



VCR Electronic Switch

Overview

The LA7221 is an electronic switch that was designed for use in audio video applications. It provides a wide dynamic range. The LA7221 has on-chip video clamp circuits (clamp elimination function).

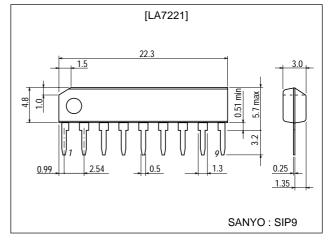
Features

- Low-voltage (5V) operation.
- Three inputs selectable and muting function.
- Video clamp circuits on chip.
- Wide dynamic range (2.0Vp-p or greater).

Package Dimensions

unit:mm

3017C-SIP9



Specifications

Maximum Ratings at Ta = 25°C

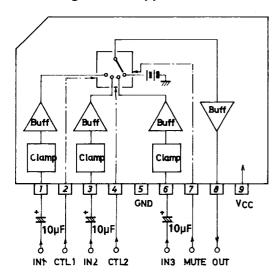
Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		7.0	V
Allowable power dissipation	Pd max		100	mW
Operating temperature	Topr		-10 to +70	°C
Storage temperature	Tstg		-40 to +125	°C

Operating Characteristics at $Ta = 25^{\circ}C$, $V_{CC}=5.0V$

Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Offic
Operating voltage	V _{CC} op		4.5	5.0	6.2	V
Current drain	Icc		3.5	4.6	6.6	mA
Maximum input level	V _{IN} max		2.0	2.2		Vp-p
Frequency characteristic	G _F			0	±0.5	dB
Total harmonic distortion	THD			0.03	0.1	%
Crosstalk	СТ			-70	-60	dB
Crosstalk appearing in muting circuit	CTm			-60	-50	dB
Output DC offset	ΔVOUT			5	15	mV
CTL changeover level	VCTL		1.0	1.4	1.8	V
Differential gain	DG			0.5	1.0	%
Differential phase	DP			0.5	1.0	deg

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Block Diagram and Application Circuit



Truth Table

CTL 1	Н	L	_	L
CTL 2	L	Н	_	L
MUTE CTL	L	L	Н	L
OUT	IN 1	IN 2	DC	IN 3

^{*:} The output is indeterminate at other states than shown above.

LA7221 Input / Output Configuration

Pin	Pin Name	I/O Im	pedance or I/O Configuration	DC Voltage	Remarks
1	IN1	8	200Ω 1 mm	2.4V	
2	CONTROL 1		20kΩ 	0V	ON at 2.0V or greater
3	IN2	8	200Ω 30 m	2.4V	
4	CONTROL 2		20kΩ	0V	ON at 2.0V or greater
5	GND			0V	
6	IN3	8	200Ω Vcc	2.4V	
7	MUTE CONTROL		20 kΩ 	0V	ON at 2.0V or greater
8	OUT	20Ω	Emitter follower	1.0V	Collector current 1.6mA
9	Vcc			5.0V	

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