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New Japan Radio Co.,Ltd.

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3-INPUT VIDEO SWITCH WITH 75Ω DRIVER

■ GENERAL DESCRIPTION

The **NJM2243** is a three input integrated video switch which selects one video or audio signal from three input signals.

It contains driver circuit for 75Ω load and is able to connect to TV monitor.

Its operating supply voltage range is 9 to 12V and bandwidth is 10MHz. Crosstalk is 70dB (at 4.43MHz).

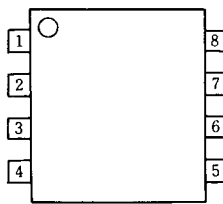
■ FEATURES

- Operating Voltage 9 to 13V
- 3 input-1 Output
- Internal Driver Circuit for 75Ω Impedance
- Muting Function available
- Low power Dissipation 15mA
- Cross-talk 70dB (at 4.43MHz)
- Wide Frequency Range 10MHz
- Package Outline DIP8, DMP8, SIP8
- Bipolar Technology

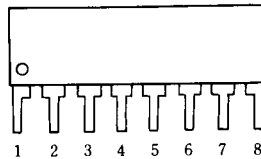
■ APPLICATION

- VCR Video Camera AV-TV Video Disc Player

■ PIN CONFIGURATION



NJM2243D
NJM2243M



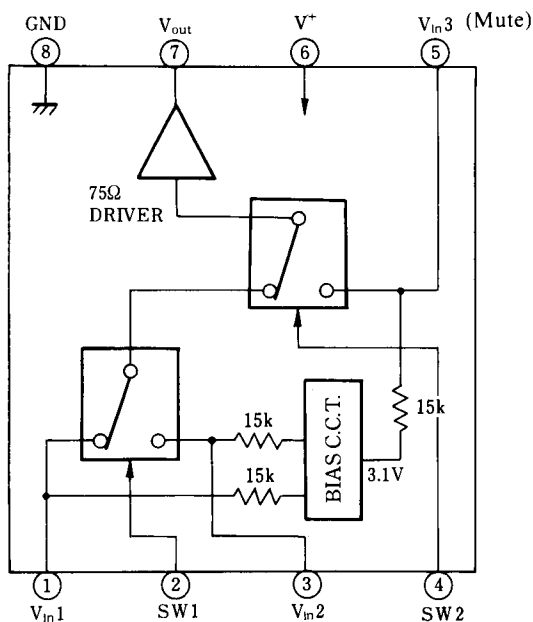
NJM2243L

PIN FUNCTION

1. V_{in1}
2. SW1
3. V_{in2}
4. SW2
5. V_{in3}
6. V^+
7. V_{out}
8. GND

■ BLOCK DIAGRAM

Pin Connection



■ INPUT CONTROL SIGNAL-OUTPUT SIGNAL

SW1	SW2	OUTPUT SIGNAL
L	L	V_{in1}
H	L	V_{in2}
L/H	H	V_{in3}

NJM2243

■ ABSOLUTE MAXIMUM RATINGS

(Ta = 25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	15	V
Power Dissipation	P _D	(DIP8) 500 (DMP8) 300 (SIP8) 800	mW mW mW
Operating Temperature Range	T _{OPR}	-20 to +75	°C
Storage Temperature Range	T _{stg}	-40 to +125	°C

■ ELECTRICAL CHARACTERISTICS

(V⁺ = 9V, Ta = 25°C)

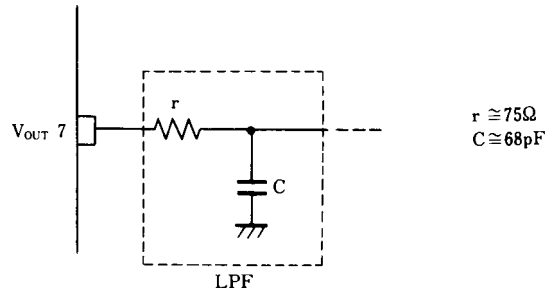
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Recommended Supply Voltage	V ⁺		8.5	-	13.0	V
Operating Current	I _{CC}	S1 = S2 = S3 = S4 = S5 = 2	13.0	18.5	25.0	mA
Voltage Gain	G _V	V _{in} = 2.0V _{P-P} , 100kHz, V _O / V _i , R _L = 150Ω	-0.8	-0.3	+0.2	dB
Frequency Characteristics	G _f	V _{in} = 2.0V _{P-P} , V _O (10MHz) / V _O (100kHz), R _L = 1kΩ	-1.0	-	+1.0	dB
Differential Gain	DG	V _{in} = 2.0V _{P-P} , staircase, R _L = 150Ω	-	0.3	-	%
Differential Phase	DP	V _{in} = 2.0V _{P-P} , staircase, R _L = 150Ω	-	0.3	-	deg.
Output Offset Voltage	V _{off}	S1 = S2 = S3 = 2, S5 = 1 → 2V _o : Voltage change	-	-	±30	mV
Crosstalk	CT	V _{in} = 2V _{P-P} , 4.43MHz, V _o / V _i	-	-70	-	dB
Switch Change Voltage	V _{CH}	All inside Sw : ON	2.4	-	-	V
	V _{CL}	All inside Sw : OFF	-	-	0.8	V
Input Impedance	R _i		-	15	-	kΩ

(note) Unless specified, tested with three mode below.

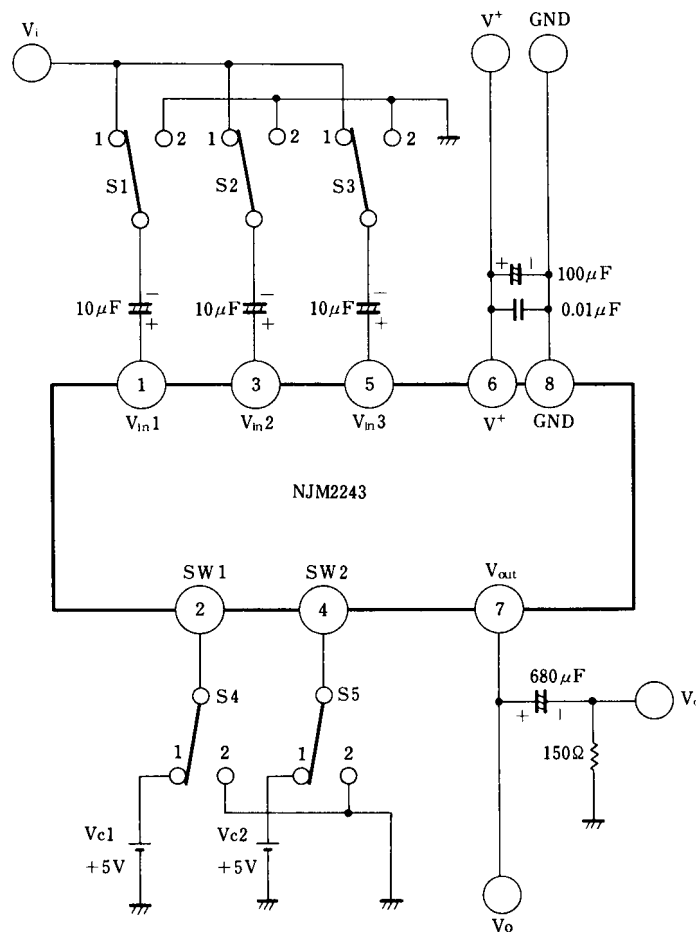
a) S1 = 1, S2 = S3 = S4 = S5 = 2 b) S2 = S4 = 1, S1 = S3 = S5 = 2 c) S3 = S5 = 1, S1 = S2 = 2, S4 = 1 or 2

APPLICATION

Oscillation Prevention on light loading conditions
 Recommended under circuit



TEST CIRCUIT



DC Voltage Each Terminal
 Typ. On Test Circuit $T_a = 25^\circ\text{C}$

Terminal Name	V_{IN1}	SW1	V_{IN2}	SW2	V_{IN3}	V^+	V_{OUT}	GND
DC Voltage	$\frac{3}{5} V^+$	-	$\frac{3}{5} V^+$	-	$\frac{3}{5} V^+$	-	$\frac{2}{5} V^+ - 0.7$	-

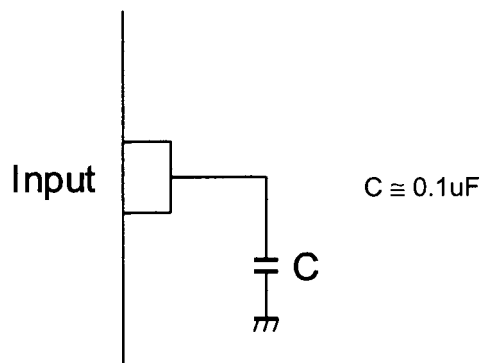
NJM2243

■ EQUIVALENT CIRCUIT

PIN NO.	PIN FUNCTION	INSIDE EQUIVALENT CIRCUIT	PIN NO.	PIN FUNCTION	INSIDE EQUIVALENT CIRCUIT
1	V _{IN1}		5	V _{IN3} (Mute)	
2	SW1		6	V ⁺	_____
3	V _{IN2}		7	V _{OUT}	
4	SW2		8	GND	_____

■ APPLICATION

This IC requires 0.1uF capacitor between INPUT and GND for bias type input at mute mode.



[CAUTION]

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