			1		2				Input from pin 6
		6pin	2	1	1	1	1	1	Input from pin 1
			1						2
3	Muting	1pin	2	1	1	2	1	2	
		3pin	1	2	1	1	2	2	
		6pin	1	1	2	1	1	1	2

●External dimensions (Units: mm)

