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

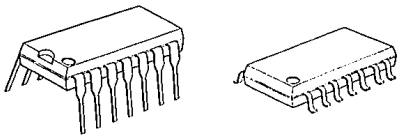
■ GENERAL DESCRIPTION

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

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

The NJM2279 has the mute function.

■ PACKAGE OUTLINE



NJM2279D NJM2279M

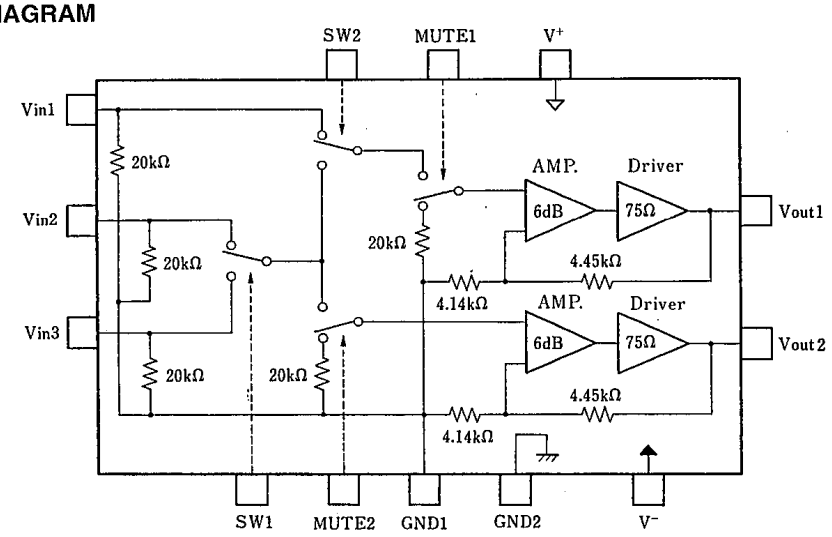
■ FEATURES

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

■ RECOMMENDED OPERATING CONDITION

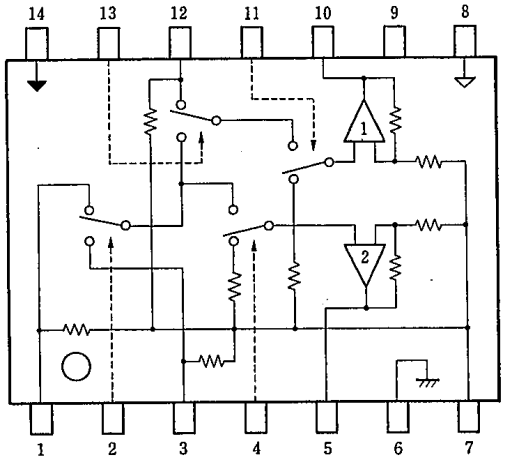
• Supply Voltage	Dual	±4.0V~±7.0V
	Single	+8V~+14V

■ BLOCK DIAGRAM



NJM2279D
NJM2279M

■ 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℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+/V^-	±7.5	V
Power Dissipation	P_D	(DIP14) 700	mW
		(DMP14) 300	mW
Operating Temperature Range	T_{opr}	−20～+75	℃
Storage Temperature Range	T_{stg}	−40～+125	℃

■ ELECTRICAL CHARACTERISTICS

(V^+/V^-=±5.0V, R_L=150Ω Ta=25℃)

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_{in}2-V_{in}3:no signal	−40	0	+40	mV
Offset output Voltage 2	V_{OS2}	V_{in}1-V_{in}2/V_{in}3: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

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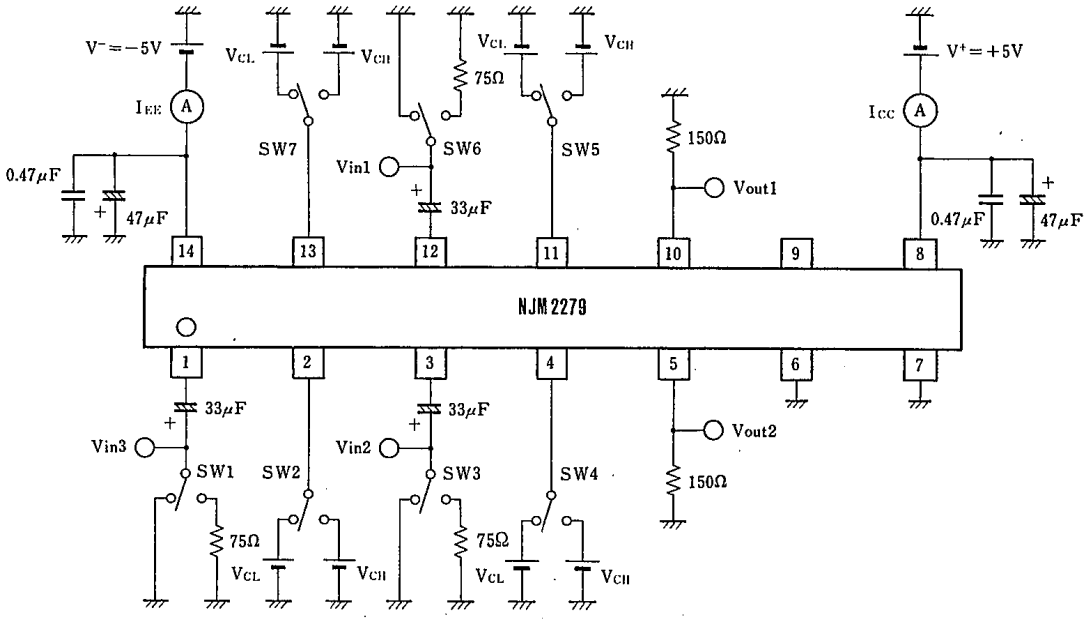
■ TEST CIRCUIT



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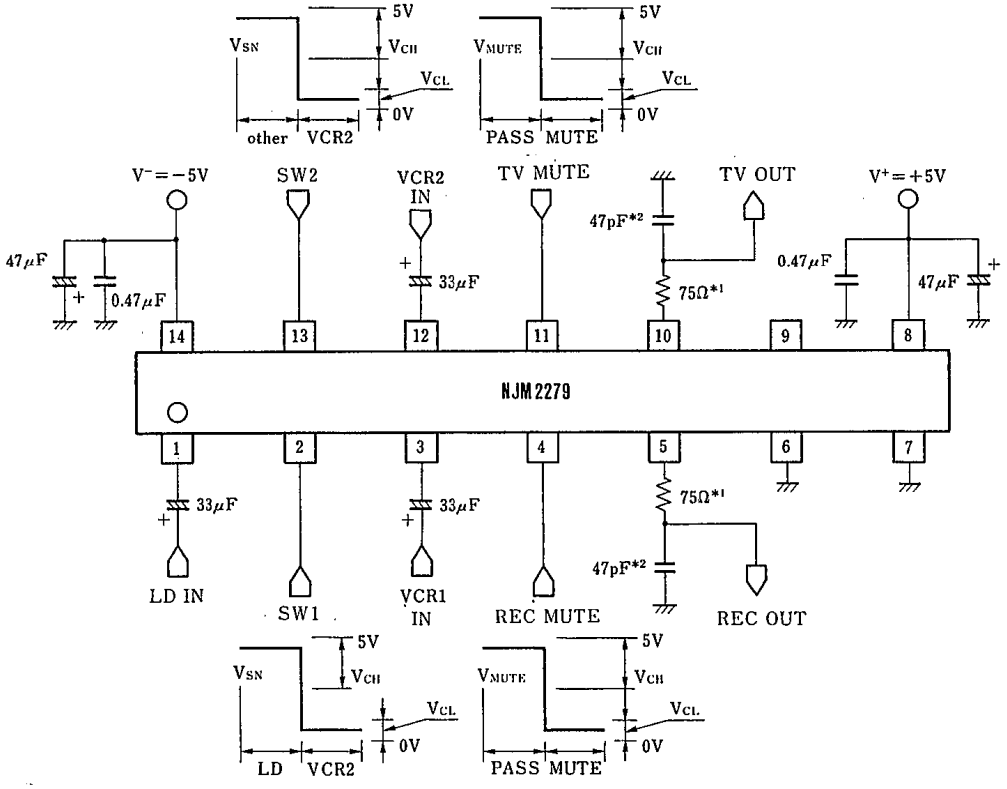
PARAMETER	SYMBOL	UNIT	INPUT TERMINAL	TEST TERMINAL	TEST CONDITION
Operating Current	I_{CC}	mA	—	8 pin	V_{in}1~3=0V, SW1/2・MUTE1/2=V_{CL}
	I_{EE}	mA	—	14 pin	〃
Voltage Gain	Gv	dB	1, 3, 12 pin	5, 10 pin	MUTE1/2=V_{CL}
Freguency Characteristic	Gf	dB	1, 3, 12 pin	5, 10 pin	〃
Differential Gain	DG	%	1, 3, 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_{in}1~3=0V
Offset output Voltage 2	V_{OS2}	mV	—	5, 10 pin	V_{in}1~3=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)

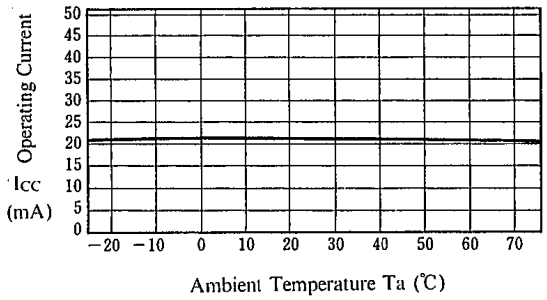
CONTROL SIGNAL				OUTPUT	
SW 1 (2 pin)	SW 2 (13pin)	MUTE 1 (11pin)	MUTE 2 (4 pin)	Vout 1 (10pin)	Vout 2 (5 pin)
X	X	L	L	GND	GND
X	X	L	H	GND	OUT PUT
X	X	H	L	OUT PUT	GND
L	L	H	H	V_{IN} 1	V_{IN} 2
L	H	H	H	V_{IN} 2	V_{IN} 2
H	L	H	H	V_{IN} 1	V_{IN} 3
H	H	H	H	V_{IN} 3	V_{IN} 3

■ APPLICATION

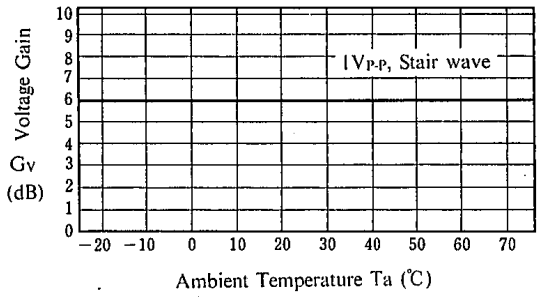


■ TYPICAL CHARACTERISTICS

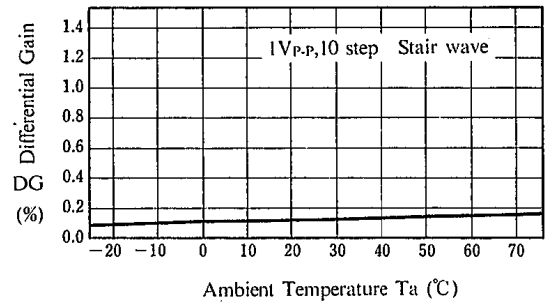
Operating Current vs. Temperature



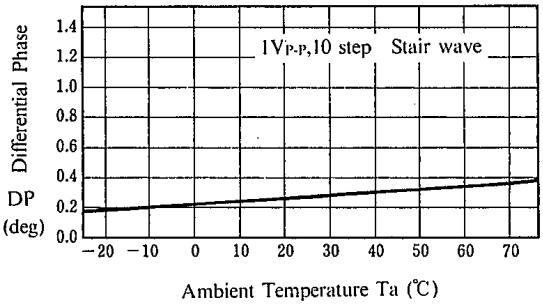
Voltage Gain vs. Temperature



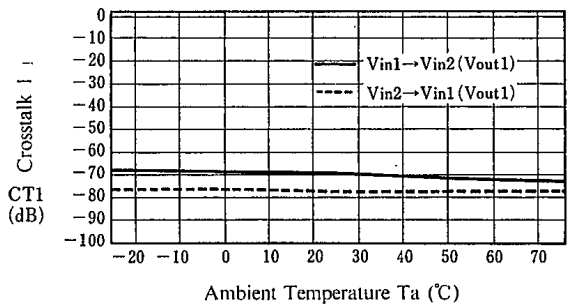
Differential Gain vs. Temperature



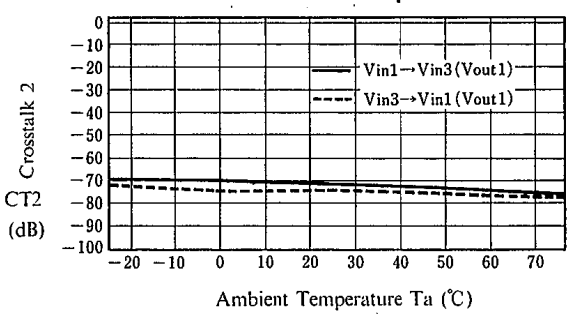
Differential Phase vs. Temperature



Crosstalk 1 vs. Temperature

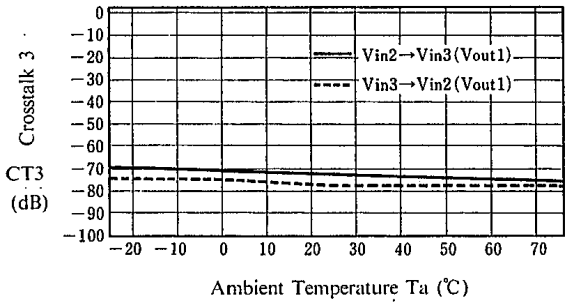


Crosstalk 2 vs. Temperature

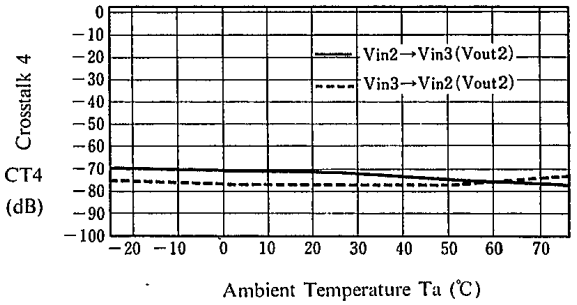


■ TYPICAL CHARACTERISTICS

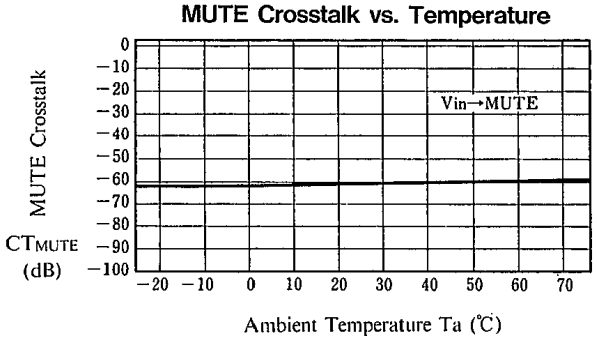
Crosstalk 3 vs. Temperature



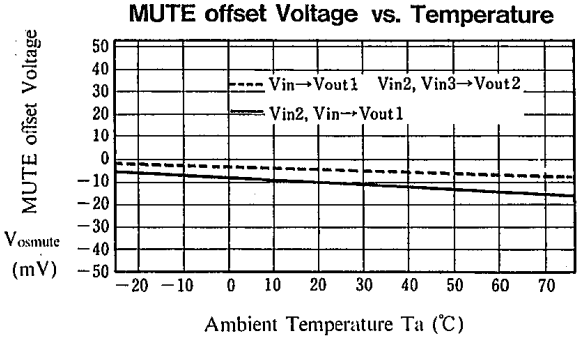
Crosstalk 4 vs. Temperature



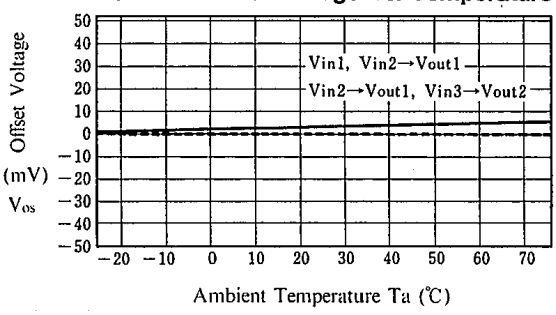
MUTE Crosstalk vs. Temperature



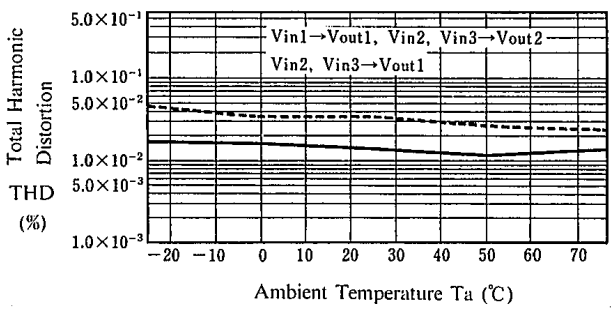
MUTE offset Voltage vs. Temperature



Channel offset Voltage vs. Temperature

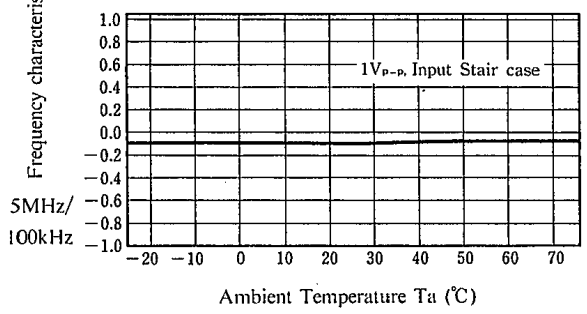


Total Harmonic Distortion vs. Temperature

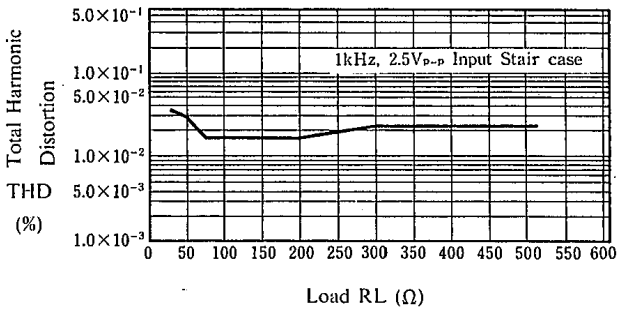


■ TYPICAL CHARACTERISTICS

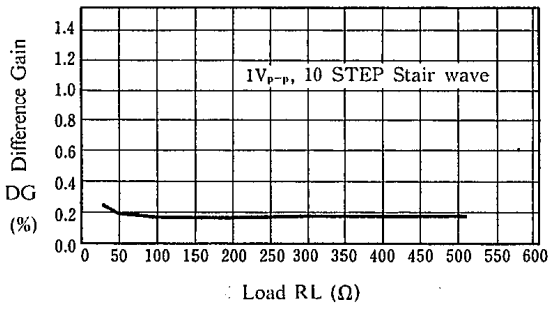
Frequency characteristic vs. Temperature



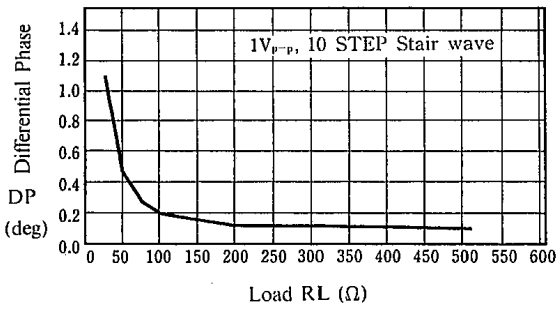
THD vs. RL



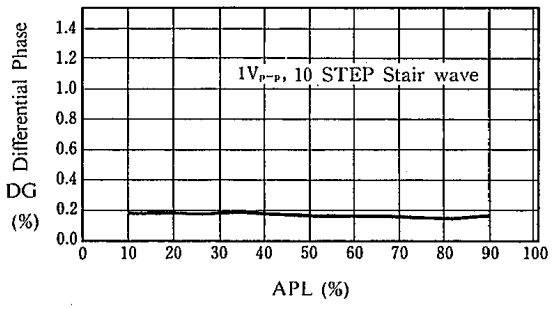
Differential Gain vs. RL



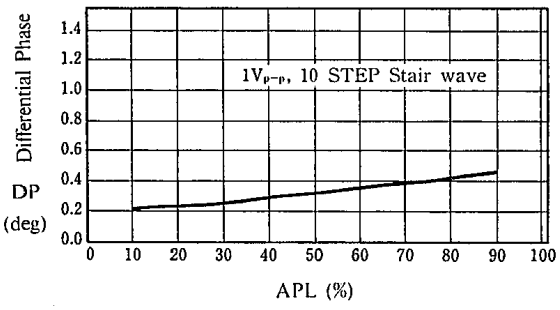
Differential Phase vs. RL



Differential Phase vs. APL

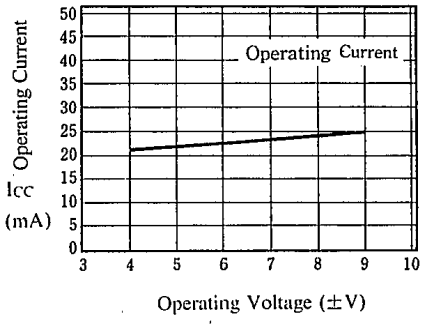


Differential Phase vs. APL

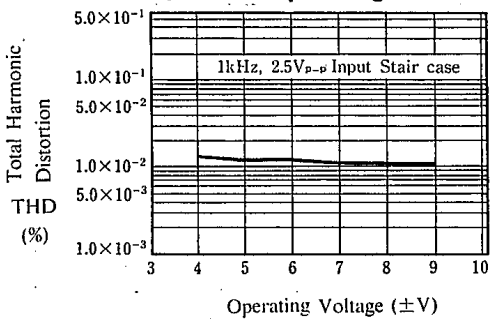


■ TYPICAL CHARACTERISTICS

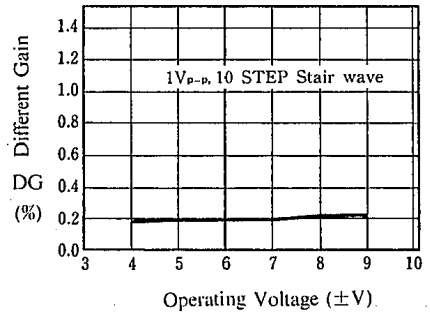
Operating Current vs. Operating Voltage



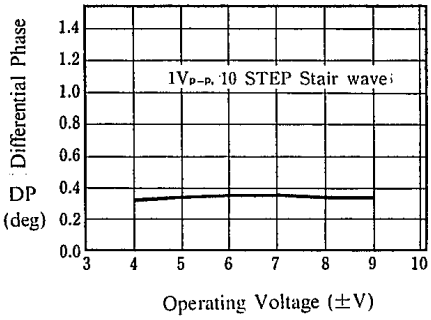
THD vs. Operating Voltsge



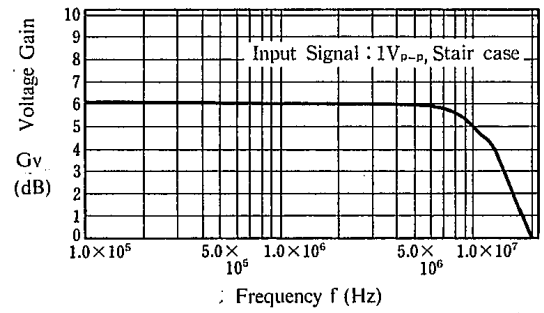
Different Gain vs. Operating Voltage



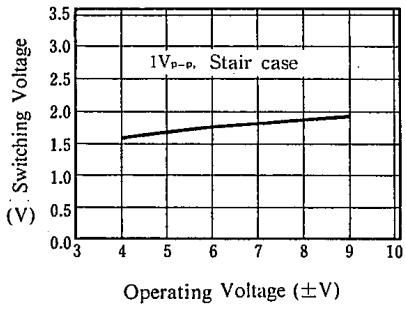
Differential Phase vs. Operating Voltage



Voltage Gain vs. Frequency



Switching Voltage vs. Operating Voltage



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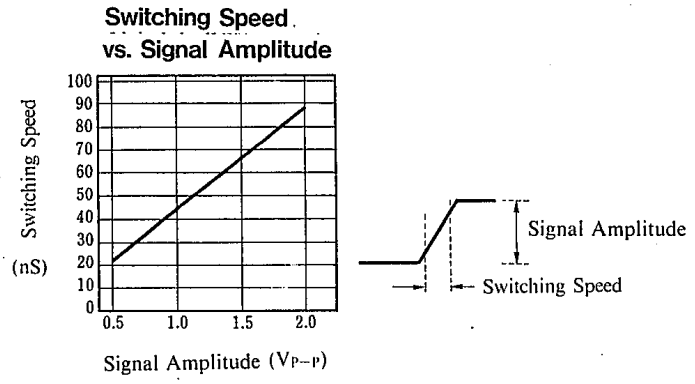
■ TYPICAL CHARACTERISTICS



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MEMO