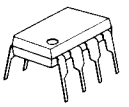
NJM2235

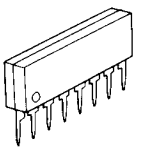
The NJM2235 is 3-input video switch for video and audio signal. It has clamp function and so is applied to fixed DC level of video signal. Its operating supply voltage range is 5 to 12V and bandwidth is 10MHz. Crosstalk is 70dB (at 4.43MHz).

■ Package Outline



NJM2235D

NJM2235M



NJM2235L

■ Features

- 3 Input – 1 Output
- Internal Clamp Function
- Wide Operating Supply Voltage Range 4.75 ~ 13V
- Cross-talk 70dB (at 4.43 MHz)
- Wide Frequency Range 10MHz

■ Application

VCR Video Camera AV-TV Video Disc Player

■ Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V^+	15V
Power Dissipation	P_D (D-Type)	500mW
	(M-Type)	300mW
	(L-Type)	800mW
Operating Temperature Range	T_{opr}	−20~+75°C
Storage Temperature Range	T_{stg}	−40~+125°C

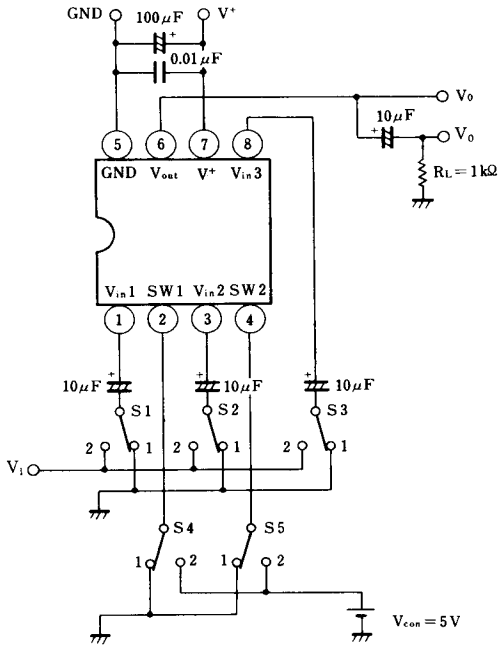
6

■ Electrical Characteristics (V⁺=5V, Ta=25°C)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Recommended Supply Voltage	V^+		4.75	—	13.0	V
Supply Current	I_{CC}	S1=S2=S3=S4=S5=1	—	10.5	14.0	mA
Frequency Characteristics	G_{f2}	Vi=2.0Vpp Vo(10Hz)/Vo(100kHz)	−1.0	—	+1.0	dB
Voltage Gain	G_V	Vi=2.5Vpp, 100kHz Vo/Vi	−0.5	—	+0.5	dB
Differential Gain	DG	Vi=2Vpp Staircase signal	—	0	—	%
Differential Phase	DP	Vi=2Vpp Staircase signal	—	0	—	deg
Output Offset Voltage	V_{off}	(note 2)	−30	0	+30	mV
Input Clamp Voltage	V_{IC}	(note 5)	—	2.0	—	V
Crosstalk (1)	CT1	Vi=2.0Vpp, 4.43MHz, Vo/Vi (note 3)	—	−70	—	dB
Crosstalk (2)	CT2	Vi=2.0Vpp, 4.43MHz, Vo/Vi (note 4)	—	−70	—	dB
Switch Change Voltage	V_{CH}	All inside SW : ON	2.4	—	—	V
	V_{CL}	All inside SW : OFF	—	—	0.8	V
Output Impedance	R_O		—	10	—	Ω

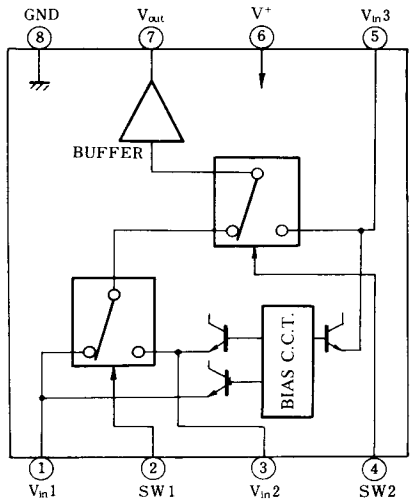
(note 1): If it is not shown about switch condition, it is tested on three conditions below.
a) S1=2, S2=S3=S4=S5=1 b) S2=S4=2, S1=S3=S5=1, c) S1=S2=1, S3=S5=2, S4=1 or 2.
(note 2): S1=S2=S3=1, Output DC voltage difference of three mode below.
a) S4=S5=1 b) S4=2, S5=1 c) S4=1 or 2, S5=2
(note 3): S5=1, Tested on all combination of S1~S4 except two below.
a) S1=2, S4=1 b) S2=S4=2
(note 4): Tested on all combination of S1~S4 except one.
a) S5=2, S3=2
(note 5): Input clamp voltage is about 2/5 of supply voltage.

■ **Test Circuit**



■ **Block Diagram**

Pin Connection



■ **Input Control Signal – Output Signal**

SW 1	SW 2	Output Signal
L	L	V_{IN} 1
H	L	V_{IN} 2
L/H	H	V_{IN} 3