

47 μ F AC-Coupling Capacitor 3-Input 1-Output Video Driver with LPF

■ GENERAL DESCRIPTION

The NJM41050 is a 3-Input 1-Output general-purpose video switch. It includes 6dB amplifier and 75ohm driver circuit. The NJRC original Technology "ASC(Advanced SAG Correction)" realizes 47 μ F AC-Coupling Capacitor which enables to downsize mounting space.

■ PACKAGE OUTLINE

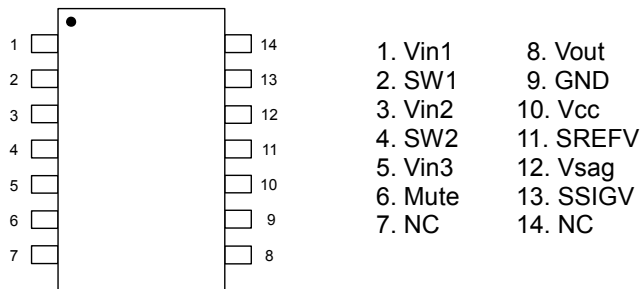


NJM41050V

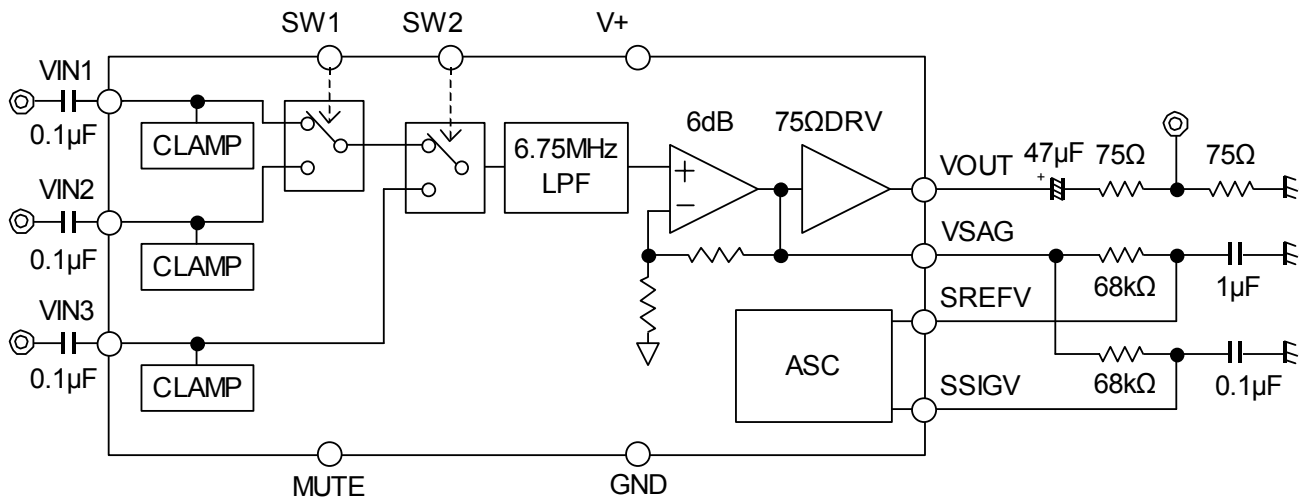
■ FEATURES

- Operating Voltage 4.5 to 9.5V
 - Small output coupling capacitor 47 μ F
 - Operating temperature range -40 to +85 °C*
 - 3-Input 1-Output Video Switch
 - 6dB Amplifier, 75 Ω Driver Circuit
 - Internal LPF 0dBtyp.at 6.75MHz
-40dBtyp.at 27MHz
 - Internal MUTE Circuit
 - Bipolar Technology
 - Package SSOP14
- * NJM41050VT : Wide operating temperature range type (-40 to +105°C)

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



NJM41050

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	V+	13.0	V
Power Dissipation	P _D	500 (Note1)	mW
Operating Temperature Range	Topr	-40 to +85(Note2)	°C
Storage Temperature Range	Tstg	-40 to +150	°C

(Note 1) At on a board of EIA/JEDEC specification. (114.3 x 76.2 x 1.6mm 2 layers, FR-4)

(Note 2) It has high operating temperature range product.(-40 to +105°C)

■ RECOMMENDED OPERATING CONDITION (Ta= 25 °C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	Vopr		+4.5	+5.0	+9.5	V

■ ELECTRICAL CHARACTERISTICS (V_{CC}= 5.0V, R_L= 150Ω, Ta= 25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current	I _{CC}	No signal	-	15	22	mA
Supply Current at MUTE Mode	I _{save}	MUTE mode	-	1.5	2.4	mA
Voltage Gain	G _v	V _{in} =1MHz, 1.0Vp-p sin-signal	5.5	6.0	6.5	dB
Maximum Output Level	V _{om}	V _{in} =100kHz,sin-signal, THD=1%,	2.2	-	-	Vp-p
Low Pass Filter Characteristic	Gf6.75M	V _{in} =6.75MHz/1MHz,1.0Vpp sin-signal	-1.0	0	+1.0	dB
	Gf27 M	V _{in} =27MHz/1MHz,1.0Vpp sin-signal	-	-40	-24	dB
Channel Cross talk	CT	V _{in} =4.43MHz, 1.0Vp-p, Sine-wave	-	-80		dB
Differential Gain	DG	V _{in} =1.0Vp-p 10step video signal	-	0.5	-	%
Differential Phase	DP	V _{in} =1.0Vp-p 10step video signal	-	0.5	-	deg
SW Sink Current High Level	I _{thH}	V=5V	-	-	300	μA
SW Sink Current Low Level	I _{thL}	V=0.3V	-	-	5	μA
SW Voltage High Level	V _{thH}	SW1,SW2,MUTE	2.0	-	V ⁺	V
SW Voltage Low Level	V _{thL}	SW1,SW2,MUTE	0	-	1.0	V

■ SWITCH FUNCTION

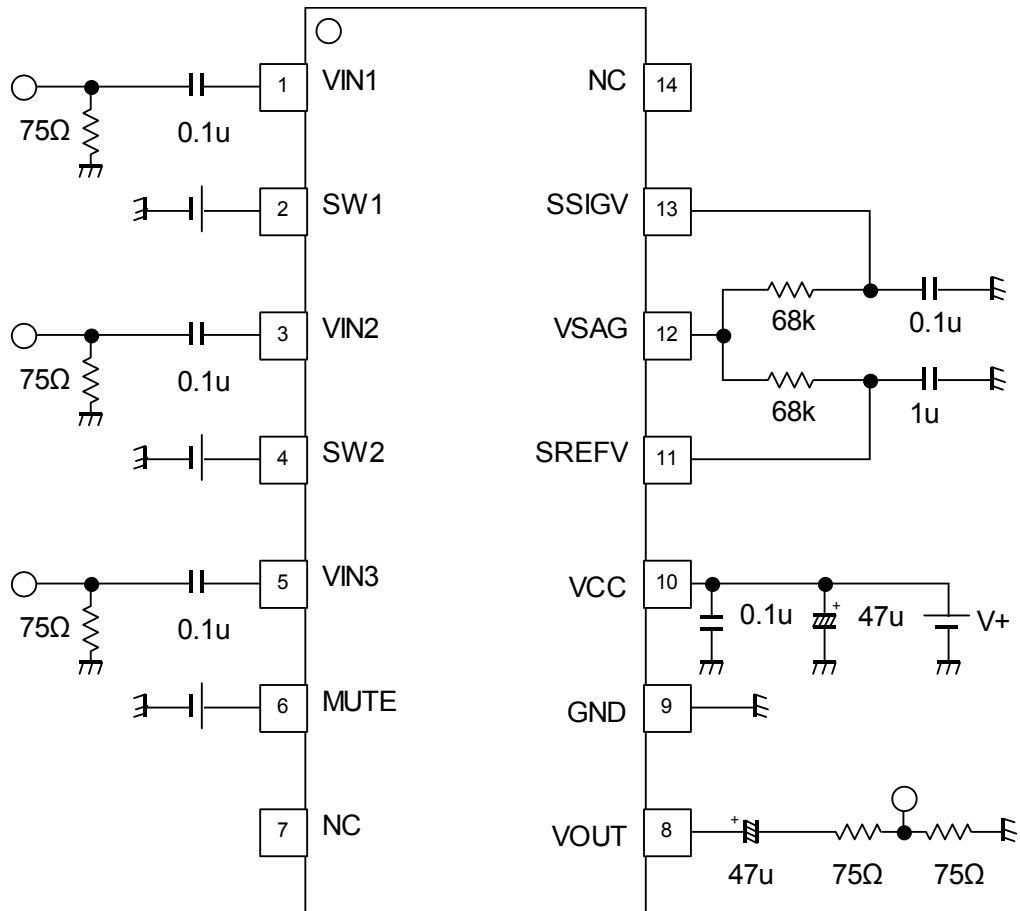
PIN	MODE	NOTE
SW1	H	IN2 output
	L	IN1 output
	OPEN	IN1 output

PIN	MODE	NOTE
SW2	H	IN3 output
	L	IN1 or IN2 output
	OPEN	IN1 or IN2 output

PIN	MODE	NOTE
MUTE	H	ACTIVE
	L	MUTE
	OPEN	MUTE

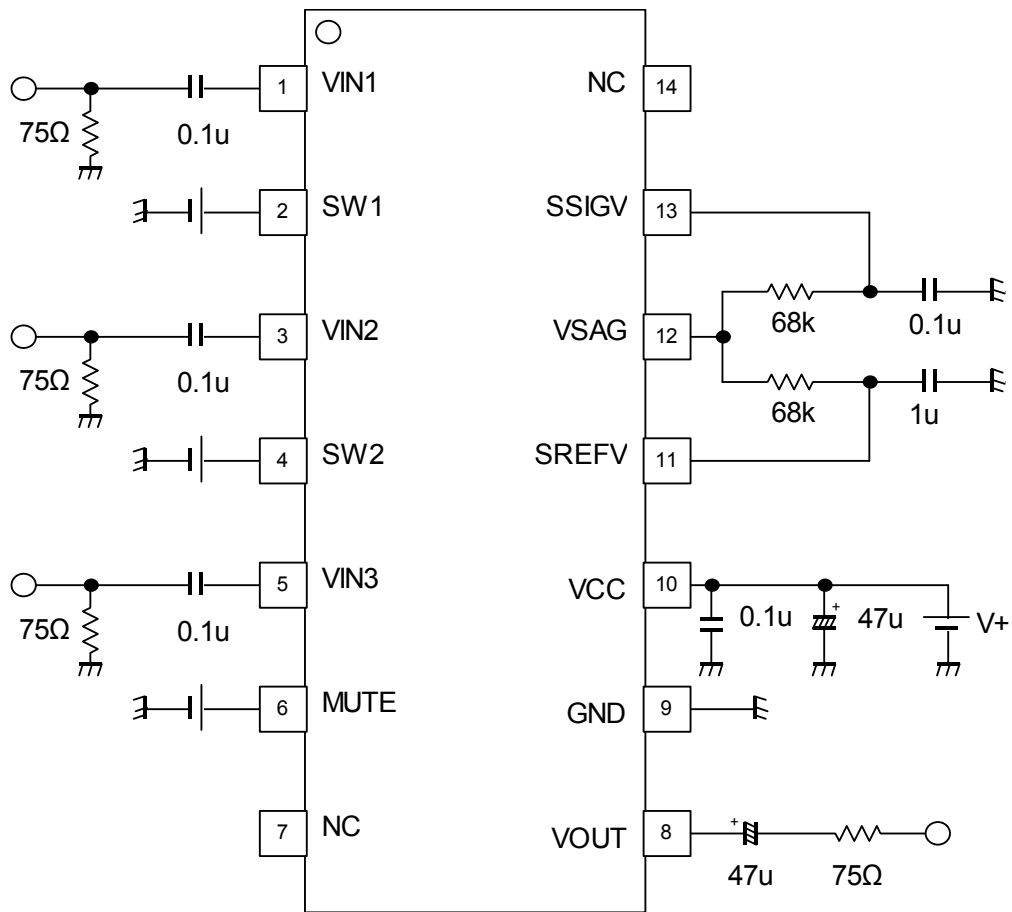
	SW1	SW2	MUTE
IN1 select	L(OPEN)	L(OPEN)	H
IN2 select	H	L(OPEN)	H
IN3 select	-	H	H
MUTE	-	-	L(OPEN)

■ TEST CIRCUIT

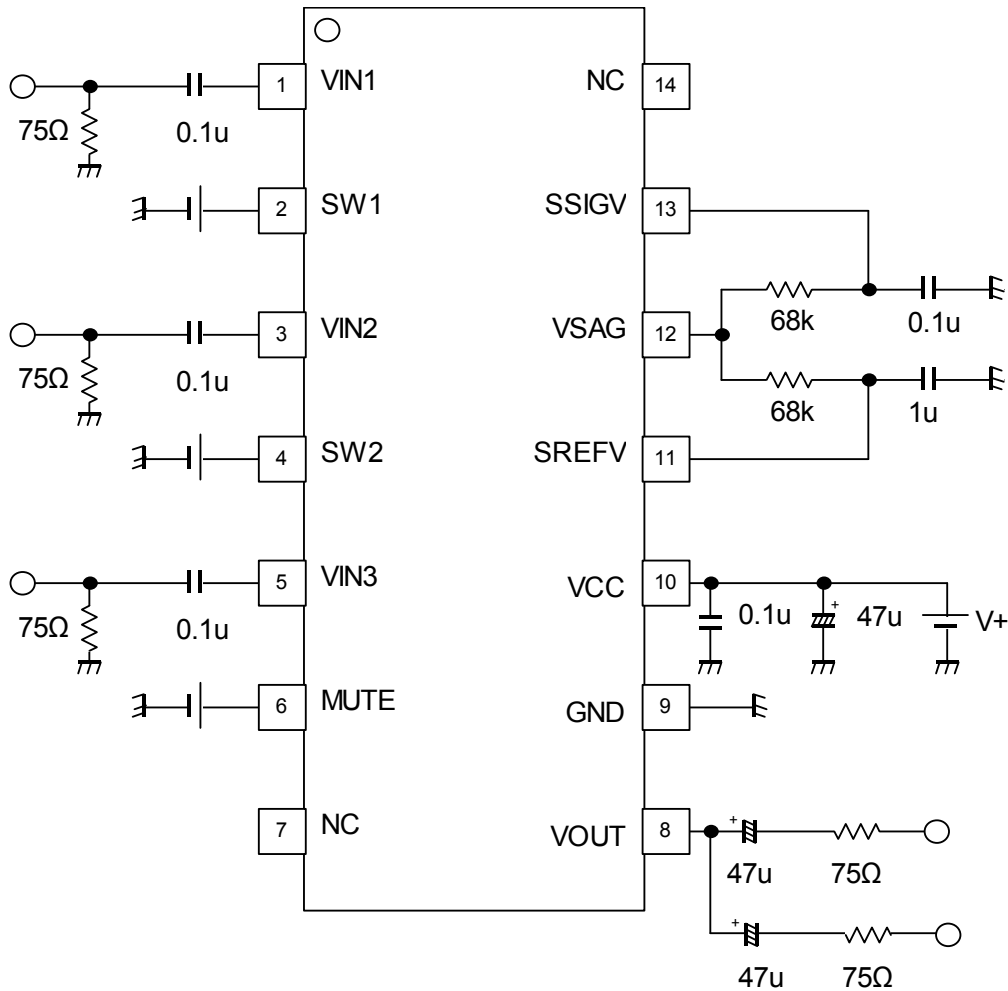


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APPLICATION CIRCUIT 1



APPLICATION CIRCUIT 2



[CAUTION]

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