

# Video Amplifier Monolithic IC MM1196

## Outline

This is a 75Ω, 2 system drive IC that supports S. Y input and V input have clamps, while C input does not have a clamp. Also, Y output and V output have anti-sag pins, and the output capacitor is used at a low value.

## Features

1. Supports S  
Three 75Ω 2 system drive circuits built in
2. Current consumption           24mA typ.
3. Power supply voltage        5V
4. Frequency response         7MHz
5. Crosstalk                     60dB (at 4.43MHz)
6. Anti-sag pin

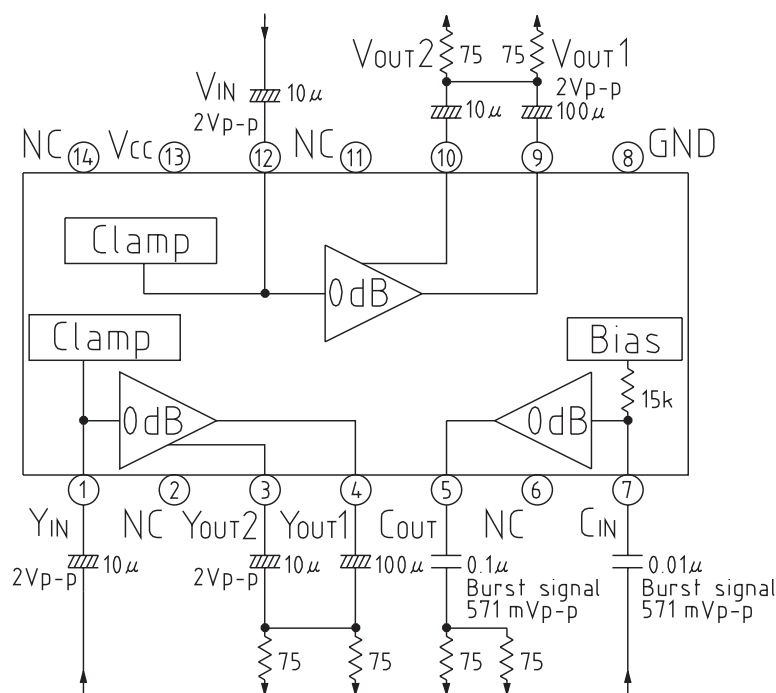
## Package

SOP-14B (MM1196XF)

## Applications

1. Free-standing VCR

## Block Diagram



**Pin Description**

Pin no.	Pin name	Function	Internal equivalent circuit diagram
1 12	Y <sub>IN</sub> and V <sub>IN</sub>	Y and V input	
2, 6 11, 14	NC		
3 10	Y <sub>OUT2</sub> and V <sub>OUT2</sub>	Y and V feedback input	
4 9	Y <sub>OUT1</sub> and V <sub>OUT1</sub>	Y and V output	
5	C <sub>OUT</sub>	C output	
7	C <sub>IN</sub>	C input	
8	GND	GND	
13	V <sub>CC</sub>	Power supply	

**Absolute Maximum Ratings** (Ta=25°C)

Item	Symbol	Ratings	Units
Storage temperature	T <sub>STG</sub>	-40~+125	°C
Operating temperature	T <sub>OPR</sub>	-20~+75	°C
Power supply voltage	V <sub>CC</sub> max.	7	V
Allowable loss	P <sub>d</sub>	350	mW

**Electrical Characteristics** (Except where noted otherwise, Ta=25°C, V<sub>CC</sub>=5.0V, SW1, SW2, SW3 : B, SG1, SG2, SG3 : no

Item	Symbol	Measurement circuit	Measurement conditions	Min.	Typ.	Max.	Units
Operating power supply voltage	V <sub>CC</sub>	V <sub>CC</sub>		4.7	5.0	5.3	V
Consumption current	I <sub>CC</sub>				24.0	33.0	mA
<b>Y amp output SW1 : A</b>							
Voltage gain	G <sub>v1</sub>	TP1	SG1 : Sine wave 2V <sub>P-P</sub> , 0.1MHz	-0.5	0	0.5	dB
Frequency characteristic	F <sub>c1</sub>		SG1 : Sweep signal 2V <sub>P-P</sub> , 7MHz/0.1MHz	-1.0	0	1.0	dB
Differential gain	D <sub>G1</sub>	TP2	SG1 : Staircase wave 2V <sub>P-P</sub> , APL=10, 50, 90%		0	±3	%
Differential phase	D <sub>P1</sub>		SG1 : Staircase wave 2V <sub>P-P</sub> , APL=10, 50, 90%		0	±3	deg
<b>Video amp output SW2 : A</b>							
Voltage gain	G <sub>v2</sub>	TP3	SG2 : Sine wave 2V <sub>P-P</sub> , 0.1MHz	-0.5	0	0.5	dB
Frequency characteristic	F <sub>c2</sub>		SG2 : Sweep signal 2V <sub>P-P</sub> , 7MHz/0.1MHz	-1.0	0	1.0	dB
Differential gain	D <sub>G2</sub>	TP4	SG2 : Staircase wave 2V <sub>P-P</sub> , APL=10, 50, 90%		0	±3	%
Differential phase	D <sub>P2</sub>		SG2 : Staircase wave 2V <sub>P-P</sub> , APL=10, 50, 90%		0	±3	deg
<b>Chroma amp output SW3 : A</b>							
Voltage gain	G <sub>v3</sub>	TP5	SG3 : Sine wave 2V <sub>P-P</sub> , 0.1MHz	-0.5	0	0.5	dB
Frequency characteristic	F <sub>c3</sub>		SG3 : Sweep signal 2V <sub>P-P</sub> , 7MHz/0.1MHz	-1.0	0	1.0	dB
<b>Crosstalk</b>							
Y <sub>IN</sub> → V <sub>OUT</sub>	C <sub>T1</sub>	TP3	SG1 : Sine wave 2V <sub>P-P</sub> , 4.43MHz V <sub>OUT</sub> /Y <sub>IN</sub> , SW1 : A		-60	-50	dB
Y <sub>IN</sub> → C <sub>OUT</sub>	C <sub>T2</sub>	TP5	SG1 : Sine wave 2V <sub>P-P</sub> , 4.43MHz C <sub>OUT</sub> /Y <sub>IN</sub> , SW1 : A		-60	-50	dB
V <sub>IN</sub> → Y <sub>OUT</sub>	C <sub>T3</sub>	TP1	SG2 : Sine wave 2V <sub>P-P</sub> , 4.43MHz Y <sub>OUT</sub> /V <sub>IN</sub> , SW2 : A		-60	-50	dB
V <sub>IN</sub> → C <sub>OUT</sub>	C <sub>T4</sub>	TP5	SG2 : Sine wave 2V <sub>P-P</sub> , 4.43MHz C <sub>OUT</sub> /V <sub>IN</sub> , SW2 : A		-60	-50	dB
C <sub>IN</sub> → Y <sub>OUT</sub>	C <sub>T5</sub>	TP1	SG3 : Sine wave 2V <sub>P-P</sub> , 4.43MHz Y <sub>OUT</sub> /C <sub>IN</sub> , SW3 : A		-60	-50	dB
C <sub>IN</sub> → V <sub>OUT</sub>	C <sub>T6</sub>	TP3	SG3 : Sine wave 2V <sub>P-P</sub> , 4.43MHz V <sub>OUT</sub> /C <sub>IN</sub> , SW3 : A		-60	-50	dB

Measuring Circuit

■ MM1196XF

