

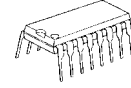
## 5-INPUT 3-OUTPUT VIDEO SWITCH

### ■ GENERAL DESCRIPTION

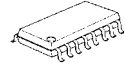
The **NJM2595** is a 5-input 3-output video switch. Its switches select one from five signals received from VTR,TV,DVD, TV-GAME and others.

The NJM2595 is designed for audio items, such as AV amplifier and others.

### ■ PACKAGE OUTLINE



**NJM2595D**

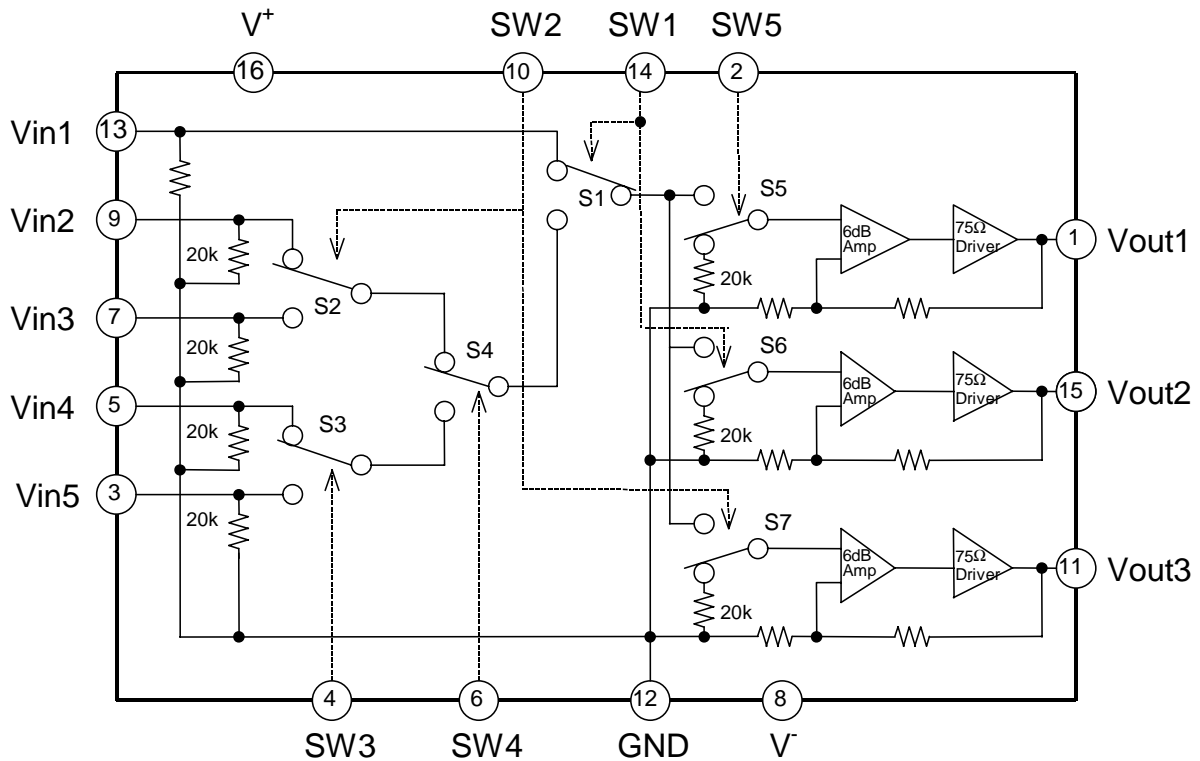


**NJM2595M**

### ■ FEATURES

- 5-input 3-output
- Operating Voltage       $\pm 4.0$  to  $\pm 6.5V$
- Operating current       $\pm 15mA$ typ. at  $V_{CC}=\pm 5V$
- Crosstalk                 $-65dB$ typ.
- Internal 6dB Amplifier
- Internal 75Ω Driver
- Bipolar Technology
- Package Outline        DIP16,DMP16

### ■ PIN CONFIGURATION and BLOCK DIAGRAM



# NJM2595

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## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+/-</sup>	±7.0	V
Power Dissipation	P <sub>D</sub>	(DIP16) 700 (DMP16) 350	mW
Operating Temperature Range	T <sub>opr</sub>	-40 to +85	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +125	°C

## ■ ELECTRICAL CHARACTERISTICS (V<sup>+</sup>/V<sup>-</sup>=±5V, R<sub>L</sub>=150Ω, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Positive Operating Current	I <sub>cc</sub>	No signal	-	15	22	mA
Negative Operating Current	I <sub>ee</sub>	No signal	-22	-15	-	mA
Voltage Gain	G <sub>v</sub>	V <sub>in</sub> =1.0V <sub>pp</sub> , f=100kHz	6.0	6.3	6.8	dB
Frequency Characteristic	G <sub>f</sub>	V <sub>in</sub> =1.0V <sub>pp</sub> , f=5MHz/100kHz	-1.0	0.0	+1.0	dB
Differential Gain	DG	V <sub>in</sub> =1.0V <sub>pp</sub> , Typical stair-case signal	-	0.2	-	%
Differential Phase	DP	V <sub>in</sub> =1.0V <sub>pp</sub> , Typical stair-case signal	-	0.2	-	deg
Output Offset Voltage 1	V <sub>os1</sub>	No signal, between Vin2 and Vin3	-40	0.0	+40	mV
Output Offset Voltage 2	V <sub>os2</sub>	No signal, between Vin1 and Vin2, between Vin1 and Vin3	-60	0.0	+60	
Between Input Crosstalk	CT	V <sub>in</sub> =1.0V <sub>pp</sub> , f=4.43MHz, V <sub>o</sub> /V <sub>in</sub>	-	-65	-	dB
Crosstalk at Mute	CT <sub>m</sub>	V <sub>in</sub> =1.0V <sub>pp</sub> , f=4.43MHz, V <sub>o</sub> /V <sub>in</sub>	-	-55	-	dB
Total Harmonic Distortion	THD	V <sub>in</sub> =1.25V <sub>pp</sub> , f=1kHz	-	0.1	-	%
Switch Select Voltage at High	V <sub>ch</sub>		2.0	-	V <sup>+</sup>	V
Switch Select Voltage at Low	V <sub>cl</sub>		0	-	0.8	
Input Impedance	R <sub>in</sub>		-	20	-	KΩ

## ■ Control Signal vs. Output Signal (L=V<sub>CL</sub>, H=V<sub>CH</sub>, X=L or H)

SW1	SW2	SW3	SW4	SW5	V <sub>out1</sub>	V <sub>out2</sub>	V <sub>out3</sub>
L	H	X	X	H	V <sub>in1</sub>	MUTE	V <sub>in1</sub>
	L			V <sub>in1</sub>	MUTE	MUTE	
	H			MUTE	MUTE	V <sub>in1</sub>	
H	L	X	L	H	V <sub>in2</sub>	V <sub>in2</sub>	MUTE
				L	MUTE	V <sub>in2</sub>	MUTE
H	H	X	L	H	V <sub>in3</sub>	V <sub>in3</sub>	V <sub>in3</sub>
				L	MUTE	V <sub>in3</sub>	V <sub>in3</sub>
H	H	L	H	H	V <sub>in4</sub>	V <sub>in4</sub>	V <sub>in4</sub>
	H			L	MUTE	V <sub>in4</sub>	V <sub>in4</sub>
	L			H	V <sub>in4</sub>	V <sub>in4</sub>	MUTE
	L			L	MUTE	V <sub>in4</sub>	MUTE
H	H	H	H	H	V <sub>in5</sub>	V <sub>in5</sub>	V <sub>in5</sub>
	H			L	MUTE	V <sub>in5</sub>	V <sub>in5</sub>
	L			H	V <sub>in5</sub>	V <sub>in5</sub>	MUTE
	L			L	MUTE	V <sub>in5</sub>	MUTE
L	L	X	X	L	MUTE	MUTE	MUTE

## ■ EQUIVALENT CIRCUIT

PIN No.	PIN NAME	INSIDE EQUIVALENT CIRCUIT	VOLTAGE
16	V <sup>+</sup>		5V
8	V <sup>-</sup>		-5V
12	GND		-
13 9 7 5 3	Vin1 Vin2 Vin3 Vin4 Vin5		0V
1 15 11	Vout1 Vout2 Vout3		0V
4 6 2	SW3 SW4 SW5		-

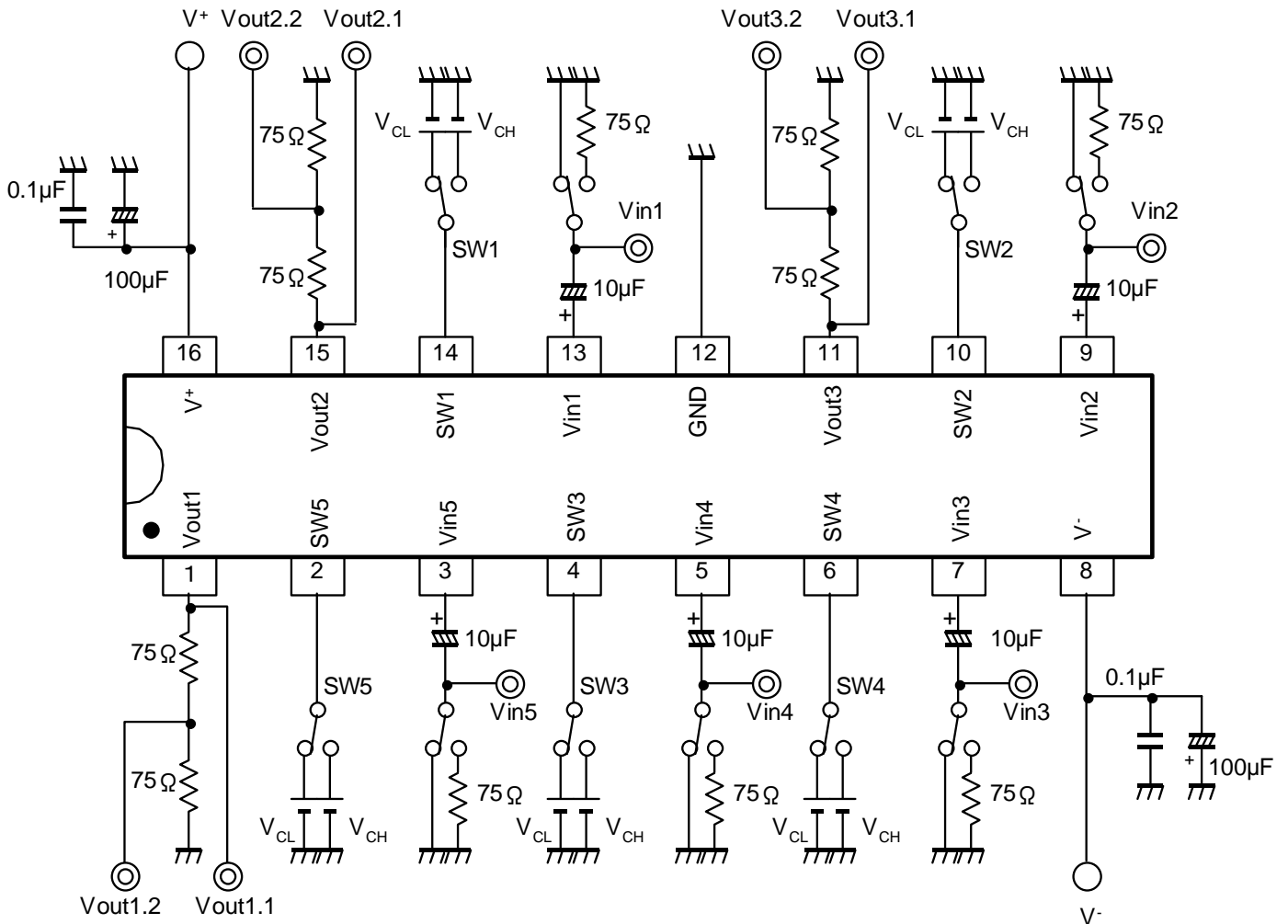
# NJM2595

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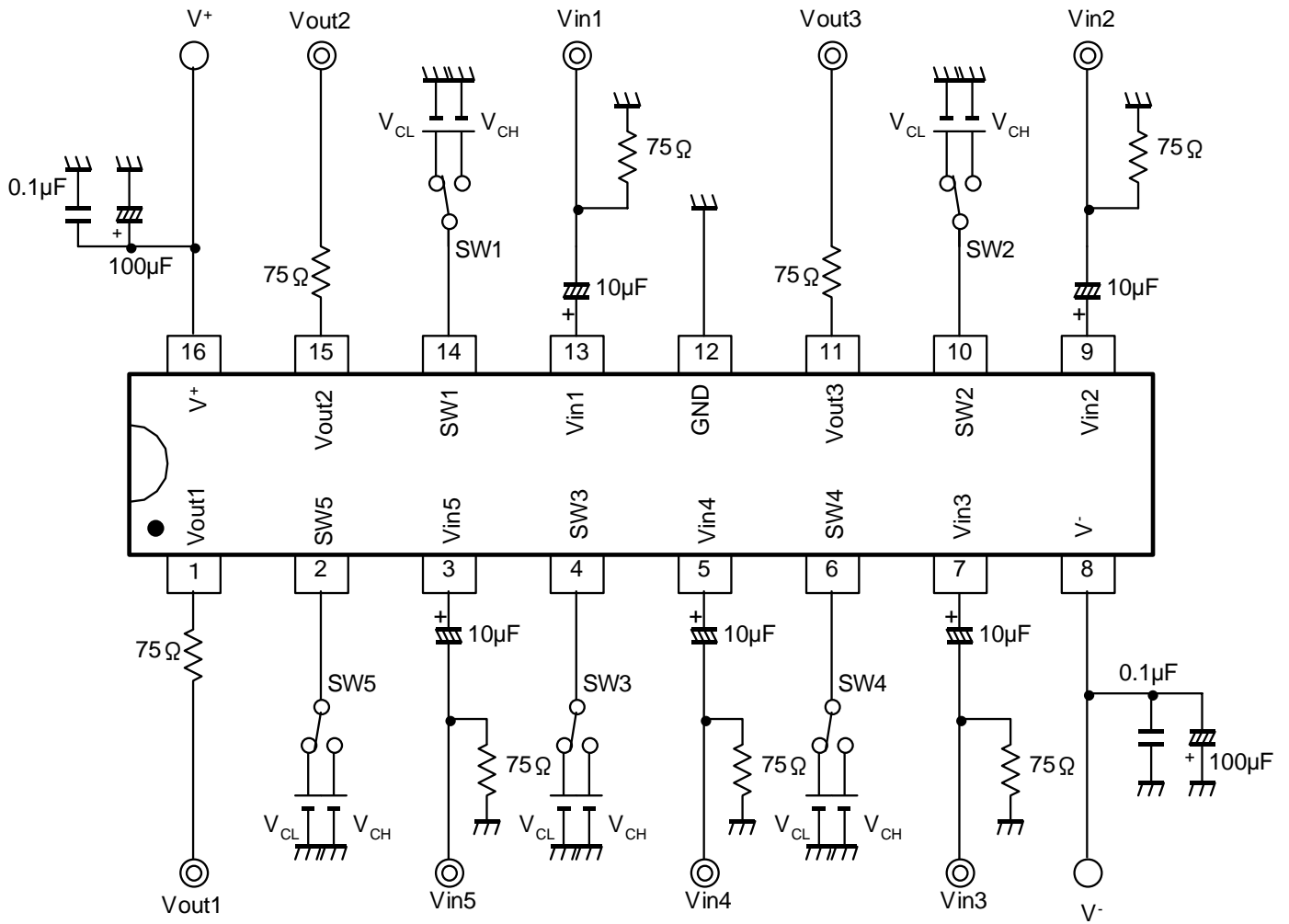
## ■ EQUIVALENT CIRCUIT

PIN No.	PIN NAME	INSIDE EQUIVALENT CIRCUIT	VOLTAGE
14 10	SW1 SW2		-

## ■ TEST CIRCUIT

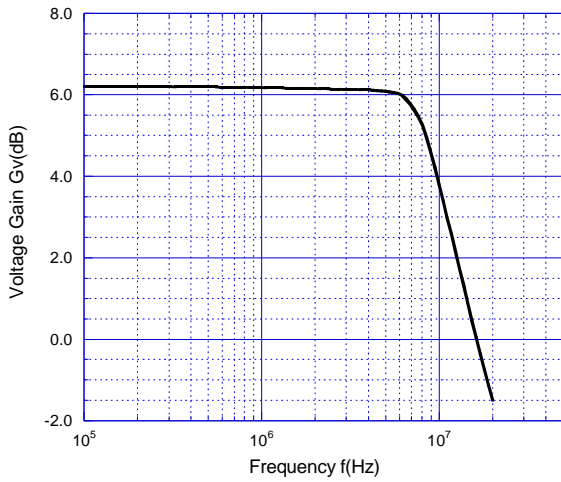


## ■ APPLICATION CIRCUIT

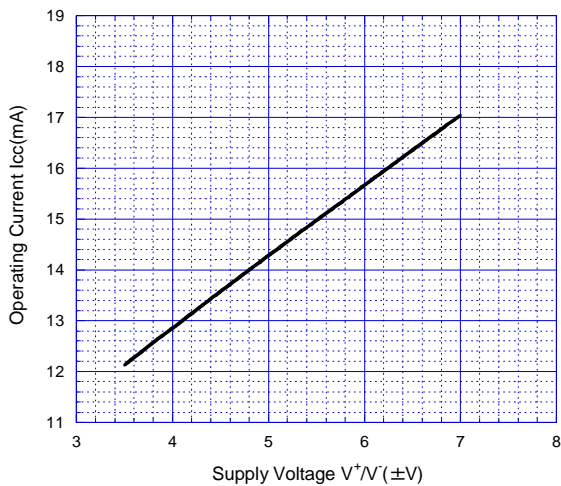


## TYPICAL CHARACTERISTICS

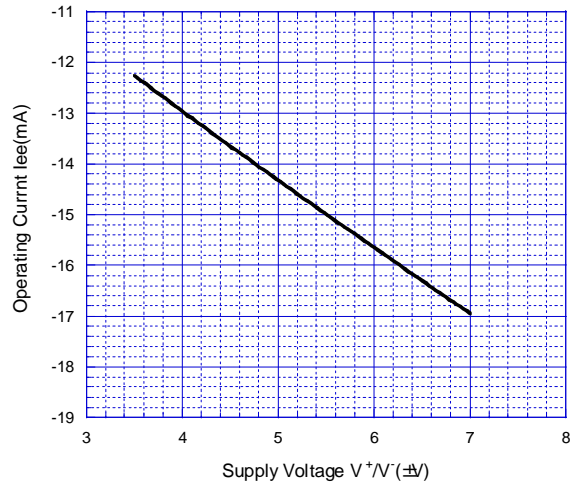
Voltage Gain vs. Frequency



Operating Current vs. Supply Voltage

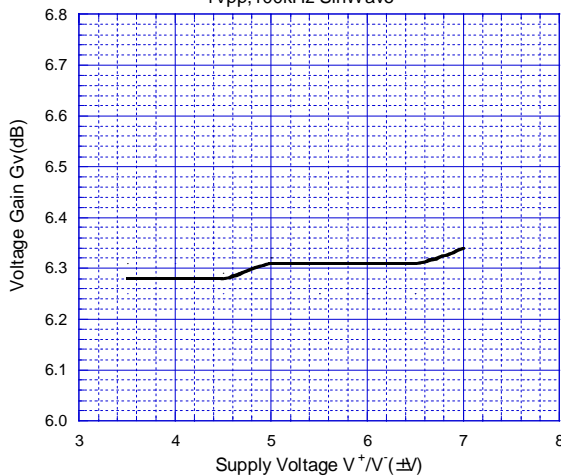


Operating Current vs. Supply Voltage



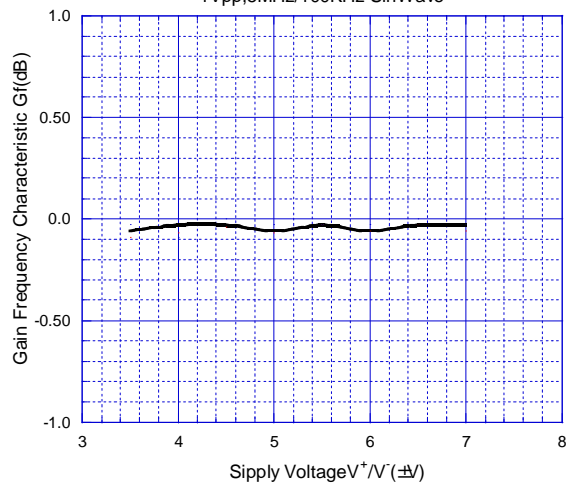
Voltage Gain vs. Supply Voltage

1Vpp, 100kHz SinWave

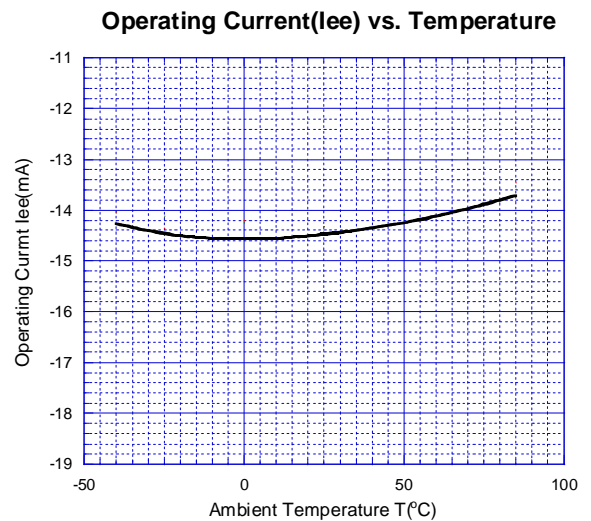
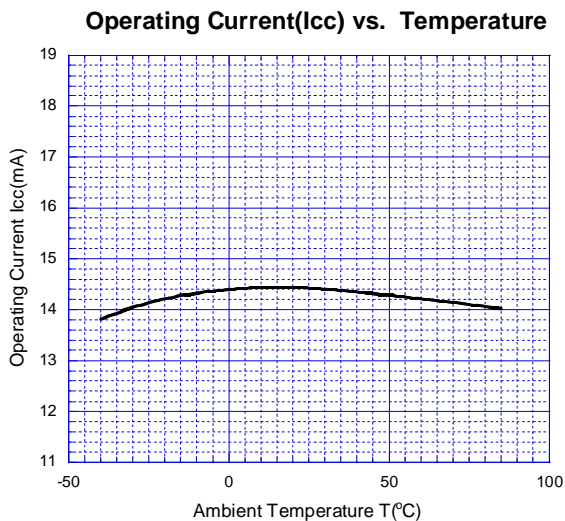
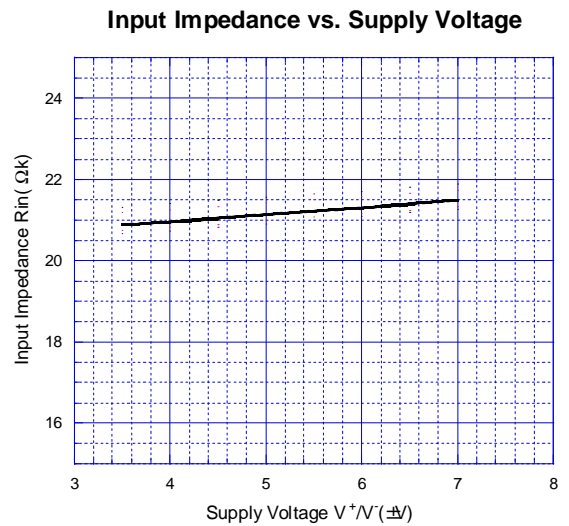
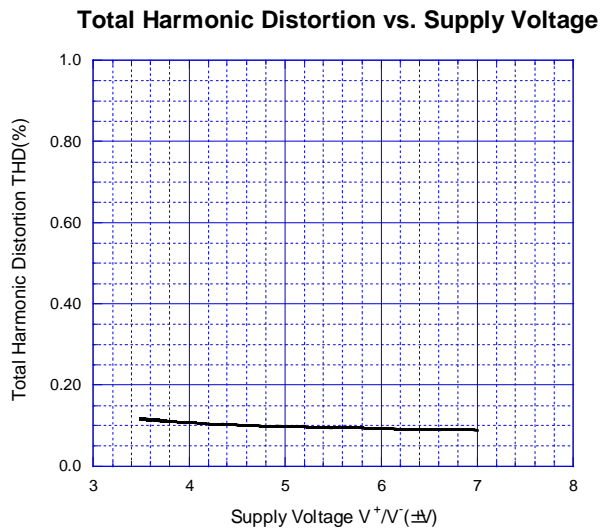
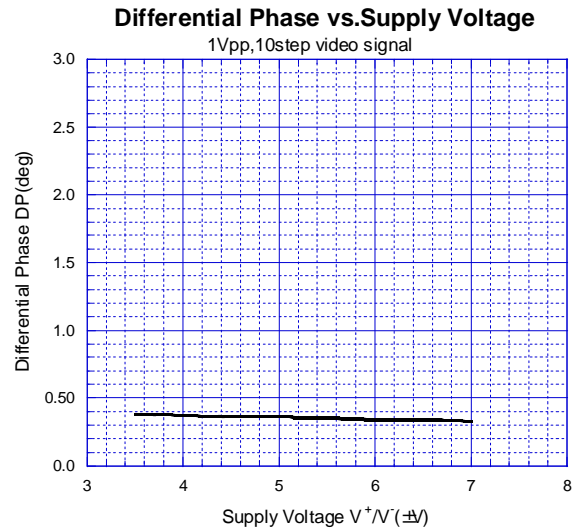
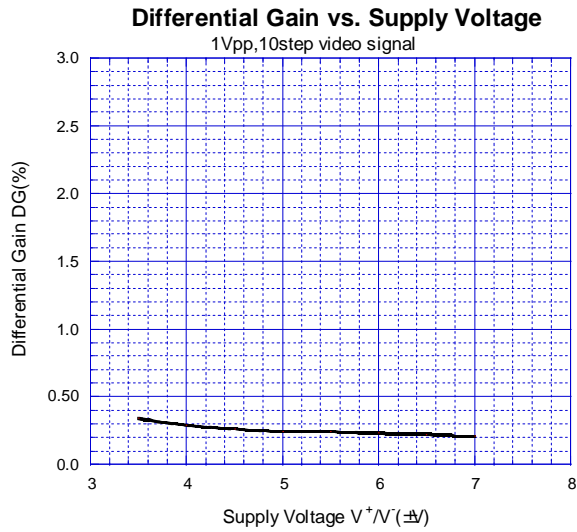


Gain Frequency Characteristic vs. Supply Voltage

1Vpp, 5MHz/100kHz SinWave



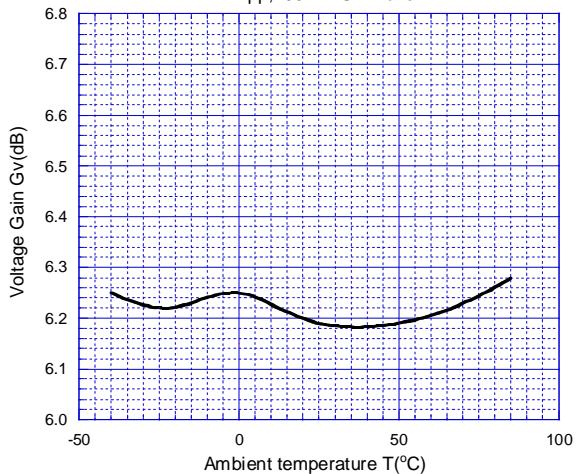
## ■ TYPICAL CHARACTERISTICS



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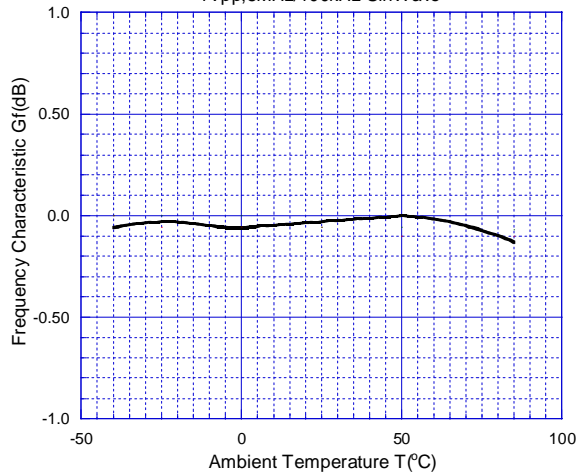
**Voltage Gain vs. Temperature**

1Vpp, 100kHz SinWave



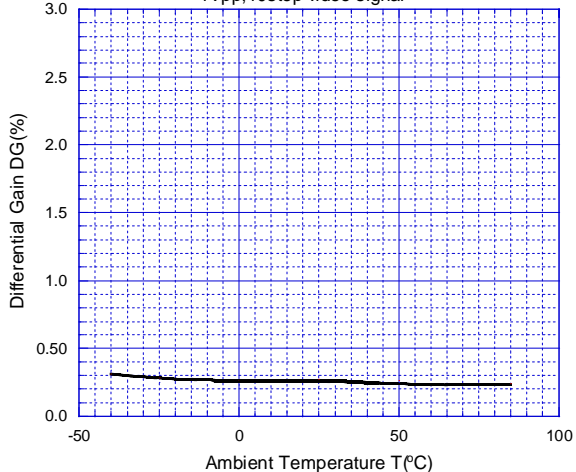
**Gain Frequency Characteristic vs. Temperature**

1Vpp, 5MHz/100kHz SinWave



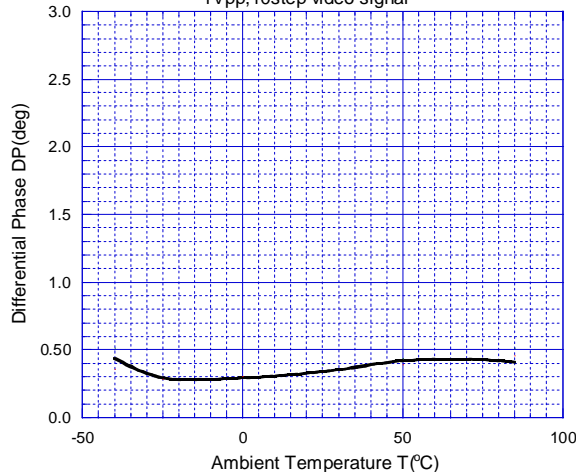
**Differential Gain vs. Temperature**

1Vpp, 10step video signal

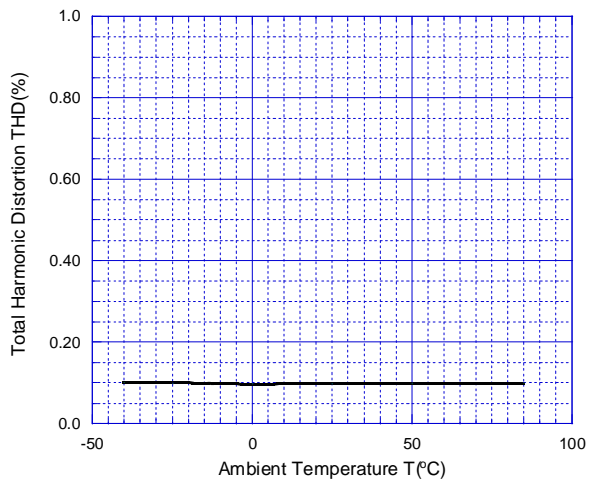


**Differential Phase vs. Temperature**

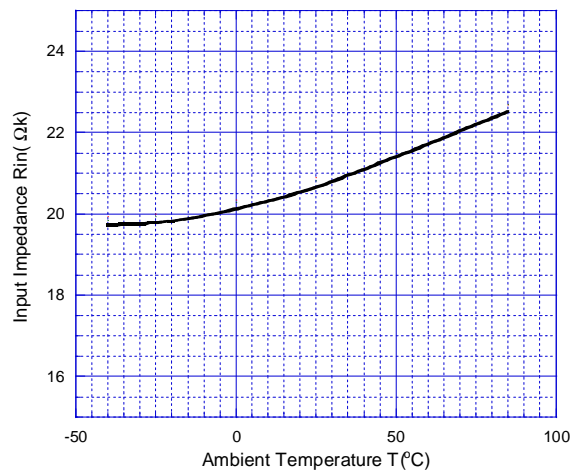
1Vpp, 10step video signal



**Total Harmonic Distortion vs. Temperature**



**Input Impedance vs. Temperature**





**[CAUTION]**

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