Ordering number:ENN2614B

Monolithic Linear IC

LA7952

Video Switch for TV/VCR Use

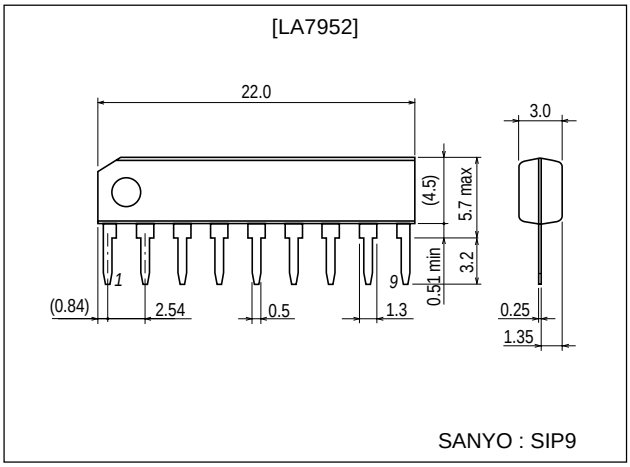
Features

- On-chip driver with 4 inputs, 1 output, 75Ω termination.
- On-chip 6dB amplifier.
- Excellent crosstalk characteristic.
- Wide band.
- Input with DC restoration circuit.

Package Dimensions

unit:mm

3017D-SIP9



Specifications

Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_7 max		14	V
Maximum input supply voltage 1	V_4 max, V_6 max, V_8 max, V_9 max		8	V
Maximum input supply voltage 2	V_2 max, V_3 max	V_{CC}=14V	14	V
Maximum output current	I_1 max		10	mA
Allowable power dissipation	Pd max	Ta≤65˚C	540	mW
Operating temperature	Topr		–20 to +65	˚C
Storage temperature	Tstg		–55 to +150	˚C

Operating Conditions at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Operating voltage range	V_{CC} op		10.5 to 13.5	V
Recommended supply voltage	V_{CC}		12	V

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Operating Characteristics at Ta = 25˚C, V_{CC}=12V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current dissipation	I_{CC}		14	20	28	mA
Input bias voltage	V_4, V_6, V_8, V_9		2.7	3.0	3.3	V
Output bias voltage 1	V_1		4.6	6.1	7.6	V
Output DC offset voltage	V_{OS}	Note 1		15	100	mV
Control threshold voltage	V_{2H}, V_{3H},		3.0			V
	V_{2L}, V_{3L}				1.5	V
Control input current	I_2, I_3		–20	–6		µA
Voltage gain	GV	f=1MHz, V_{IN}=1Vp-p, Note 1	5.6	6.1	6.6	dB
Frequency characteristic	GV-f	0dB at f=100kHz, Note 1, f=10MHz, V_{IN}=1Vp-p	–3	0		dB
Output dynamic range	V_{DR}	f=15kHz, V_{IN}=1.5Vp-p, Note 1	1.4	1.5		Vp-p
Crosstalk (Note 2)	C_T	V_{IN}=1Vp-p, f=3MHz, Note 1	48	58		dB
		V_{IN}=1Vp-p, f=5MHz, Note 1	45	55		dB

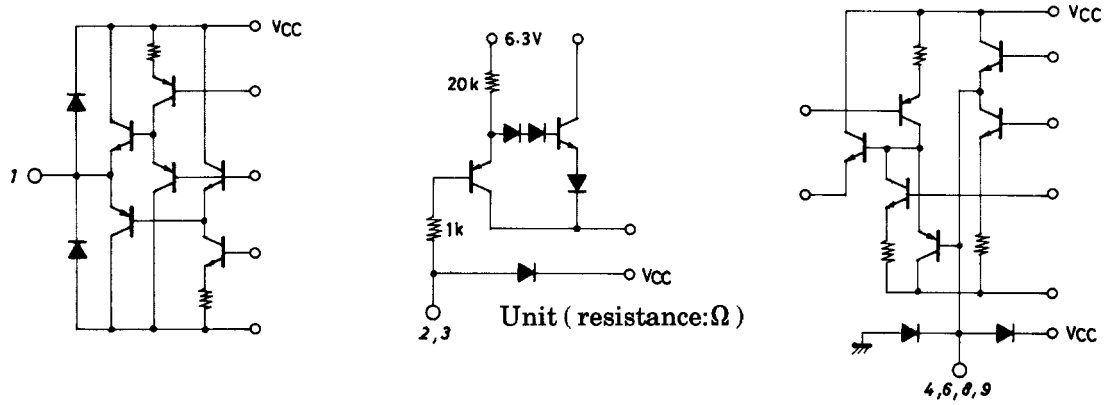
* Current direction : Plus : Flowing into IC
Minus : Flowing out of IC

Video Switch Truth Table

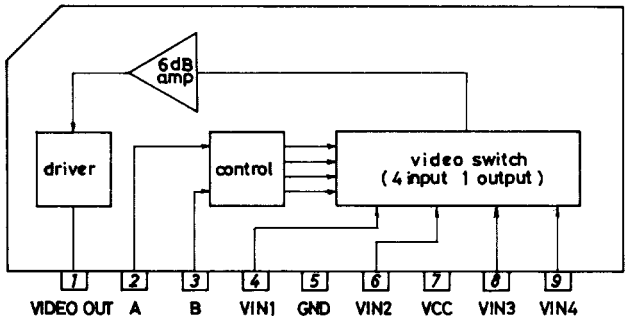
S2 (Pin 2)	S3 (Pin 3)	V_{IN1} (Pin 4)	V_{IN2} (Pin 6)	V_{IN3} (Pin 8)	V_{IN4} (Pin 9)
H	H	ON	OFF	OFF	OFF
L	H	OFF	ON	OFF	OFF
H	L	OFF	OFF	ON	OFF
L	L	OFF	OFF	OFF	ON

Note 1 : Refer to this Truth Table and make measurements by switching S2, S3.

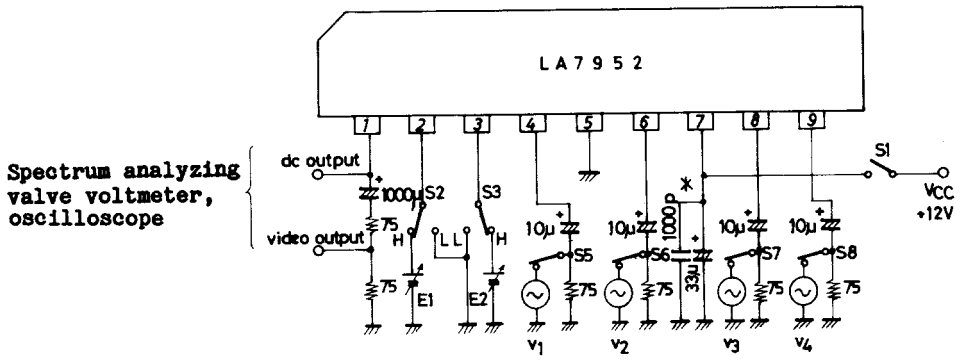
Input/Output Equivalent Curcuit



Equivalent Curcuit Block Diagram

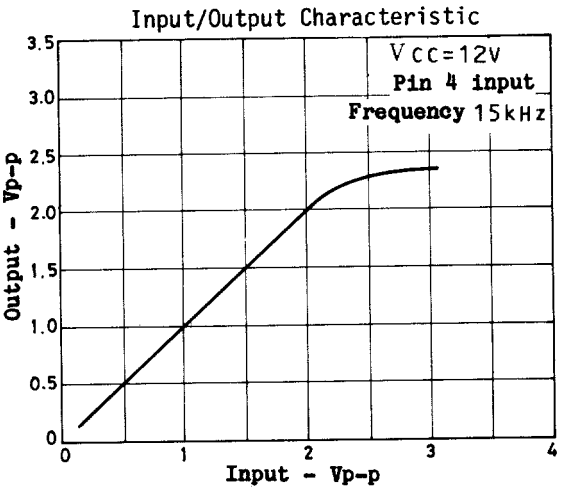


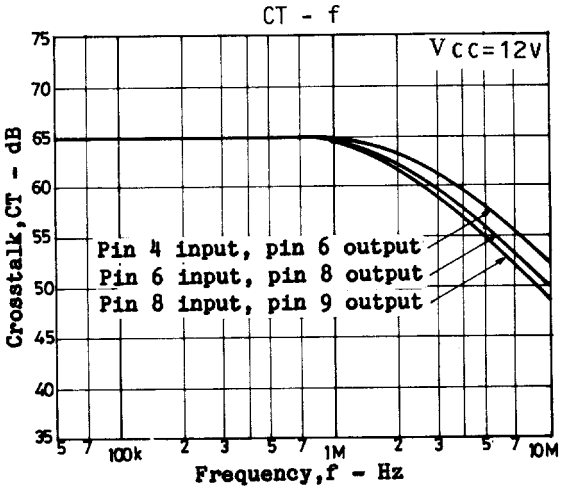
Test Circuit

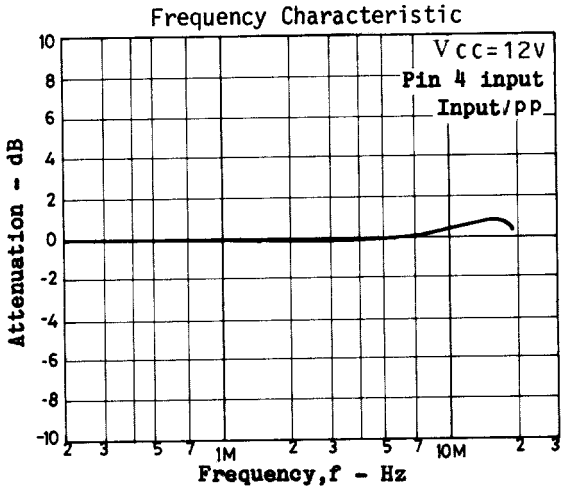


* Connect the capacitor for V_{CC} as close to pin 7 as possible.

Unit (resistance:Ω, capacitance:F)







Proper Cares in Using the IC

If the signal source impedance is increased, the sync pulse will shrink because of the DC restoration circuit contained in the input. Therefore, the signal source impedance must be kept low.