

SANYO	No.3353A	Monolithic Linear IC
		LA7956
Video Switch for TV / VCR Use		

Features

- 4 inputs, 1 output, 75Ω termination, driver on-chip
- 6dB amp on-chip
- Excellent crosstalk characteristic
- Wide band

Maximum Ratings at Ta = 25°C

			unit
Maximum Supply Voltage	V7 max	14	V
Maximum Input Supply Voltage (1)	V4 max, V6 max V8 max, V9 max,	8	V
Maximum Input Supply Voltage (2)	V2 max, V3 max	V _{CC} = 14V	14 V
Maximum Output Current	I1 max	10	mA
Allowable Power Dissipation	Pd max	Ta ≤ 65°C	540 mW
Operating Temperature	T _{opr}	-20 to +65	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Operating Conditions at Ta = 25°C

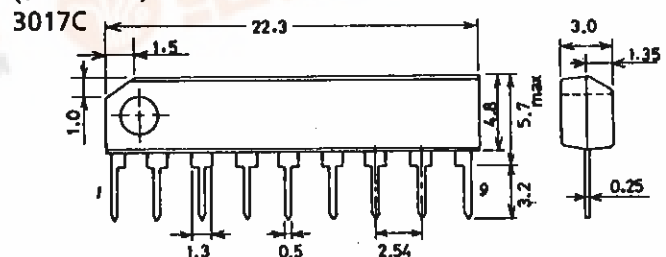
			unit
Operating Voltage Range	V _{CC op}	10.5 to 13.5	V
Recommended Supply Voltage	V _{CC}	12	V

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

		min	typ	max	unit	
Quiescent Current	I _{CC}	15	21	30	mA	
Input Bias Voltage	V4, V6, V8, V9	3.5	3.8	4.1	V	
Output Bias Voltage	V1	4.6	6.1	7.6	V	
Output DC Offset Voltage	V _{OS} (Note 1)	-50	0	+50	mV	
Control Threshold Voltage	V2H, V3H, V2L, V3L	2.3			V	
Control Input Current	I2, I3	-20	-6		μA	
Voltage Gain	GV	f = 1MHz, V _{IN} = 2V _{pp} (Note 1)	5.6	6.1	6.4	dB

Continued on next page.

Package Dimensions
(unit : mm)



SANYO : SIP9



LA7956

Continued from preceding page.

			min	typ	max	unit
Frequency Characteristic	GV-f	0dB at f=100kHz (Note 1) f=10MHz, V _{IN} =1Vpp	-3	0		dB
Output Dynamic Range	V _{DR}	f=15kHz, V _{IN} =1.5p-p (Note 1)	1.4	1.5		Vpp
Crosstalk (Note 2)	CT	V _{IN} =1Vp-p, f=3MHz (Note 1)	50	58		dB
		V _{IN} =1Vp-p, f=5MHz (Note 1)	45	55		dB
			(45)	(52)		

※ The current flowing into the IC is defined as positive and current from the IC is defined as negative.

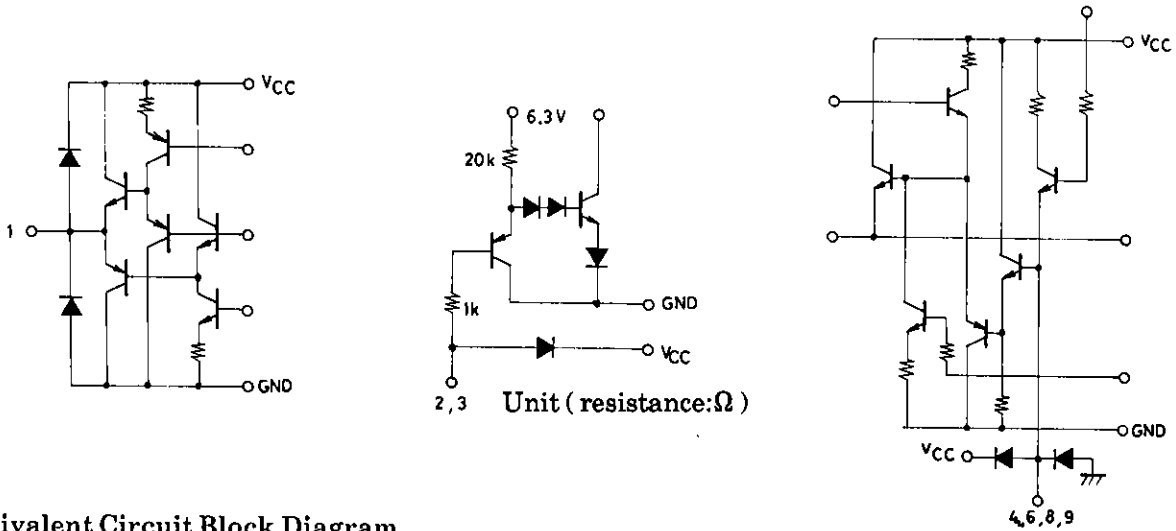
Video Switch Truth Table

S2 (Pin 2)	S3 (Pin 3)	V _{IN} 1 (Pin 4)	V _{IN} 2 (Pin 6)	V _{IN} 3 (Pin 8)	V _{IN} 4 (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

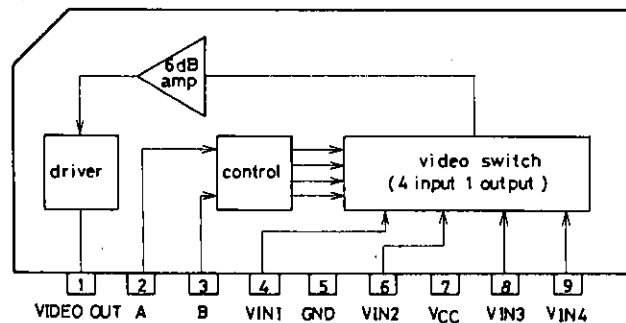
Note 1 : Refer to this Truth Table and make measurements by switching S2, S3.

Note 2 : () : Crosstalk between pins 8 and 9

Input/Output Equivalent Circuit

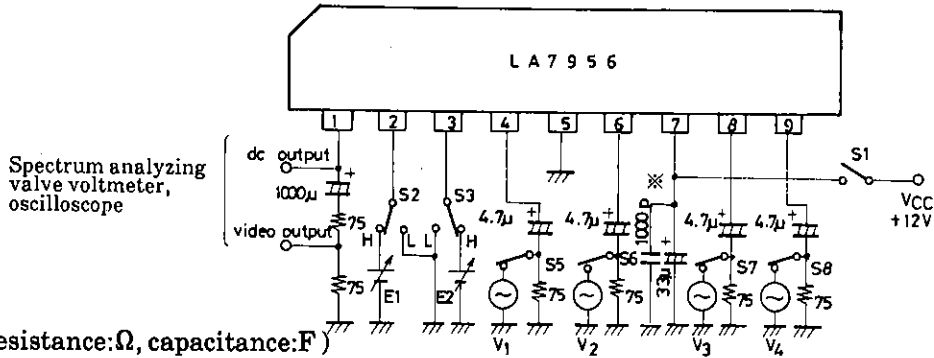


Equivalent Circuit Block Diagram



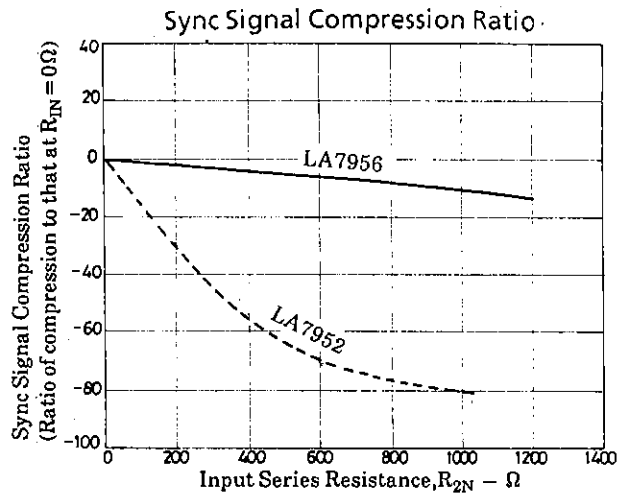
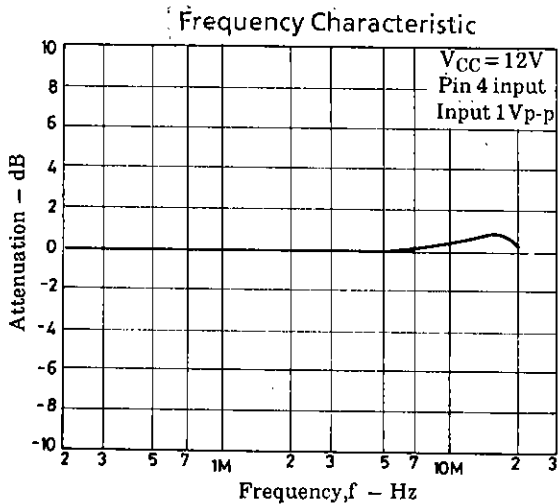
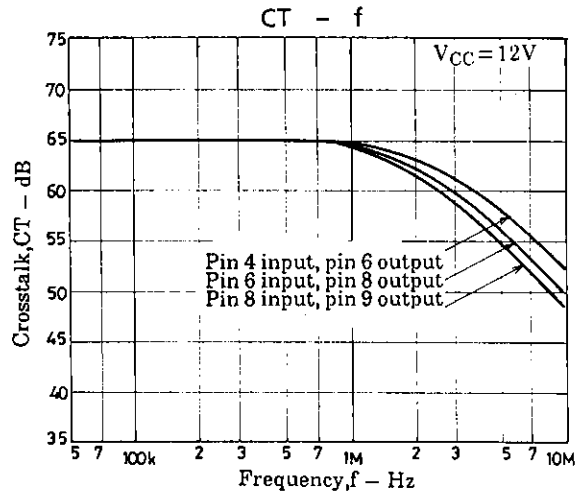
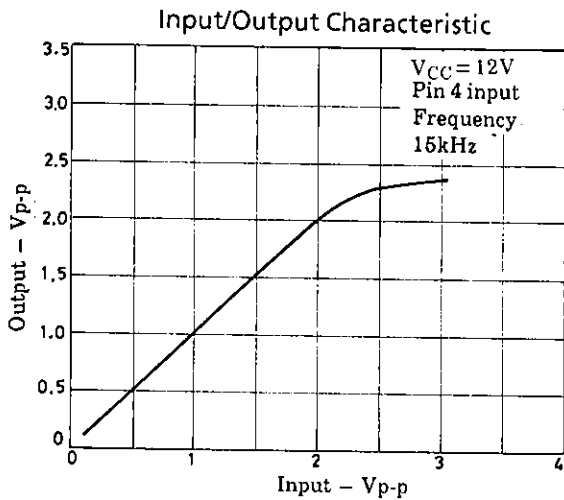
LA7956

Test Circuit



Unit (resistance:Ω, capacitance:F)

※ : Connect the bypass capacitor for V_{CC} as close to pin 7 as possible.



Design Notes

An improvement in the DC clamp circuit has improved the sync signal compression attributable to the signal source impedance, but the response time of the DC clamp is made longer accordingly than that of the LA7952. Make adjustments by connecting a high resistance (several hundred kΩ) across input pin and GND (decreasing the resistance makes the sync signal compression larger).

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