

SANYO

No.4020A

LA7151, 7151M**Audio / Video Switch
for VCR Video Camera Use**

Overview

The LA7151 and LA7151M are high-performance, dual-channel audio/video switches designed for video camera applications.

The LA7151 and LA7151M have a wide bandwidth, low supply current and a large dynamic range, making them ideal for low-power or battery operated equipment.

The LA7151 and LA7151M operate from a 4.5 to 12.5 V supply and are available in 12-pin SIPs and 10-pin MFPs, respectively.

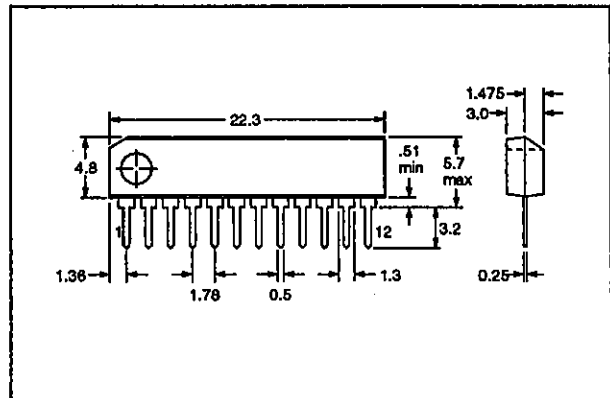
Features

- Two, separately controllable switch circuits
- 50 k Ω input impedance
- Low supply current
- Large dynamic range
- Wide bandwidth
- 4.5 to 12.5 V supply voltage
- 12-pin SIP (LA7151) and 10-pin MFP (LA7151M)

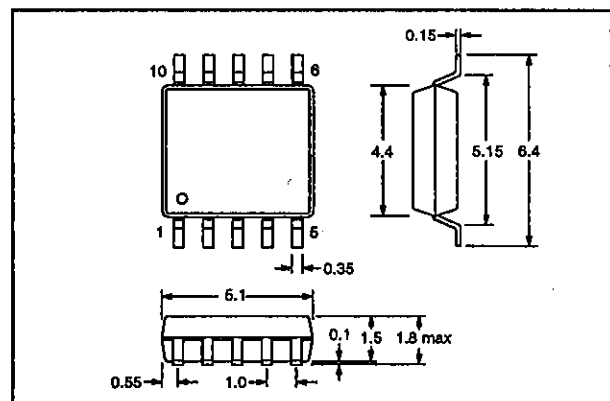
Package Dimensions

Unit: mm

3116-SIP12S (LA7151)

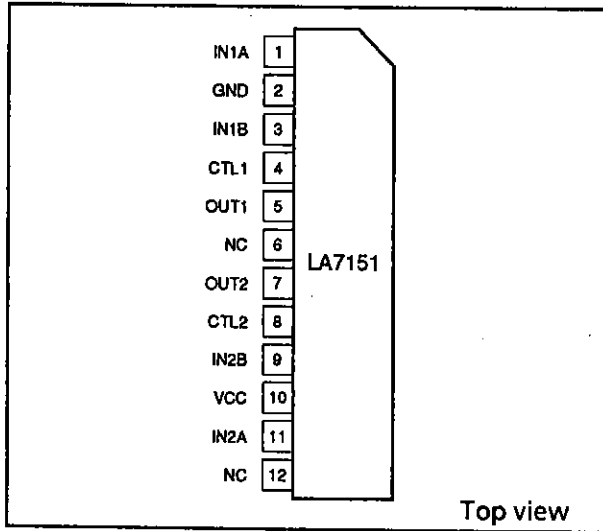


3086A-MFP10S (LA7151M)

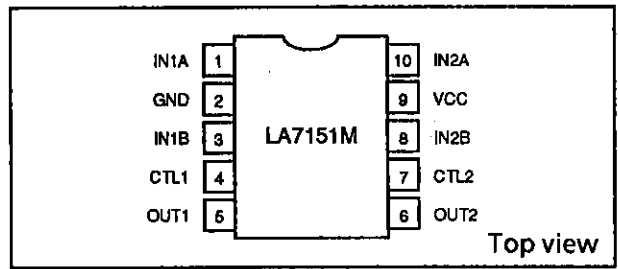


Pin Assignments

LA7151

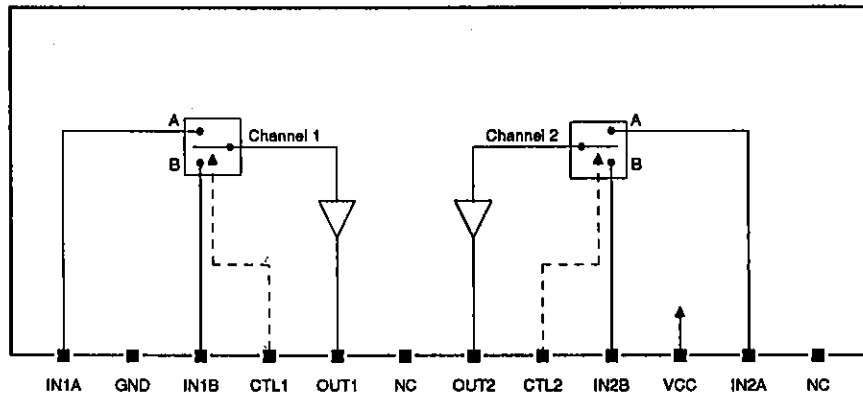


LA7151M

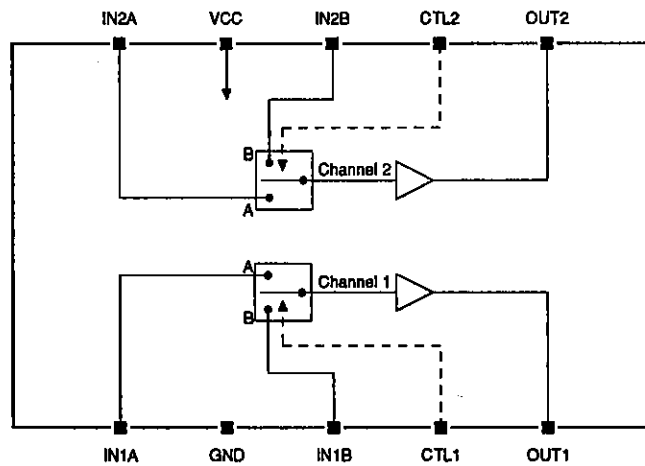


Block Diagrams

LA7151



LA7151M



LA7151, LA7151M

Pin Functions

Number		Name	Equivalent circuit	Description
SIP12	DIP10			
1	1	IN1A		Channel 1 input A
2	2	GND		Ground
3	3	IN1B		Channel 1 input B
4	4	CTL1		Channel 1 control input
5	5	OUT1		Channel 1 output
6	-	NC		No connection
7	6	OUT2		Channel 2 output

LA7151, LA7151M

Number		Name	Equivalent circuit	Description
SIP12	DIP10			
8	7	CTL2		Channel 2 control input
9	8	IN2B		Channel 2 input B
10	9	VCC		Voltage supply
11	10	IN2A		Channel 2 input A
12	-	NC		No connection

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	15	V
Power dissipation	P_D	150	mW
Operating temperature range	T_{opr}	-20 to +80	°C
Storage temperature range	T_{stg}	-55 to +150	°C

Recommended Operating Conditions

$T_a = 25\text{ °C}$

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	5	V
Supply voltage range	V_{CC}	4.5 to 12.5	V

LA7151, LA7151M

Electrical Characteristics

V_{CC} = 5 V, T_a = 25 °C

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Supply current	I _{CC}	No input, V _{CC} = 5 V	5.5	7.0	8.5	mA
		No input, V _{CC} = 9 V	6.0	7.5	9.0	
		No input, V _{CC} = 12 V	6.5	8.0	9.5	
Total harmonic distortion	THD	V _{IN} = 1 V _{pp} , f = 1 kHz	-	0.006	0.1	%
Second-harmonic distortion	H ₂	V _{IN} = 2 V _{pp} , f = 4.43 MHz	-	-50	-40	dB
Third-harmonic distortion	H ₃	V _{IN} = 2 V _{pp} , f = 4.43 MHz	-	-55	-45	dB
Maximum output voltage	V _{OM}	f = 1 kHz, THD = 1%	2.2	2.5	-	V _{pp}
Output noise voltage	V _{ON}	R _g = 600 Ω, DIN AUDIO filter	-	-110	-100	dB
Crosstalk between switches	CT _S	R _g = 50 Ω, V _{IN} = 2 V _{pp} , f = 4.43 MHz, measured between switches A and B	-	-60	-55	dB
Crosstalk between channels	CT _C	R _g = 50 Ω, V _{IN} = 2 V _{pp} , f = 4.43 MHz, measured between channels 1 and 2	-	-65	-60	dB
Frequency characteristic	G _f	V _{IN} = 2 V _{pp} , f = 100 kHz/10 MHz	-1	0	1	dB
Voltage gain	V _G	V _{IN} = 2 V _{pp} , f = 4.43 MHz	-0.3	0	0.3	dB
Output differential between A and B channels	V _{OS}		-30	0	30	mV
CTL1 and CTL2 LOW-level input voltage	V _{CL}	Measured at CTL1 and CTL2	0	-	1.5	V
CTL1 and CTL2 HIGH-level input voltage	V _{CH}	Measured at CTL1 and CTL2	3.5	-	5.0	V
Input impedance	Z _{IN}		-	50	-	kΩ
Output impedance	Z _{OUT}		-	10	-	Ω

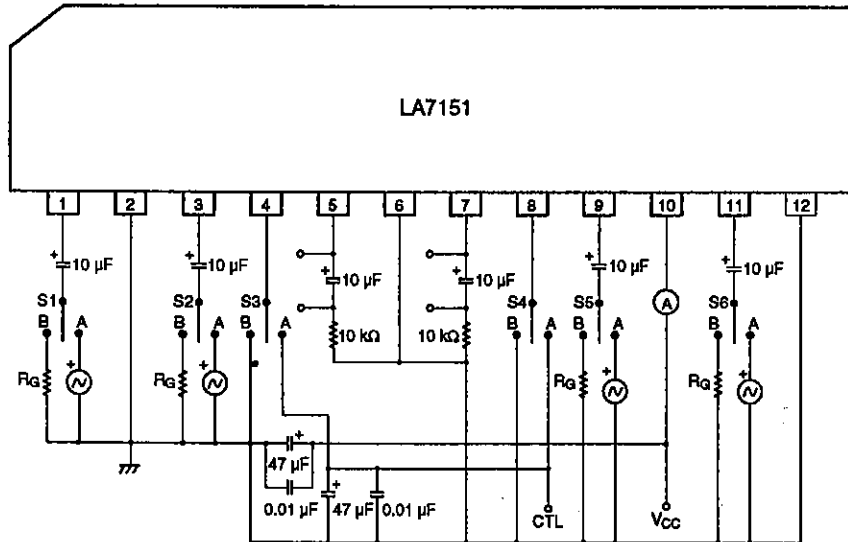
- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of **December, 1996**. Specifications and information herein are subject to change without notice.

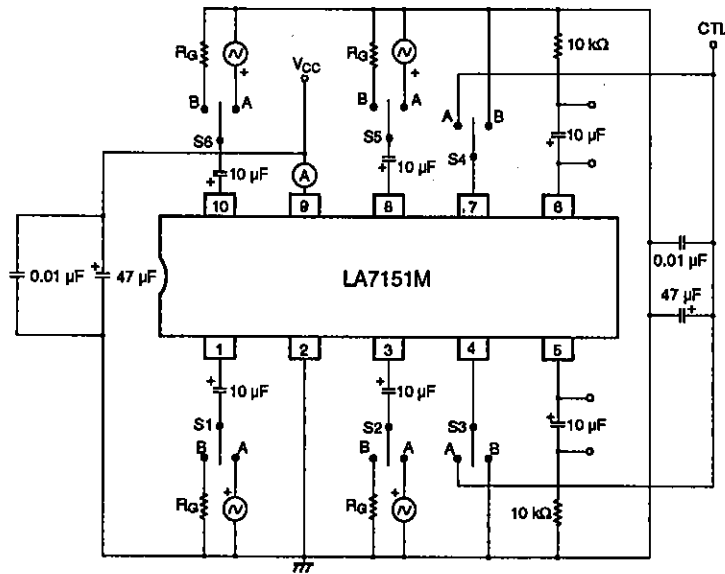
LA7151, LA7151M

Test Circuit

LA7151



LA7151M



Channel Selection

CTL1	CTL2	Selected Input	
		CH1	CH2
LOW	LOW	B	B
LOW	HIGH	B	A
HIGH	LOW	A	B
HIGH	HIGH	A	A

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.