

2-Input 1-Output 3-Circuit Video Switch Monolithic IC MM1231~1234

Outline

This is serial 2-input, 1-output, 3-circuit video switch IC for video / audio signal switching with and without clamp circuit.

Circuit configuration tables and block diagrams are as follows.

MM1234 is used as the representative model in this description.

MM1231~MM1234 Series Circuit Configuration Table

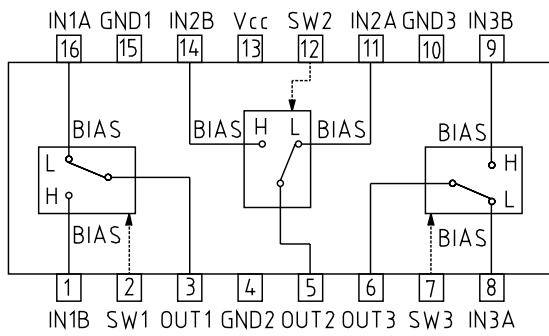
Model name	# of Inputs	# of Outputs	Clamp circuit	Power supply voltage
MM1231	2	1	No	4.6~13.0V
MM1232	2	1	1 input	4.6~13.0V
MM1233	2	1	2 input	4.6~13.0V
MM1234	2	1	3 input	4.6~13.0V

MM1231~MM1234 Input/Output Voltage Measurement Values (typ.)

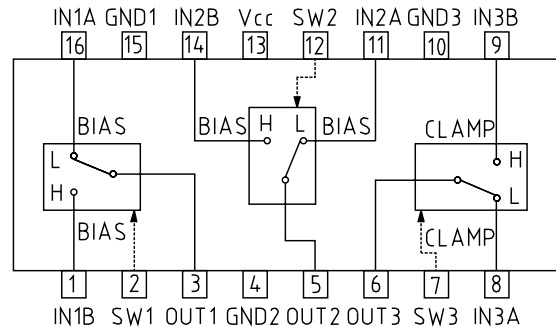
Model name	Input / Output voltage	Power supply voltage			Unit
		5V	9V	12V	
MM1231	Input voltage	2.80	5.00	6.70	V
	Output voltage	2.01	4.30	6.00	V
MM1232	Input voltage	2.80	5.00	6.70	V
	Output voltage	2.10	4.30	6.00	V
	Input clamp	1.40	2.50	3.30	V
	Output voltage	0.70	2.20	2.90	V
MM1233	Input voltage	2.80	5.00	6.70	V
	Output voltage	2.10	4.30	6.00	V
	Input clamp	1.40	2.50	3.30	V
	Output voltage	0.70	2.20	2.90	V
MM1234	Input clamp	1.40	2.50	3.30	V
	Output voltage	0.70	2.20	2.90	V

Block Diagram (MM1231~MM1234)

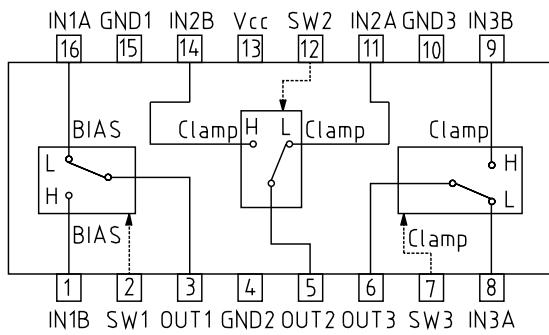
MM1231



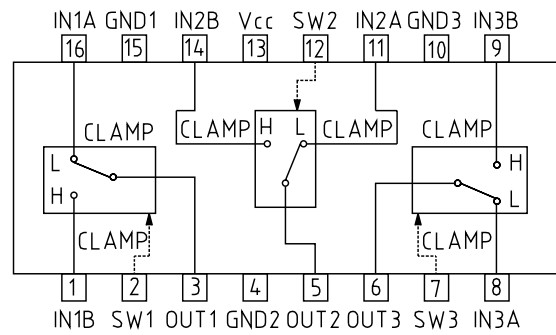
MM1232



MM1233



MM1234



Control input truth table

SW	OUT
L	IN1A
	IN2A
	IN3A
H	IN1B
	IN2B
	IN3B

Introduction of Main Model

2-Input 1-Output 3-Circuit Video Switch Monolithic IC MM1234

Outline

This is a video switch for video signal switching, with 2-input and 1-output circuits built in. All three circuits have a clamp function.

Features

- | | |
|--|-------------------|
| 1. 3 circuits built in, 2-input and 1-output | |
| 2. Clamp function | |
| 3. Current consumption | 9.0mA typ. |
| 4. Operating power supply voltage range | 4.6~13.0V |
| 5. Frequency response | 10MHz |
| 6. Crosstalk | 70dB (at 4.43MHZ) |

Package

- SOP-16B
- DIP-16B

Applications

- 1. TV
- 2. VCR
- 3. Other video equipment

Pin Description

Pin no.	Pin name	Function	Internal equivalent circuit diagram
16 1 11 14 8 9	IN1A IN1B IN2A IN2B IN3A IN3B	Input	
2 12 7	SW1 SW2 SW3	Switch	
3 5 6	OUT1 OUT2 OUT3	Output	
13	Vcc	Power supply	
15 4 10	GND1 GND2 GND3	Ground	

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Ratings	Units
Storage temperature	T _{STG}	-40~+125	°C
Operating temperature	T _{OPR}	-20~+75	°C
Power supply voltage	V _{CC}	15	V
Allowable loss	P _d	350 (SOP-16B) 1200 (DIP-16B)	mW

Electrical Characteristics (Except where noted otherwise, Ta=25°C, V_{CC}=5.0V)

Item	Symbol	Measurement conditions	Min.	Typ.	Max.	Units
Operating power supply voltage range	V _{CC}		4.6		13.0	V
Consumption current	I _d	Refer to Measuring Circuit		9.0	11.7	mA
Voltage gain	G _v	Refer to Measuring Circuit	-0.5	0	+0.5	dB
Frequency characteristic	F _c	Refer to Measuring Circuit	-1	0	+1	dB
Differential gain	DG	Refer to Measuring Circuit		0	±3	%
Differential phase	DP	Refer to Measuring Circuit		0	±3	deg
Output offset voltage	V _{off}	Refer to Measuring Circuit			±15	mV
Crosstalk	C _T	Refer to Measuring Circuit		-70	-60	dB
Switch input voltage H	V _{IH}	Refer to Measuring Circuit	2.1			V
Switch input voltage L	V _{IL}	Refer to Measuring Circuit			0.7	V
Output impedance	R _o			25		Ω

Measuring Circuit

