Video Amplifier
Monolithic IC MM1186

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.

Features

1. Supports S
   Three 75Ω 2 system drive circuits built in
2. Current consumption 24mA typ.
3. Power supply voltage SOP : 5V, SIP : 5~12V
4. Frequency response 7MHz
5. Crosstalk 60dB (at 4.43MHz)

Package

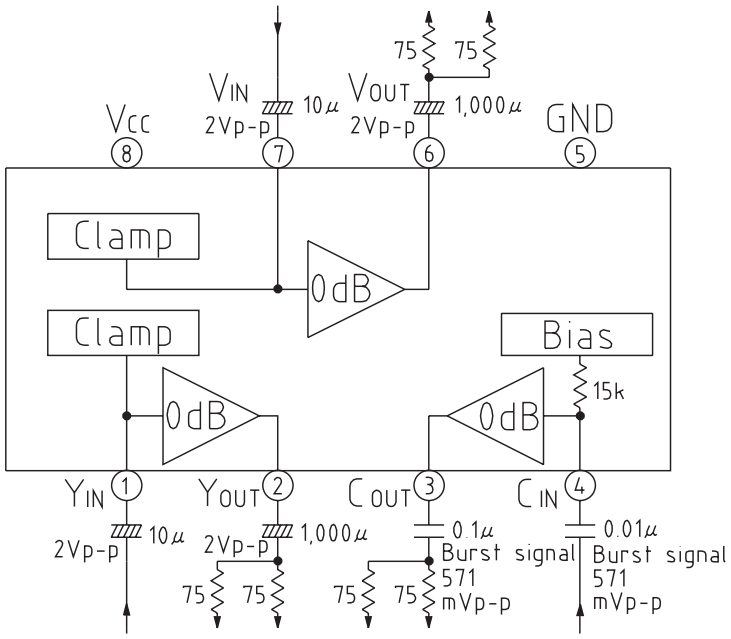
SOP-8C (MM1186XF)
SIP-8A (MM1186XS)

Applications

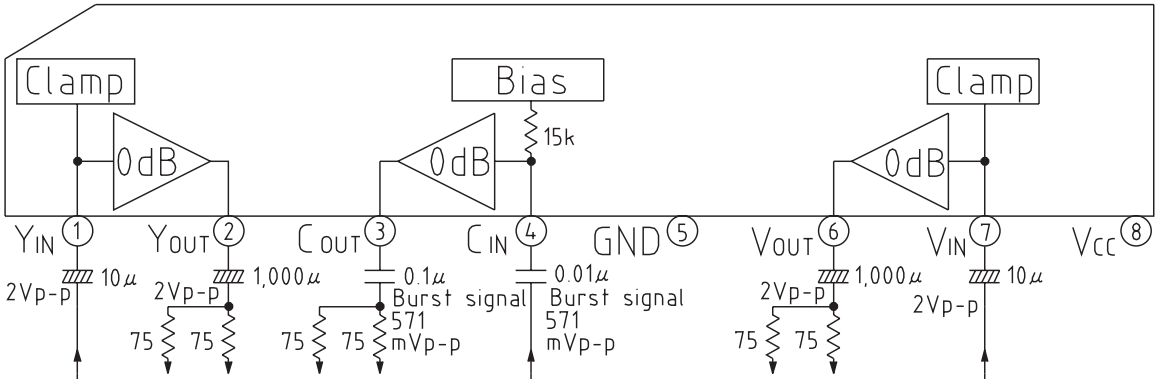
1. Free-standing VCR

Block Diagram

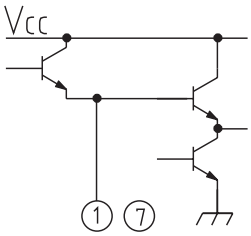
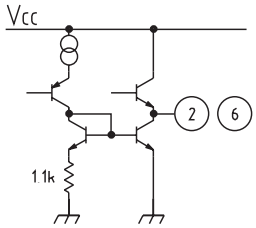
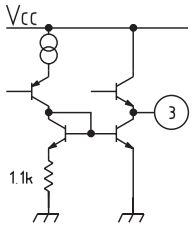
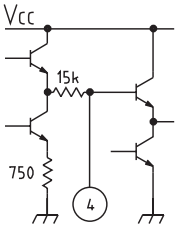
SOP-8C



SIP-8A



Pin Description

Pin no.	Pin name	Function	Internal equivalent circuit
1 7	YIN and VIN	Y and V input	
2 6	YOUT and VOUT	Y and V output	
3	COUT	C output	
4	CIN	C input	
5	GND	GND	
8	VCC	Power supply	

Absolute Maximum Ratings (Ta=25°C)

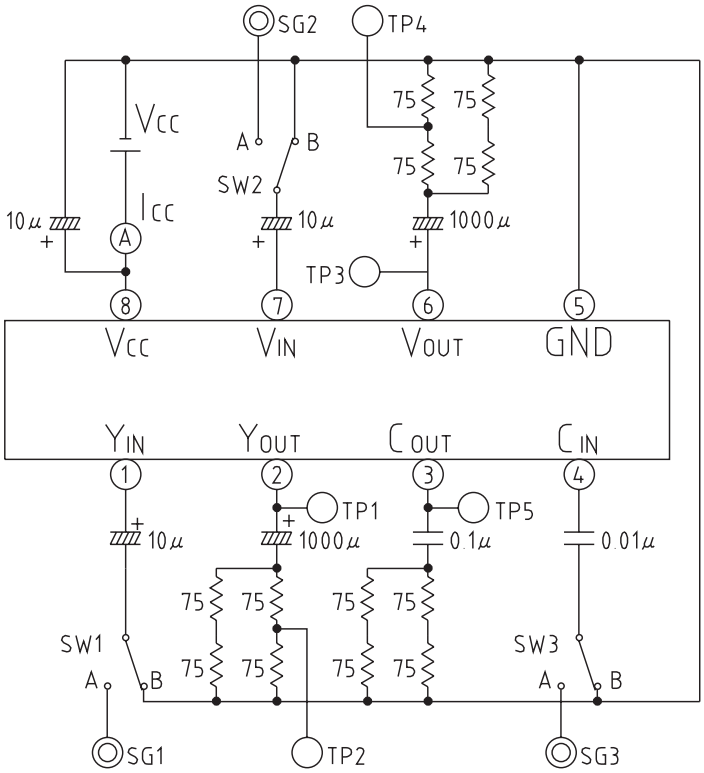
Item	Symbol	Ratings	Units
Storage temperature	T_{STG}	–40~+125	°C
Operating temperature	T_{OPR}	–20~+75	°C
Power supply voltage	V_{CC} max.	S : 15, F : 7	V
Allowable loss	Pd	S : 1000, F : 300	mW

Electrical Characteristics (Except where noted otherwise, Ta=25°C, V_{CC}=5.0V, SW1, SW2, SW3 : B, SG1, SG2, SG3 : no signal)

Item	Symbol	Measurement circuit	Measurement conditions	Min.	Typ.	Max.	Units
Operating power supply voltage	V_{CC}	V_{CC}		4.7	5.0	5.3	V
Consumption current	I_{CC}				24.0	33.0	mA
Y amp output SW1 : A							
Voltage gain	G_V1	TP1	SG1 : Sine wave, $2V_{P-P}$, 0.1MHz	–0.5	0	0.5	dB
Frequency characteristic	F_C1		SG1 : Sweep signal, $2V_{P-P}$ 7MHz/0.1MHz	–1.0	0	1.0	dB
Differential gain	D_G1	TP2	SG1 : Staircase wave, $2V_{P-P}$ APL=10, 50, 90%		0	±3	%
Differential phase	D_P1		SG1 : Staircase wave, $2V_{P-P}$ APL=10, 50, 90%		0	±3	deg
Input dynamic range	D1	TP1	SG2 : Sine wave, 0.1MHz	2.6			V_{P-P}
Video amp output SW2 : A							
Voltage gain	G_V2	TP3	SG2 : Sine wave, $2V_{P-P}$, 0.1MHz	–0.5	0	0.5	dB
Frequency characteristic	F_C2		SG2 : Sweep signal, $2V_{P-P}$ 7MHz/0.1MHz	–1.0	0	1.0	dB
Differential gain	D_G1	TP4	SG2 : Staircase wave, $2V_{P-P}$ APL=10, 50, 90%		0	±3	%
Differential phase	D_P2		SG2 : Staircase wave, $2V_{P-P}$ APL=10, 50, 90%		0	±3	deg
Input dynamic range	D2	TP3	SG2 : Sine wave, 0.1MHz	2.6			V_{P-P}
Chroma amp output SW3 : A							
Voltage gain	G_V3	TP5	SG3 : Sine wave, $2V_{P-P}$, 0.1MHz	–0.5	0	0.5	dB
Frequency characteristic	F_C3		SG3 : Sweep signal, $2V_{P-P}$ 7MHz/0.1MHz	–1.0	0	1.0	dB
Crosstalk							
$Y_{IN} \rightarrow V_{OUT}$	C_T1	TP3	SG1 : Sine wave, $2V_{P-P}$, 4.43MHz V_{OUT}/Y_{IN}, SW1 : A		–60	–50	dB
$Y_{IN} \rightarrow C_{OUT}$	C_T2	TP5	SG1 : Sine wave, $2V_{P-P}$, 4.43MHz C_{OUT}/Y_{IN}, SW1 : A		–60	–50	dB
$V_{IN} \rightarrow Y_{OUT}$	C_T3	TP1	SG2 : Sine wave, $2V_{P-P}$, 4.43MHz Y_{OUT}/V_{IN}, SW2 : A		–60	–50	dB
$V_{IN} \rightarrow C_{OUT}$	C_T4	TP5	SG2 : Sine wave, $2V_{P-P}$, 4.43MHz C_{OUT}/V_{IN}, SW2 : A		–60	–50	dB
$C_{IN} \rightarrow Y_{OUT}$	C_T5	TP1	SG3 : Sine wave, $2V_{P-P}$, 4.43MHz Y_{OUT}/C_{IN}, SW3 : A		–60	–50	dB
$C_{IN} \rightarrow V_{OUT}$	C_T6	TP3	SG3 : Sine wave, $2V_{P-P}$, 4.43MHz V_{OUT}/C_{IN}, SW3 : A		–60	–50	dB

Measuring Circuit

SOP-8C



SIP-8A

