



# LA7221

## 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).

### Specifications

**Maximum Ratings** at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$		7.0	V
Allowable power dissipation	$P_{d\ max}$		100	mW
Operating temperature	$T_{opr}$		-10 to +70	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to +125	$^\circ\text{C}$

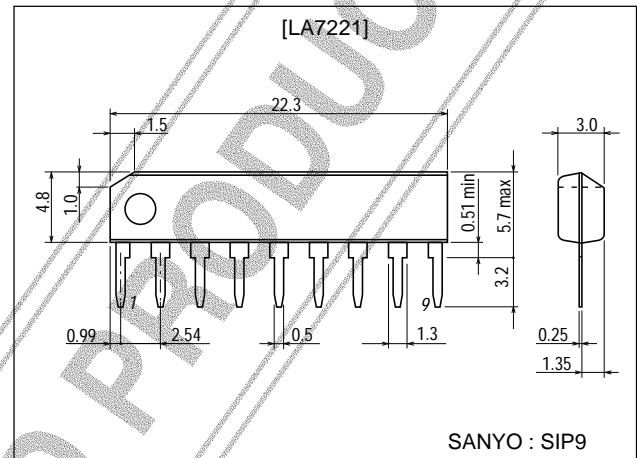
**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC}=5.0\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Operating voltage	$V_{CC\ op}$		4.5	5.0	6.2	V
Current drain	$I_{CC}$		3.5	4.6	6.6	mA
Maximum input level	$V_{IN\ max}$		2.0	2.2		Vp-p
Frequency characteristic	$G_F$			0	$\pm 0.5$	dB
Total harmonic distortion	THD			0.03	0.1	%
Crosstalk	CT			-70	-60	dB
Crosstalk appearing in muting circuit	$CT_m$			-60	-50	dB
Output DC offset	$\Delta V_{OUT}$			5	15	mV
CTL changeover level	$V_{CTL}$		1.0	1.4	1.8	V
Differential gain	DG			0.5	1.0	%
Differential phase	DP			0.5	1.0	deg

### Package Dimensions

unit:mm

3017C-SIP9



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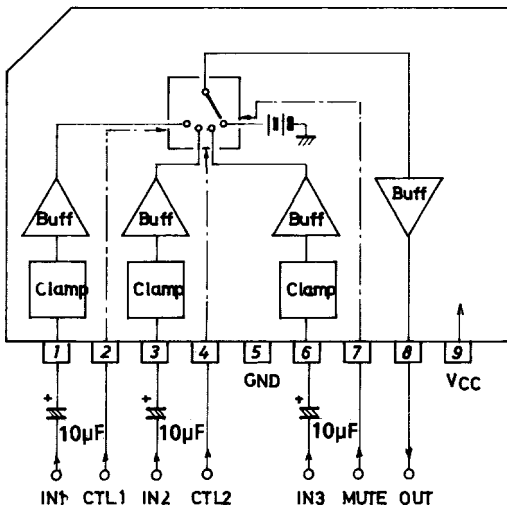
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## Block Diagram and Application Circuit



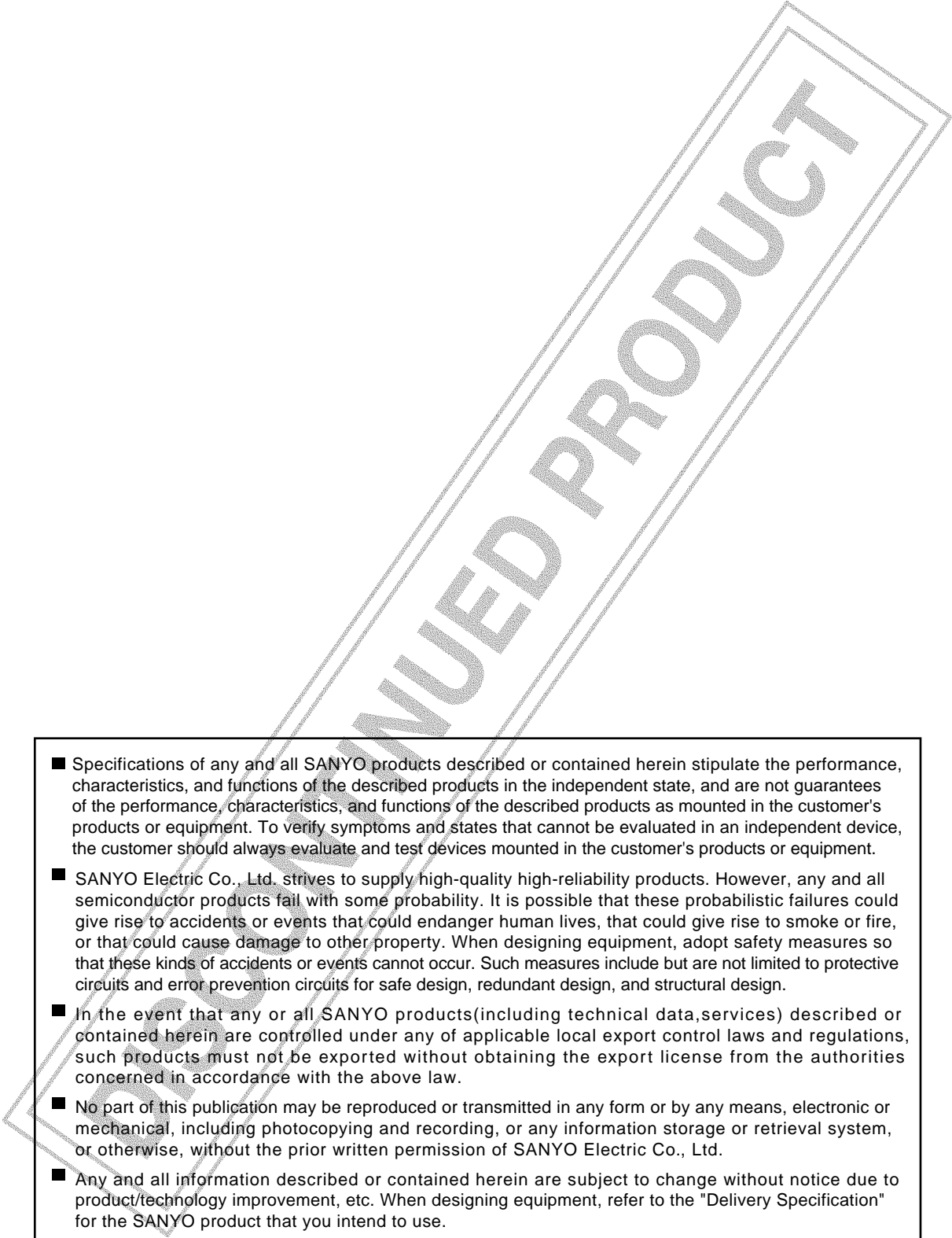
## Truth Table

CTL 1	H	L	-	L
CTL 2	L	H	-	L
MUTE CTL	L	L	H	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 Impedance or I/O Configuration	DC Voltage	Remarks
1	IN1	$\infty$	2.4V	
2	CONTROL 1		0V	ON at 2.0V or greater
3	IN2	$\infty$	2.4V	
4	CONTROL 2		0V	ON at 2.0V or greater
5	GND		0V	
6	IN3	$\infty$	2.4V	
7	MUTE CONTROL		0V	ON at 2.0V or greater
8	OUT	20 $\Omega$	1.0V	Collector current 1.6mA
9	VCC		5.0V	

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