Ordering number:ENN3352B

Monolithic Linear IC

LA7954

Video Switch for TV/VCR Use

Features

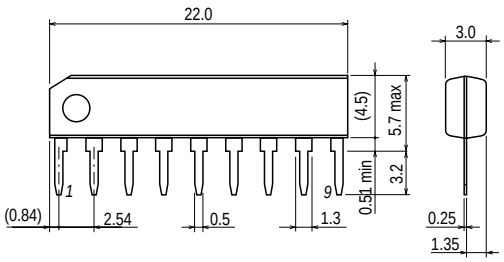
- 4 inputs, 1 output.
- Excellent crosstalk characteristic.
- Wide band.

Package Dimensions

unit:mm

3017D-SIP9

[LA7954]



SANYO : 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		7	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		8 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 drain	I_{CC}		9	12	17	mA
Input bias voltage	V_4, V_6, V_8, V_9		4.5	4.8	5.1	V
Output bias voltage	V_1		3.7	4.1	4.3	V
Output DC offset voltage	V_{OS}		–50	0	+50	mV
Control threshold voltage	V_{2H}, V_{3H},		2.3			V
	V_{2L}, V_{3L}				0.7	V
Control input current	I_2, I_3		–20	–6		µA
Voltage gain	GV	f=1MHz, V_{IN}=2Vp-p (Note 1)	–0.5	–0.2		dB
Frequency characteristic	GV_{-f}	0dB at f=100kHz (Note 1) f=10MHz, V_{IN}=2Vp-p	–3	0		dB
Output dynamic range	V_{DR}	f=15kHz, V_{IN}=6Vp-p (Note 1)		0.3	6	%
Crosstalk (Note 2)	C_T	V_{IN}=2Vp-p, f=3MHz (Note 1)	48	58		dB
		V_{IN}=2Vp-p, f=5MHz (Note 1)	45	55		dB

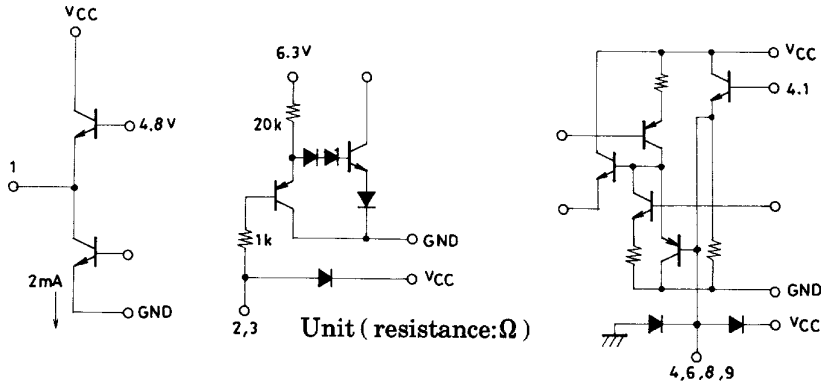
* Current flowing into the IC is defined as positive ; current flowing out is defined as negative.

Video Switch Truth Table

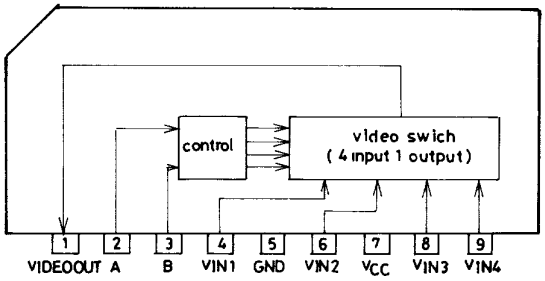
S2 (Pin 2)	S3 (Pin 3)	V_{IN1} (Pin 4)	V_{IN2} (Pin 6)	V_{IN3} (Pin 8)	V_{IN4} (Pin 9)
H	H	ON	OFF	OFF	OFF
L	H	OFF	ON	OFF	OFF
H	L	OFF	OFF	ON	OFF
L	L	OFF	OFF	OFF	ON

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

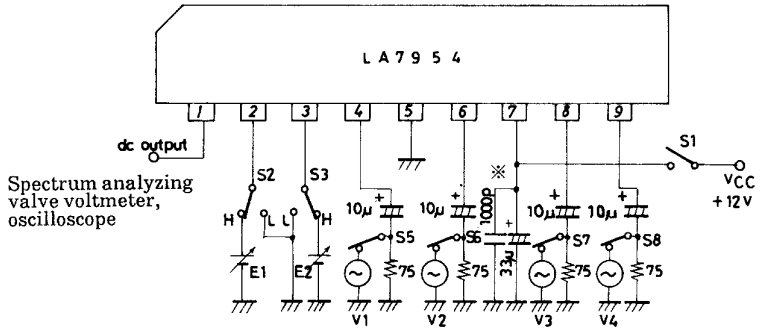
Input/Output Equivalent Circuit



Equivalent Circuit Block Diagram



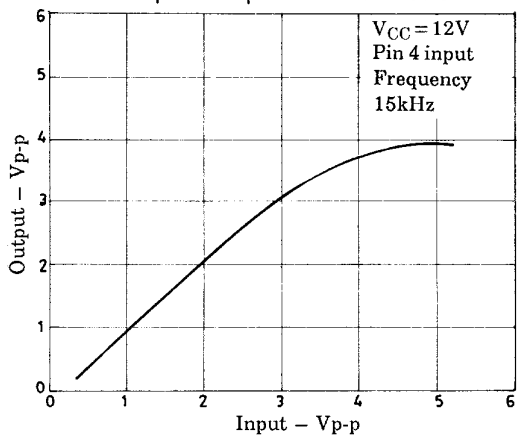
Test Circuit



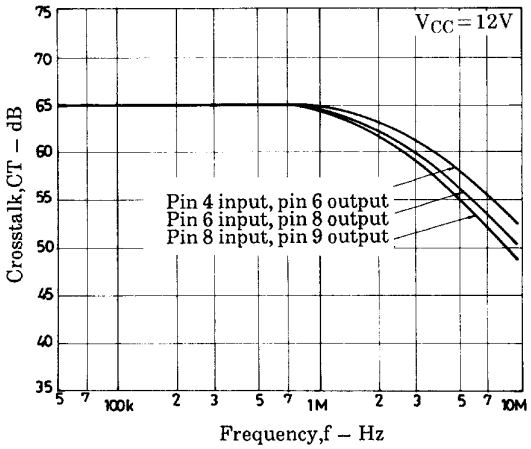
※ : Connect the bypass capacitor for V_{CC} as close to pin 7 as possible.

Unit (resistance:Ω, capacitance:F)

Input/Output Characteristic



CT – f



Frequency Characteristic