



PRELIMINARY**LOW VOLTAGE VIDEO AMPLIFIER**

■ DESCRIPTION

AA8641 is a low voltage 75 ohm video driver with built-in low pass filter. It supports 3V and 5V operating voltage, and is ideal for video output device, ranging from portable digital still camera and stationary equipment such as DVD player. It incorporates high performance 4-stage LPF which is ideal for removing DAC sampling noise. In addition, ultra-low power consumption is achieved through power saving to under 1uA. It prolongs the battery life of portable device.

■ FEATURES

- Operating voltage, typical 2.8V~5.5V
- Operating temperature range, -40~+85 °C
- Current consumption, 7.0mA typical
- Current consumption during power saving, 1.0uA
- High precision voltage gain, 6.0dB +/- 0.3dB
- Built-in high performance 4-stage LPF, 6.75 MHz/ 100KHz Max. +1/-5dB
15 MHz/ 100KHz Typ.-25dB
- Internal clamp, 1.28V
- Ultra small package, SOT26
- Support AC-couple and DC-couple (no need to use output capacitors) output

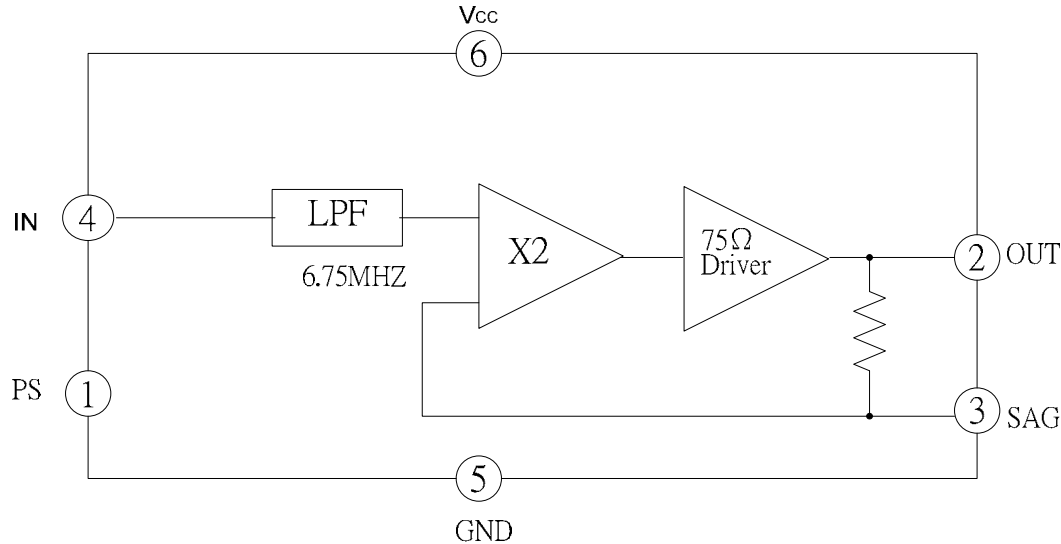
■ APPLICATION

- Portable
- Digital camera
- DVD player
- Surveillance

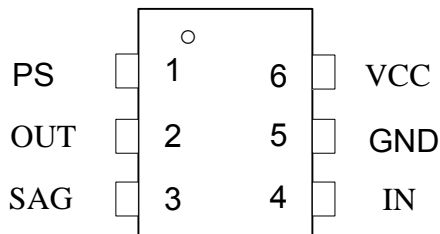
PRELIMINARY

LOW VOLTAGE VIDEO AMPLIFIER

BLOCK DIAGRAM



PIN DESCRIPTIONS



TOP VIEW

PIN NO.	PIN NAME	PIN FUNCTION
1	PS	Output is muted as this pin is set to low
2	OUT	Composite video signal output terminal
3	SAG	SAG correction is to reduce the capacitance of output coupling capacitor
4	IN	Composite video signal input terminal
5	GND	0V power supply
6	VCC	Typical 3V power supply

PRELIMINARY

LOW VOLTAGE VIDEO AMPLIFIER

■ ABSOLUTE MAXIMUM RATINGS

 $T_a = 25^{\circ}\text{C}$

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	VCC	8	V
Operating Ambient Temperature	TA	-40~+80	$^{\circ}\text{C}$
Storage Temperature	TS	-65~+150	$^{\circ}\text{C}$

NOTE: Stress above those listed under "Absolute Maximum Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational section of this specification is not implied. Exposure to absolute maximum rating conditions for the extended periods of time may affect device reliability.

■ ELECTRICAL CHARACTERISTICS

 $T_A = 25^{\circ}\text{C}, V_{CC} = 3\text{V}$

SYMBOL	PARAMETER		CONDITIONS	LIMITS			UNIT
				MIN	TYP	MAX	
ICC1	Supply current		No signal		7	9	mA
ICC2	Supply current (at power save mode)		No signal, PS: ON			1	μA
IPSH	Power save terminal input current	H	1P1N $V_H = 2.8\text{V}$			360	μA
IPSL		L	1P1N $V_L = 0.2\text{V}$			18	μA
VPSH	Power Save terminal input voltage	H		2.0		Vcc	V
VPSL		L				0.5	V
VIN	Input terminal voltage		4PIN		1.28		V
VOU	Output terminal voltage		2PIN	0.12		0.35	V
GV	Voltage gain		SIN wave: 1V, $f = 100\text{kHz}$	5.7	6.0	6.3	dB
FC1	Frequency characteristic 1		SIN wave: 1V, 6.75MHz/100kHz			-5	dB
FC2	Frequency characteristic 2		SIN wave: 1V, 15MHz/100kHz		-25		dB
DG	Differential gain		Staircase signal 1V		NA		%
DP	Differential phase		Staircase signal 1V		NA		$^{\circ}$
SN	S/N		BW: 100k ~ 6MHz		NA		dB

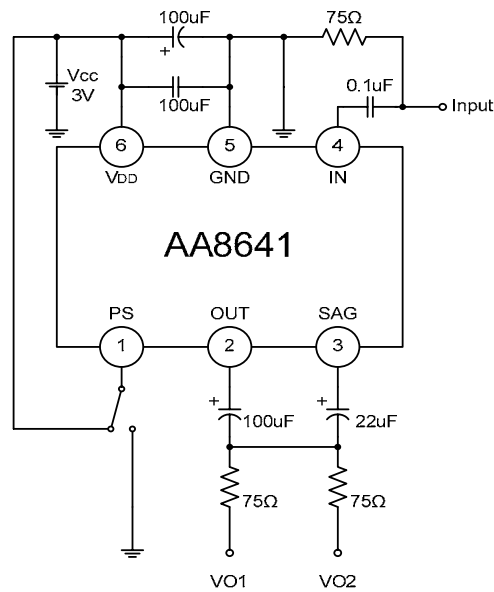
PRELIMINARY

LOW VOLTAGE VIDEO AMPLIFIER

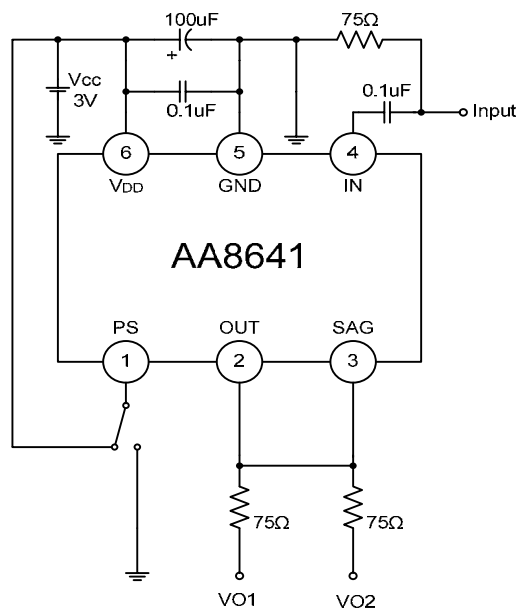
Power Saving MODE

Function	PS
Power Saving	L
Operation	H
Power Saving	Open

APPLICATION CIRCUIT1 – AC-COUPLE OUTPUT



APPLICATION CIRCUIT2 – DC-COUPLE OUTPUT



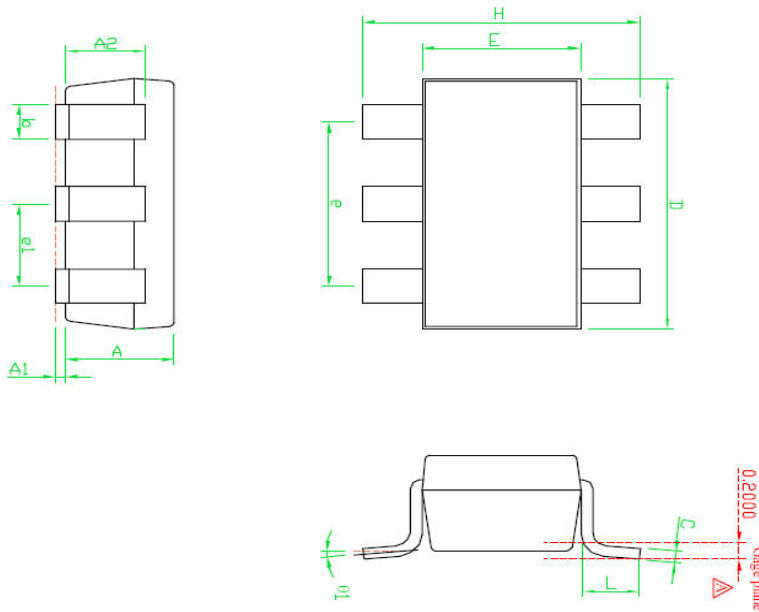
PRELIMINARY

LOW VOLTAGE VIDEO AMPLIFIER

ORDERING INFORMATION

ORDER NO.	PACKAGE	PACKING	ONE REEL Q'TY	MARK CHART
AA8641A	SOT26L	Tape & Reel	3,000ea	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 8641 XXA </div>

PACKAGE DIMENSIONS



SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A	1.00	1.10	1.30
A1	0.00	---	0.10
A2	0.70	0.80	0.90
B	0.35	0.40	0.50
C	0.10	0.15	0.25
D	2.70	2.90	3.10
E	1.40	1.60	1.80
e	---	1.90(TYP)	---
H	2.60	2.80	3.00
L	0.37	---	---
θ1	1°	5°	9°
e1	---	0.95(TYP)	---

NOTES ON USE

1. PACKAGE BODY SIZES EXCLUDE MOLD FLAH PROTRUSIONS OR GATE BURRS
2. TOLERANCE $\pm 0.1000\text{mm}(4\text{mil})$ UNLESS OTHERWISE SPECIFIED
3. COPLANARIT : 0.1000mm
4. DIMENSIONL IS MEASURED IN GAGE PLANE