

## Intelligent Analog IA167

### Dual channels video driver

#### Features

Low voltage operation 2.8V~5.5V

Transparent internal clamp

AC or DC-coupled output

Dual video load drive (75 ohm x 2)

SAG correction reduce output capacitance

RoHS compliant Pb-free TSOP-8 and MSOP-8 package

ESD > 5500 HBM

#### Applications

DVD player

Security camera

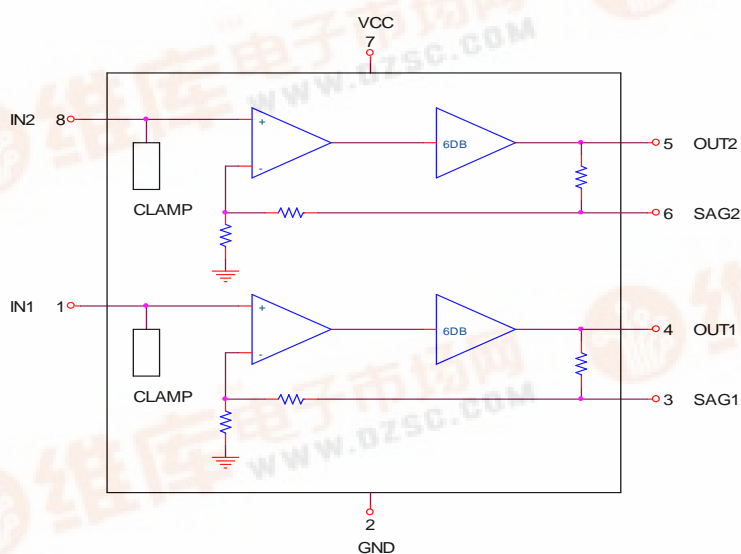
Set-top box

Portable media player

Communication device

Digital still camera

#### Block Diagram



#### Description



IA167 is a high performance, low voltage, and low power consumption dual channels video driver. The internal transparent clamp circuit can restore composite video signal to fixed DC level. Only small ceramic capacitor (0.1uF typical) is required for AC-coupled input. The output can be configured as AC or DC-coupled output. With AC-coupled, sag correction can reduce output coupling capacitance. With DC-coupled, it can eliminate large output coupling capacitors and save board space. It's low voltage and low power consumption is suitable for portable device composite video output. IA 167 can also be configured as bias inputs video driver when normal video signals are needed.

### Absolute Maximum Rating

Supply Voltage	10V
Continuous Output Current (One Channel)	45mA
Power Dissipation	250mW
Operating Temperature	-40°C ~+85°C
Storage Temperature	-65°C ~+125°C

### Electrical Specifications VCC=+3.0V, Ta=25°C, RL=150 ohm, CL=0.1uF

DESCRIPTION	PARAMETER	MIN	TYP	MAX	UNIT
ISB1	Standby Current at VCC=+3.0V		12	16	mA
ISB2	Standby Current at VCC=+5.0V		14	18.5	mA
VOL	Output Level Shift Voltage		300	450	mV
VCLAMP	Input Clamp Voltage	1.00	1.2	1.40	V
GV	Voltage Gain	5.8	6.3	6.8	dB
<b>AC PERFORMANCE</b>					
BW1	+/- 1dB Bandwidth, RL=150 ohm, CL=5pF	7			MHZ
BW2	+/- 3dB Bandwidth, RL=150 ohm, CL=5pF	10			MHZ
dG	Differential Gain		0.5	1	%
dP	Differential Phase		0.5	1	°
dG DC	Differential Gain DC-coupled		0.2	0.5	%
dP DC	Differential Phase DC-coupled		0.2	0.5	°
+SR	Positive Slew Rate, V in =1V step	25	40	60	V/uS



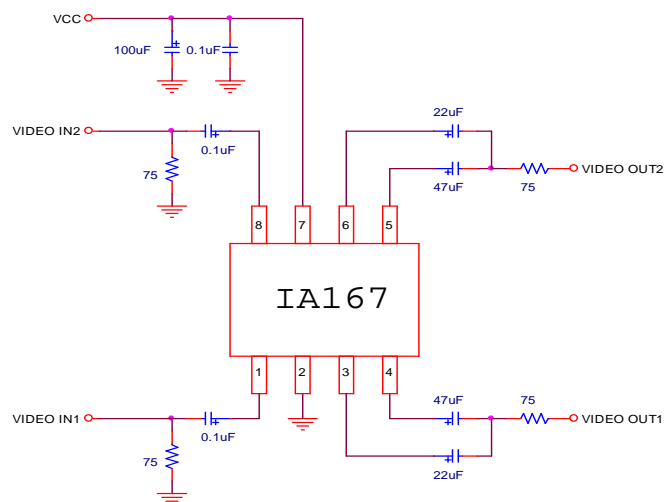
-SR	Negative Slew Rate, V in =1V step	20	30	45	V/uS
SNR	Signal to Noise Ratio		65		dB
CT	Cross Talk		-70		dB

## Pin Description

Pin No.	Pin Type	Pin Function
1	Input	Video1 signal input
2	-	Vss
3	Input	Video1 sag input
4	Output	Video1 output
5	Output	Video2 output
6	Input	Video2 sag input
7	-	Vcc
8	Input	Video1 signal input

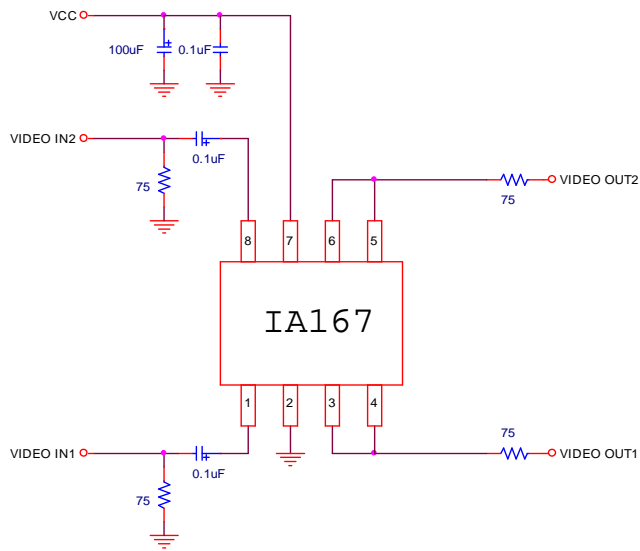
## Typical Applications

Application 1: 2 channels composite input at VCC = 2.8V~5.0V, with input and output capacitors, one load

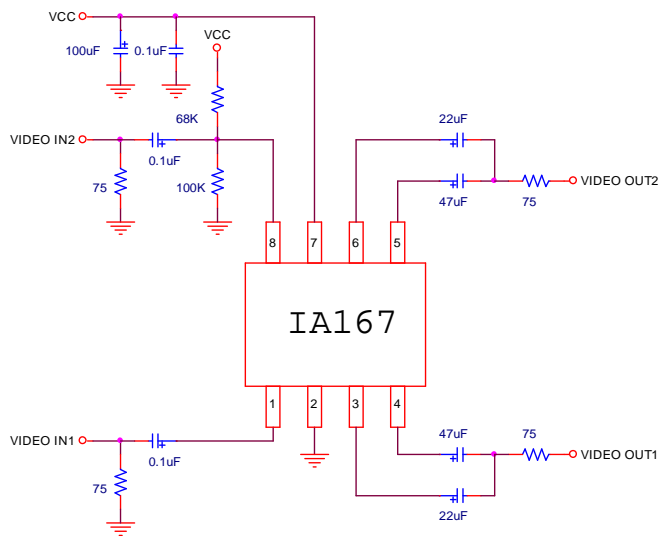


Application 2: With input capacitors but without output capacitors, at VCC = 2.8V~3.3V, one load



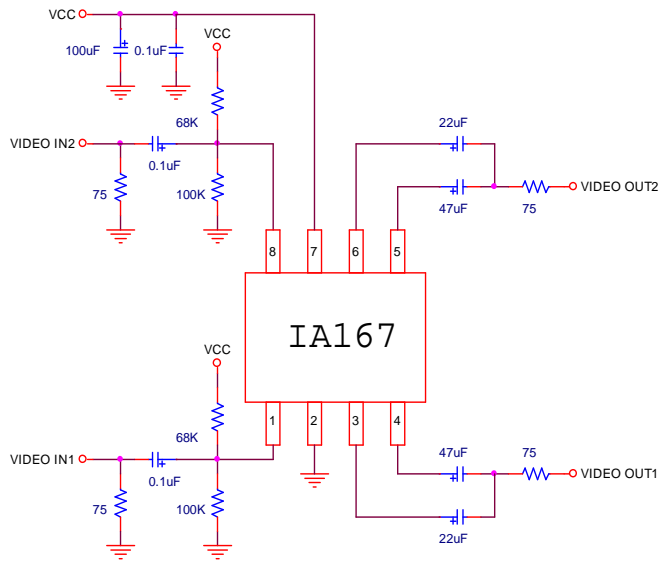


Application 3: S-video input at VCC = 2.8V~5.0V. channel1: clamp, channel 2: bias, one load

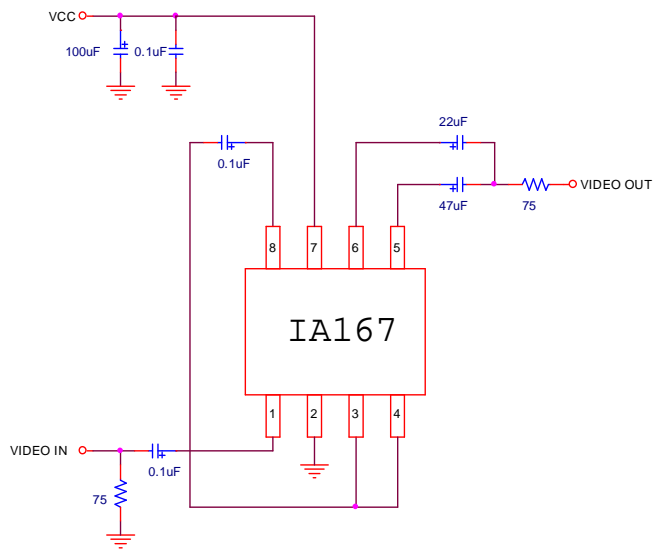


Application 4: 2 channels bias input



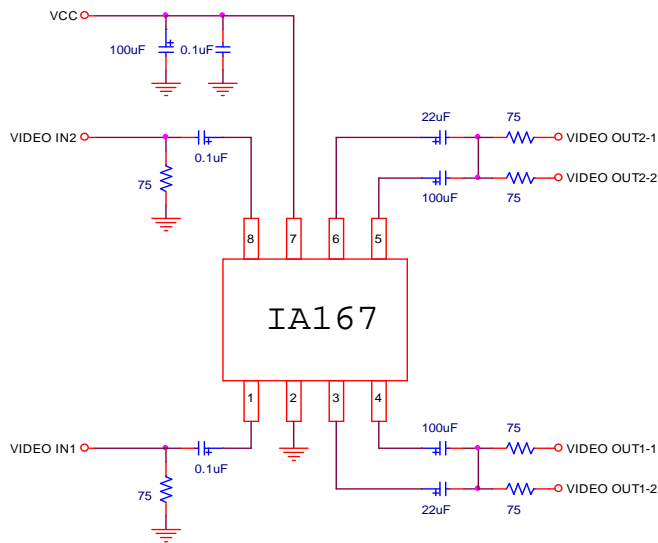


Application 5: 12dB amp, at VCC = 5.0V, 4V output, one load



Application 6: 2 channels composite input at VCC=2.8V~5.0V, with input and output capacitors, two loads



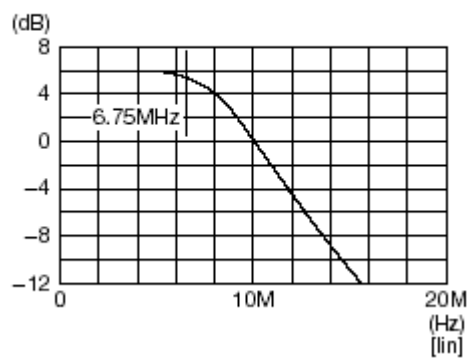


## Compatible Device

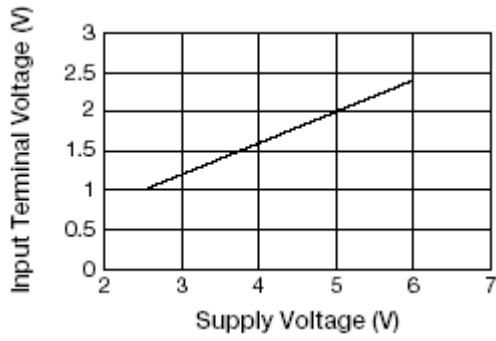
IA167 is function and pin-to-pin compatible with NJRC NJM2267. IA167 is more suitable for low voltage and low power application

## Performance Curve

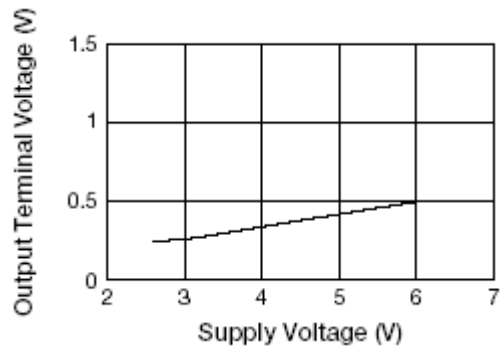
Frequency Characteristic [lin]



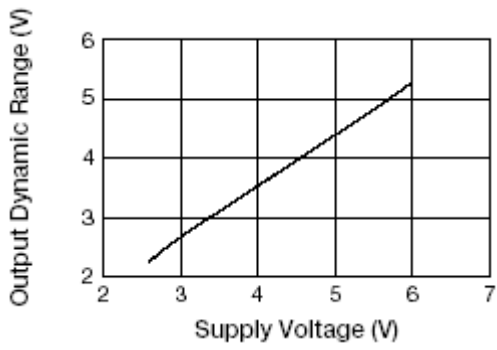
Input Voltage vs Supply Voltage



Output Voltage vs Supply Voltage



Output Dynamic Range



S/N vs Supply Voltage

