

3-INPUT 2-OUTPUT VIDEO SWITCH FOR AV-SET

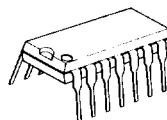
■ GENERAL DESCRIPTION

NJM2279 is 3-input, 2-output video switch with 75 Ω driver circuit.

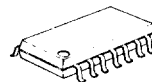
This video switch can be connected to TV monitor directly, as it has 6dB amplifier and 75 Ω drivers circuit internally.

The NJM2279 has the mute function.

■ PACKAGE OUTLINE



NJM2279D



NJM2279M

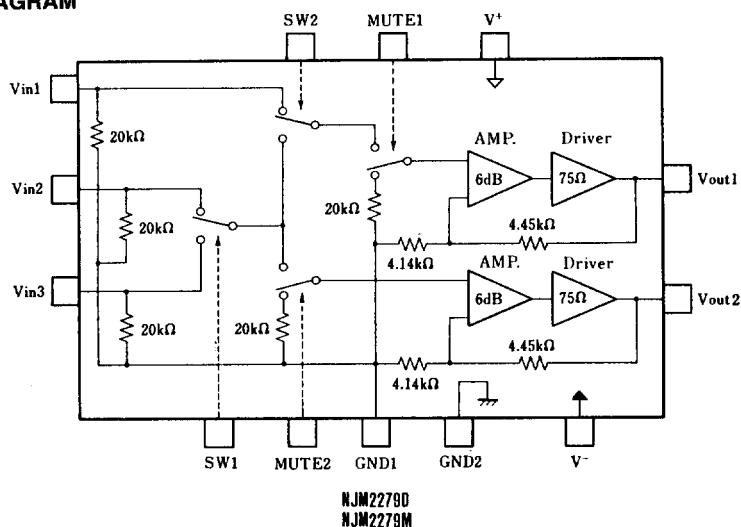
■ FEATURES

- 3 input 2 output
- Internal 6dB AMP.
- Internal 75 Ω Driver Circuit
- Operating Voltage Dual ($\pm 4V \sim$)
Single ($+8V \sim$)
- Internal 2 Output Mute Function
- Package Outline DIP14, DMP14
- Bipolar Technology

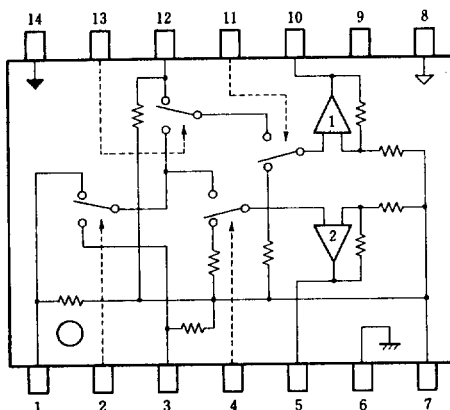
■ RECOMMENDED OPERATING CONDITION

- | | | |
|------------------|--------|--------------------------|
| • Supply Voltage | Dual | $\pm 4.0V \sim \pm 7.0V$ |
| | Single | $+8V \sim +14V$ |

■ BLOCK DIAGRAM



■ PIN CONFIGURATION



PIN FUNCTION

- | | |
|----------|-----------|
| 1. Vin3 | 8. V+ |
| 2. SW1 | 9. N.C. |
| 3. Vin2 | 10. Vout1 |
| 4. MUTE2 | 11. MUTE1 |
| 5. Vout2 | 12. Vin1 |
| 6. GND2 | 13. SW2 |
| 7. GND1 | 14. V- |

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ /V	±7.5	V
Power Dissipation	P _D	(DIP14) 700 (DMP14) 300	mW mW
Operating Temperature Range	T _{opr}	-20 ~ +75	°C
Storage Temperature Range	T _{stg}	-40 ~ +125	°C

■ ELECTRICAL CHARACTERISTICS

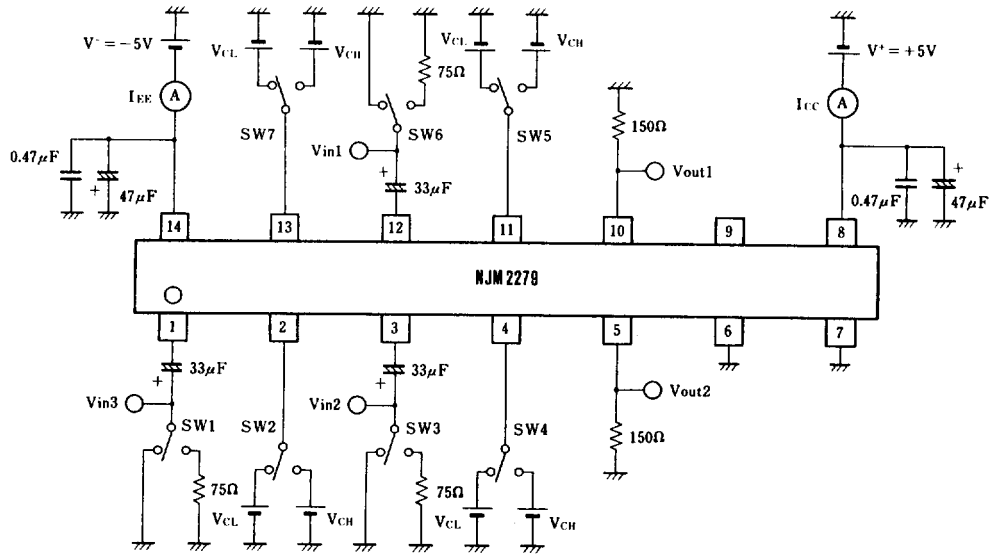
(V⁺/V⁻ = ±5.0V, R_L = 150Ω, Ta = 25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I _{CC}	No signal	10.0	17.3	24.6	mA
	I _{EE}	No signal	-24.6	-17.3	-10.0	mA
Voltage Gain	G _V	V _{IN} = 100kHz/1.0V _{P-P}	6.0	6.3	6.8	dB
Freguency Characteristic	G _f	5MHz/100kHz, 1.0V _{P-P}	-1.0	0.0	+1.0	dB
Differential Gain	DG	V _{IN} = 1.0V _{P-P} Stair wave	—	0.2	—	%
Differential Phase	DP	V _{IN} = 1.0V _{P-P} Stair wave	—	0.2	—	deg
Offset output Voltage 1	V _{OS1}	V _{in2} -V _{in3} :no signal	-40	0	+40	mV
Offset output Voltage 2	V _{OS2}	V _{in1} -V _{in2} /V _{in3} :no signal	-60	0	+60	mV
Input/Output Crosstalk	CT	V _{IN} = 4.43MHz/1.0V _{P-P} , V _O /V _{IN}	—	-70	—	dB
MUTE Crosstalk	CT _M	V _{IN} = 4.43MHz/1.0V _{P-P} , V _O /V _{IN}	—	-60	—	dB
Switch Change Voltage	V _{CH}		2.5	—	V ⁺	V
	V _{CL}		0.0	—	1.0	V
Total Harmonic Distortion	THD	V _{IN} = 1kHz 1.25V _{P-P}	—	0.1	—	%
Input Impedance	R _{in}		—	20	—	kΩ



NJM2279

■ TEST CIRCUIT



5

PARAMETER	SYMBOL	UNIT	INPUT TERMINAL	TEST TERMINAL	TEST CONDITION
Operating Current	I_{CC}	mA	—	8 pin	$V_{in1 \sim 3} = 0V$, $SW1/2 \cdot MUTE1/2 = V_{CL}$
	I_{EE}	mA	—	14 pin	"
Voltage Gain	G_v	dB	1, 3, 12 pin	5, 10 pin	$MUTE1/2 = V_{CL}$
Frequency Characteristic	G_f	dB	1, 3, 12 pin	5, 10 pin	"
Differential Gain	DG	%	1, 3, 12 pin	5, 10 pin	"
Differential Phase	DP	deg	1, 3, 12 pin	5, 10 pin	"
Offset output Voltage 1	V_{OS1}	mV	—	5, 10 pin	$V_{in1 \sim 3} = 0V$
Offset output Voltage 2	V_{OS2}	mV	—	5, 10 pin	$V_{in1 \sim 3} = 0V$
Input/Output Crosstalk	CT	dB	1, 3, 12 pin	5, 10 pin	$MUTE1/2 = V_{CL}$
MUTE Crosstalk	CT_M	dB	1, 3, 12 pin	5, 10 pin	$MUTE1/2 = V_{CL}$
Switch Change Voltage	V_{CH}	V	—	—	
	V_{CL}	V	—	—	
Total Harmonic Distortion	THD	%	1, 3, 12 pin	5, 10 pin	

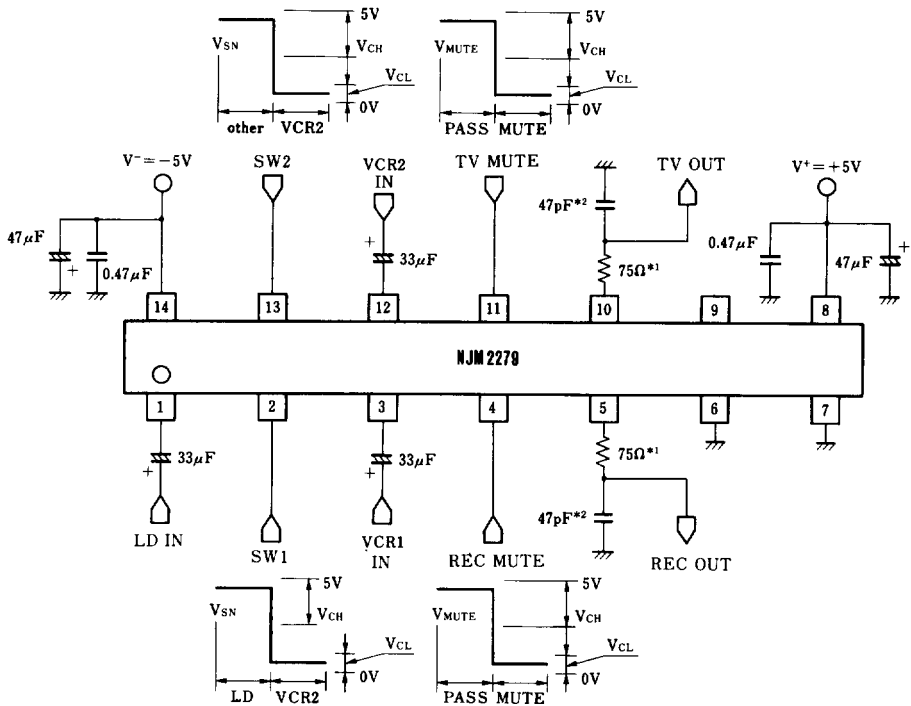


■ CONTROL SIGNAL-OUTPUT SIGNAL

(L=V_{CL}, H=V_{CH}, X=LorH)

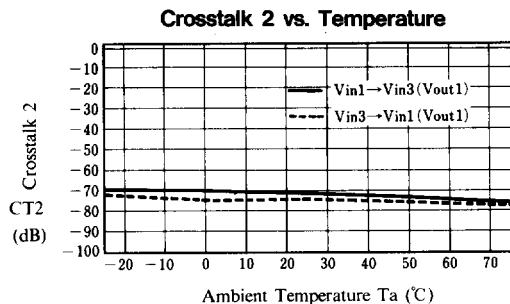
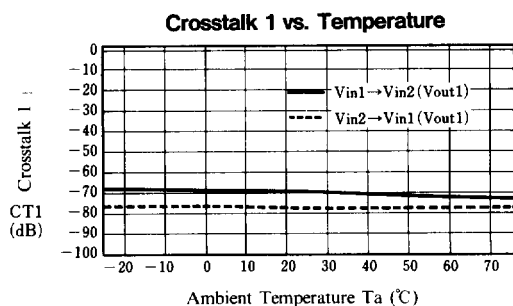
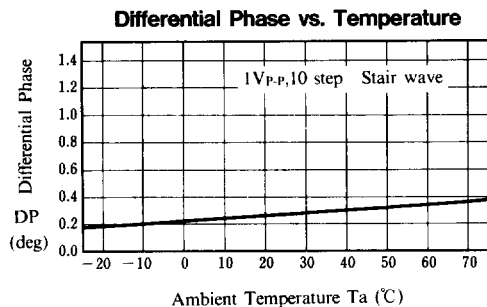
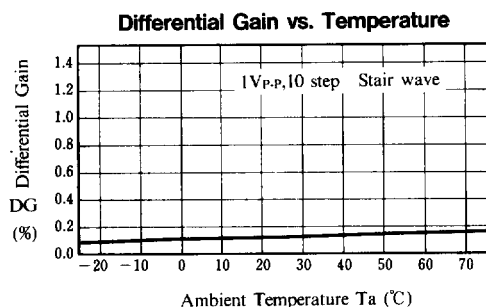
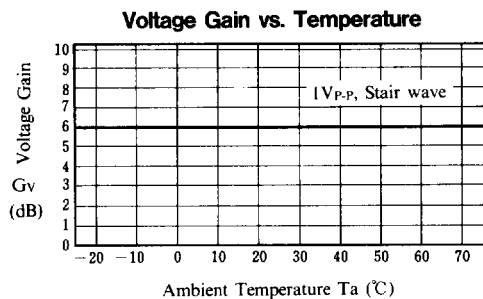
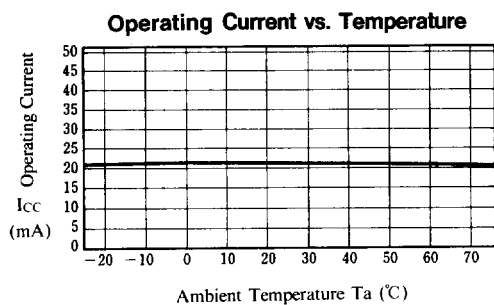
CONTROL SIGNAL				OUTPUT	
SW 1 (2 pin)	SW 2 (13pin)	MUTE 1 (11pin)	MUTE 2 (4 pin)	Vout 1 (10pin)	Vout 2 (5 pin)
X	X	L	L	GND	GND
X	X	L	H	GND	OUT PUT
X	X	H	L	OUT PUT	GND
L	L	H	H	V _{IN} 1	V _{IN} 2
L	H	H	H	V _{IN} 2	V _{IN} 2
H	L	H	H	V _{IN} 1	V _{IN} 3
H	H	H	H	V _{IN} 3	V _{IN} 3

■ APPLICATION

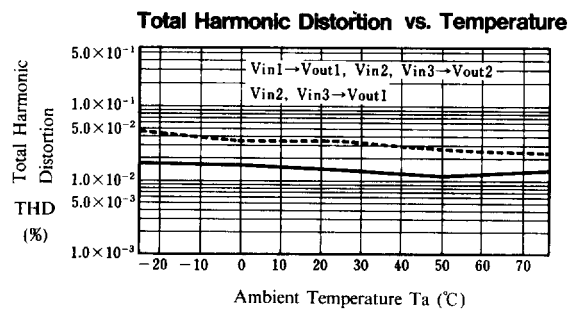
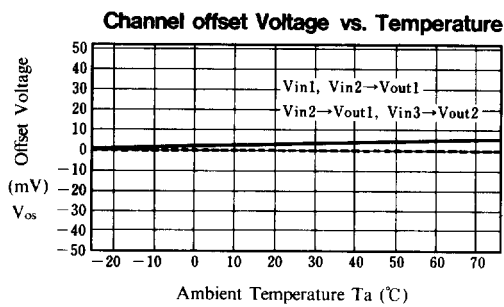
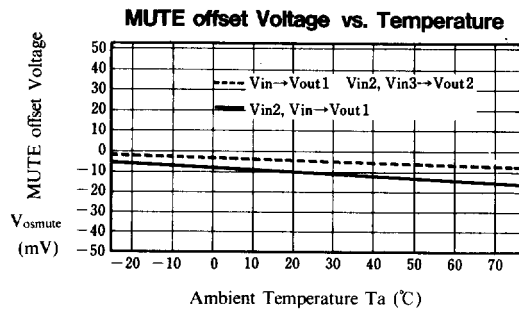
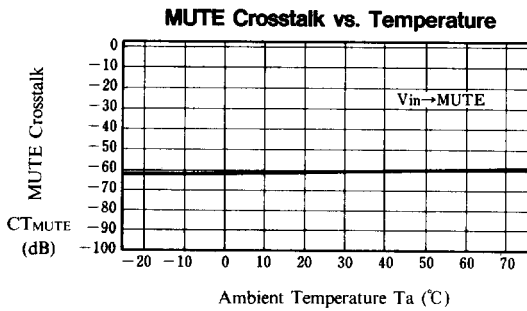
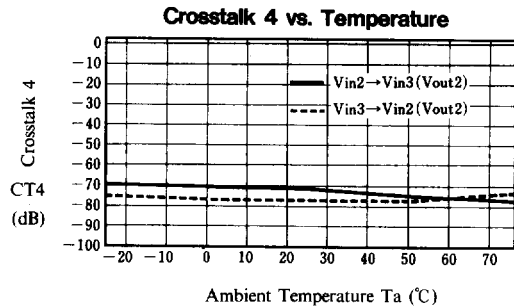
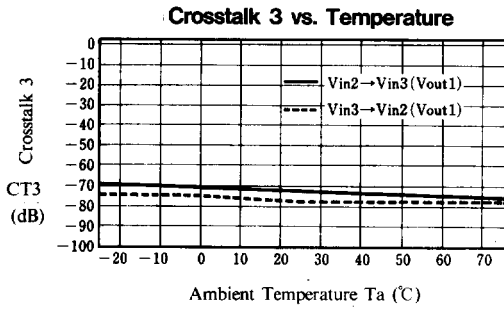




■ TYPICAL CHARACTERISTICS

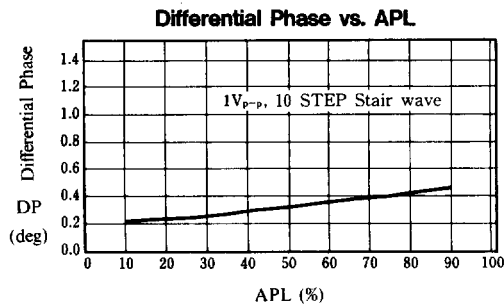
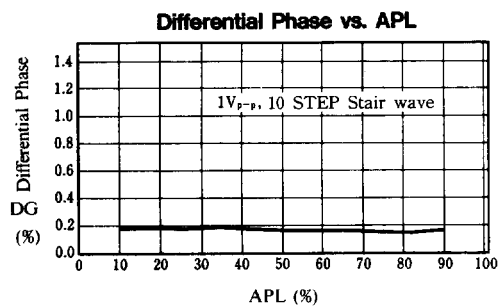
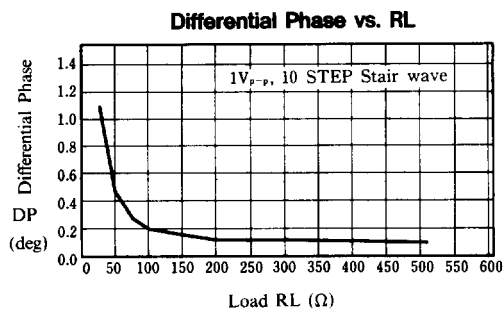
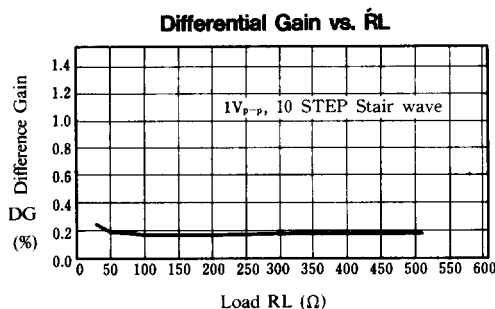
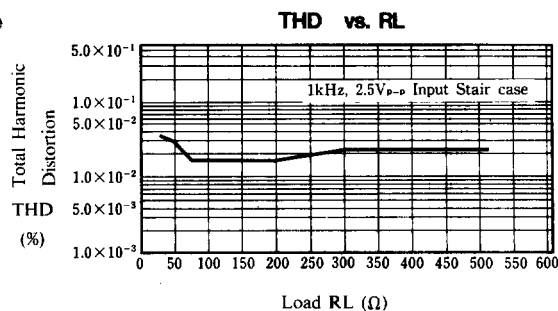
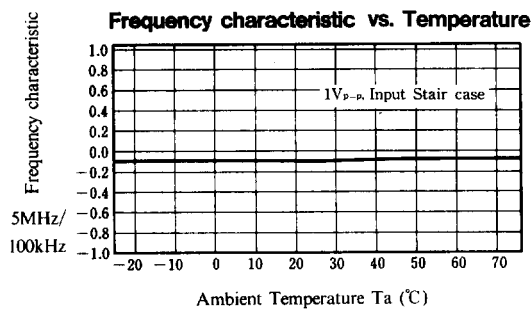


■ TYPICAL CHARACTERISTICS





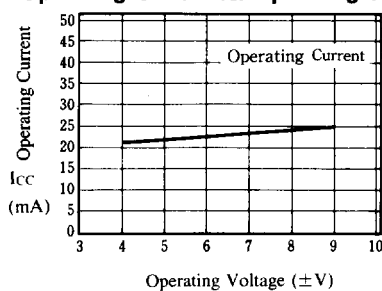
TYPICAL CHARACTERISTICS



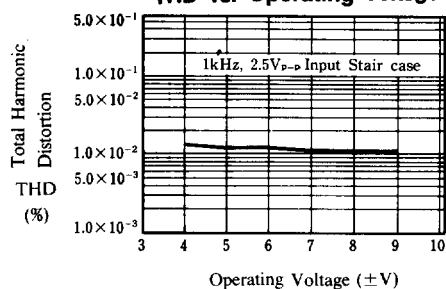


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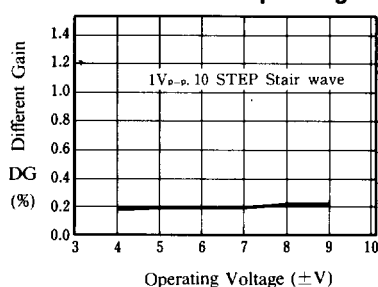
Operating Current vs. Operating Voltage



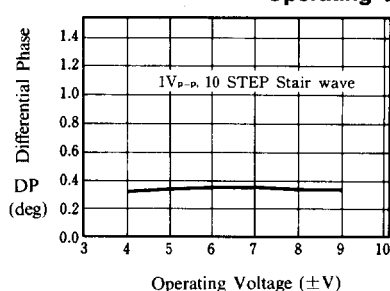
THD vs. Operating Voltage



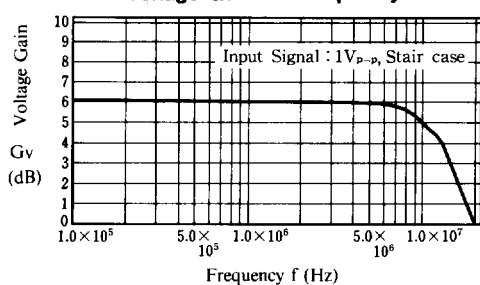
Different Gain vs. Operating Voltage



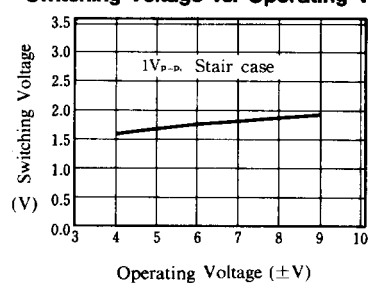
Differential Phase vs. Operating Voltage



Voltage Gain vs. Frequency



Switching Voltage vs. Operating Voltage





■ TYPICAL CHARACTERISTICS

