

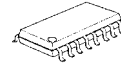
5-INPUT 3-OUTPUT VIDEO SWITCH

■ 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

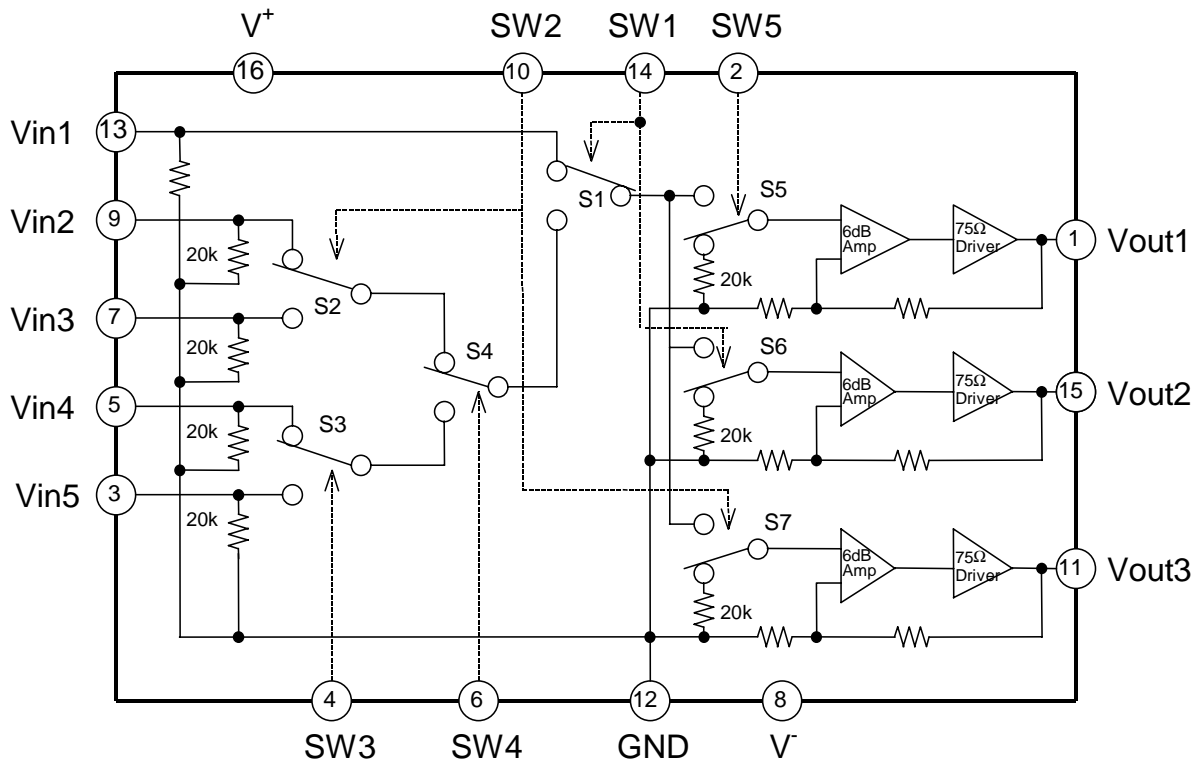


NJM2595M

■ FEATURES

- 5-input 3-output
- Operating Voltage ± 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 DMP16

■ PIN CONFIGURATION and BLOCK DIAGRAM



NJM2595

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ^{+/-}	±7.0	V
Power Dissipation	P _D	350	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

■ ELECTRICAL CHARACTERISTICS (V⁺/V⁻=±5V, R_L=150Ω, Ta=25°C)

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

■ Control Signal vs. Output Signal (L=V_{CL}, H=V_{CH}, X=L or H)

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
L	H	X	X	H	Vin1	MUTE	Vin1
	L			Vin1	MUTE	MUTE	
	H			MUTE	MUTE	Vin1	
H	L	X	L	H	Vin2	Vin2	MUTE
				L	MUTE	Vin2	MUTE
H	H	X	L	H	Vin3	Vin3	Vin3
				L	MUTE	Vin3	Vin3
H	H	L	H	H	Vin4	Vin4	Vin4
	H			L	MUTE	Vin4	Vin4
	L			H	Vin4	Vin4	MUTE
	L			L	MUTE	Vin4	MUTE
H	H	H	H	H	Vin5	Vin5	Vin5
	H			L	MUTE	Vin5	Vin5
	L			H	Vin5	Vin5	MUTE
	L			L	MUTE	Vin5	MUTE
L	L	X	X	L	MUTE	MUTE	MUTE

■ EQUIVALENT CIRCUIT

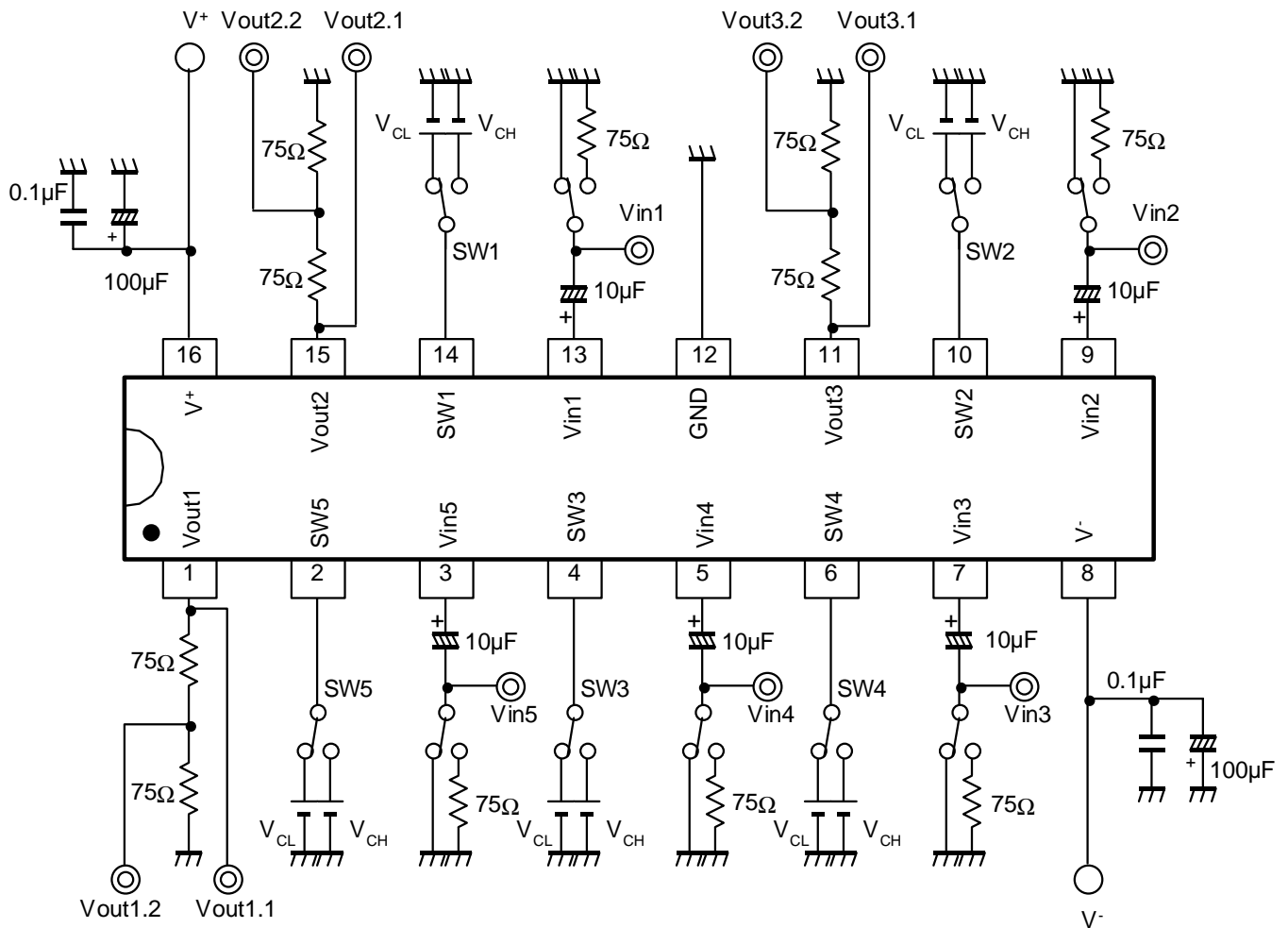
PIN No.	PIN NAME	INSIDE EQUIVALENT CIRCUIT	VOLTAGE
16	V ⁺		5V
8	V ⁻		-5V
12	GND		-
13 9 7 5 3	Vin1 Vin2 Vin3 Vin4 Vin5		0V
1 15 11	Vout1 Vout2 Vout3		0V
4 6 2	SW3 SW4 SW5		-

NJM2595

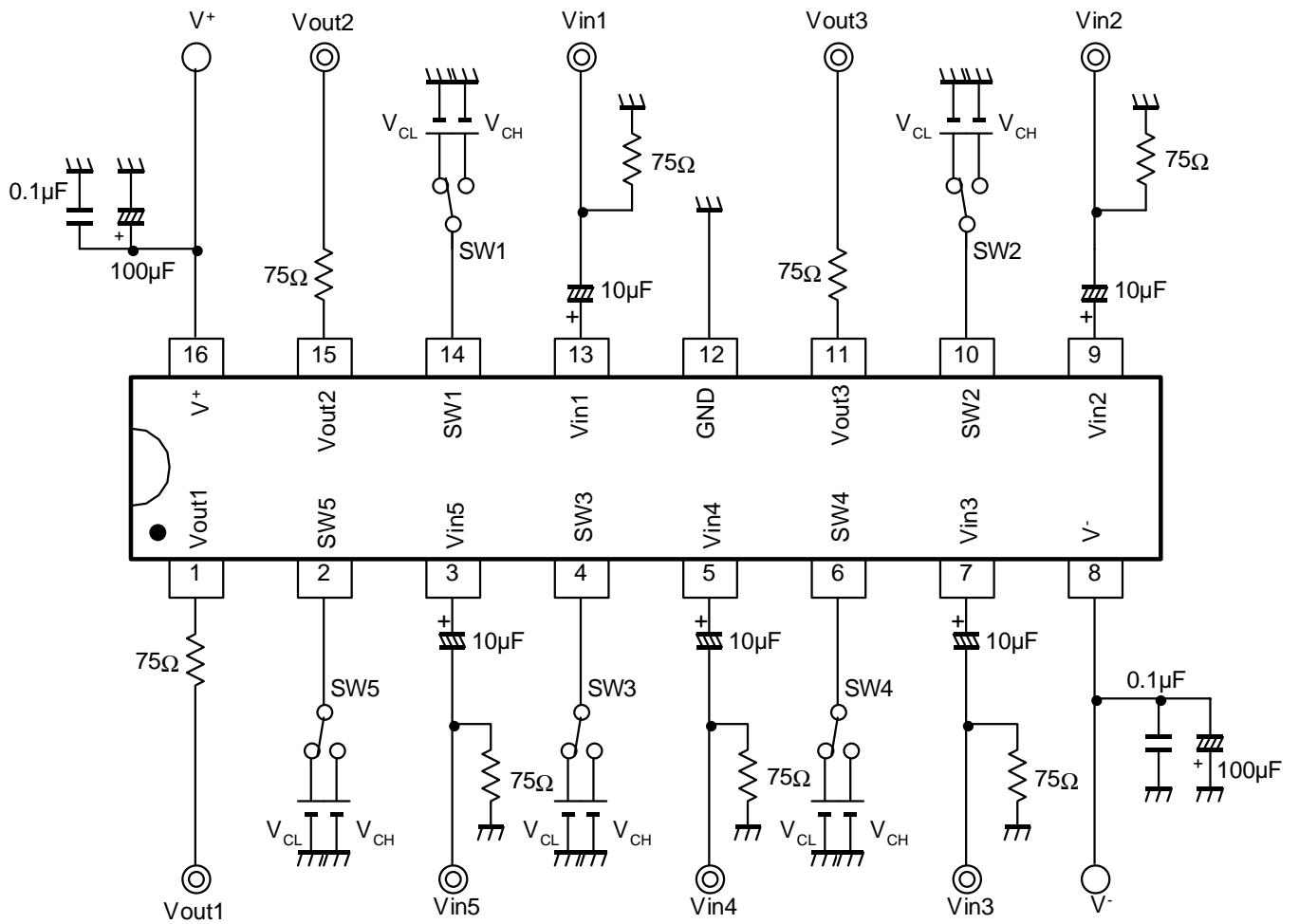
■ EQUIVALENT CIRCUIT

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

■ TEST CIRCUIT

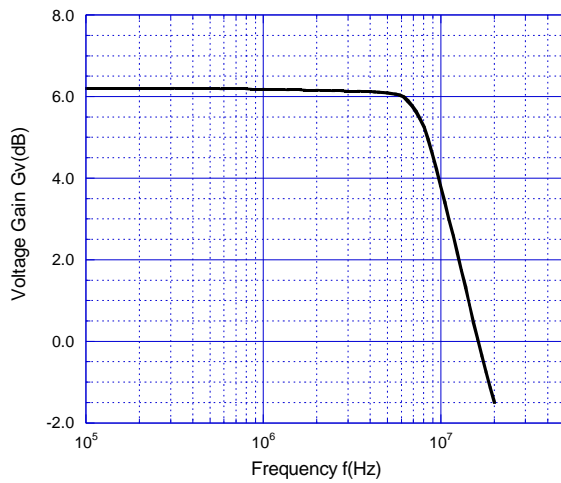


APPLICATION CIRCUIT

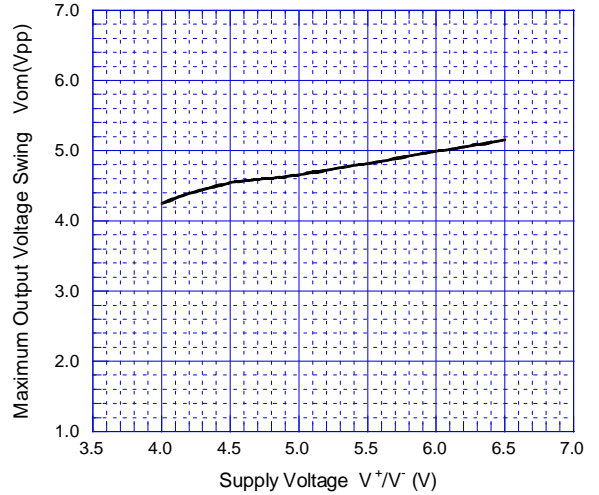


■ TYPICAL CHARACTERISTICS

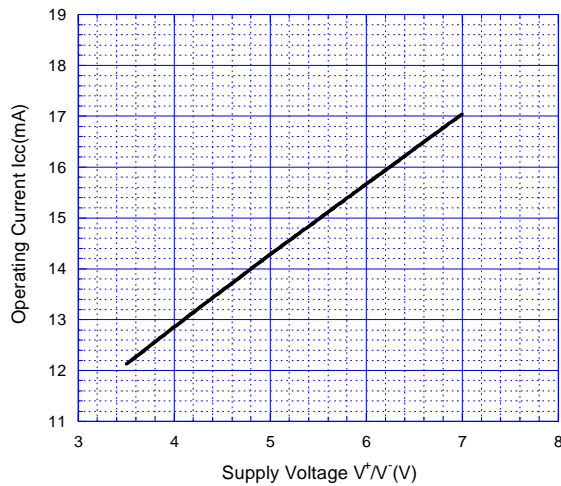
Voltage Gain vs. Frequency



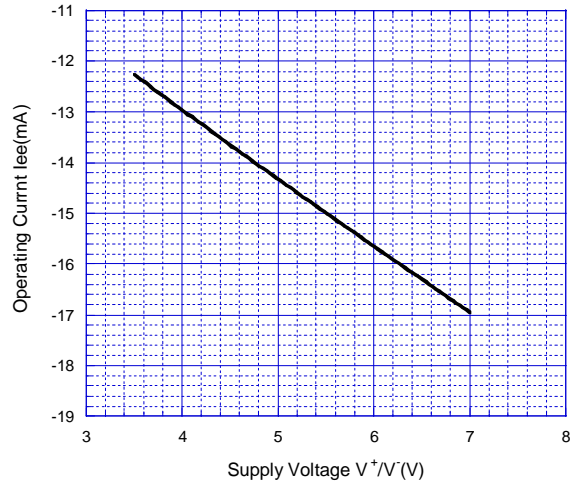
Maximum Output Voltage Swing vs. Supply Voltage
Total Harmonic Distortion=1%, 100kHz



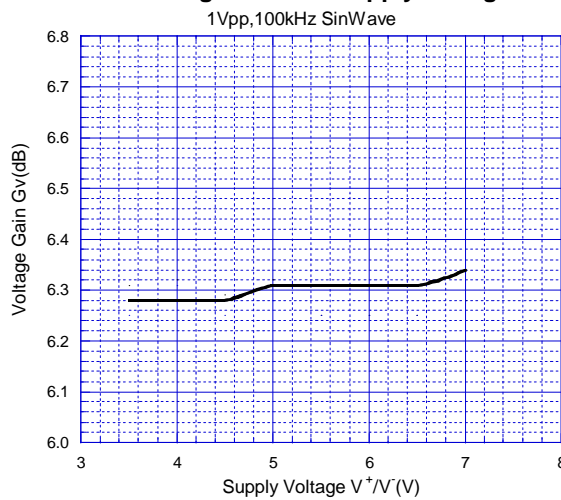
Operating Current vs. Supply Voltage



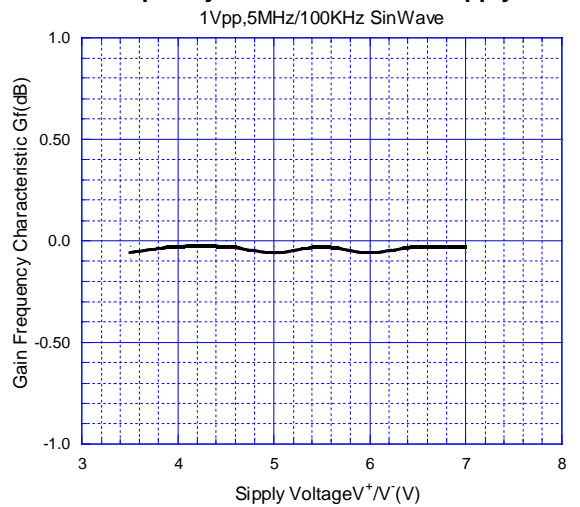
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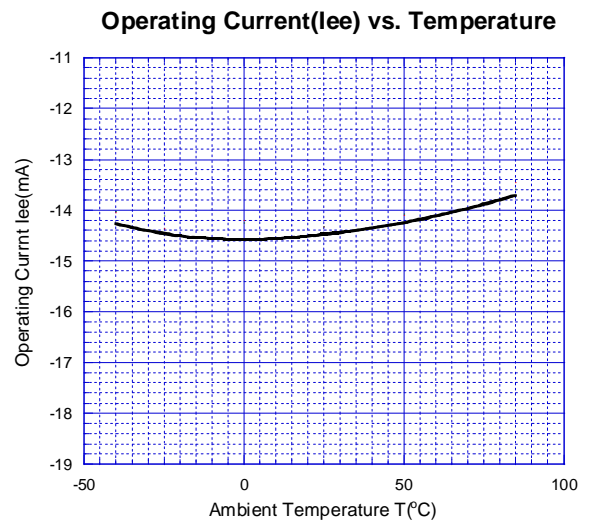
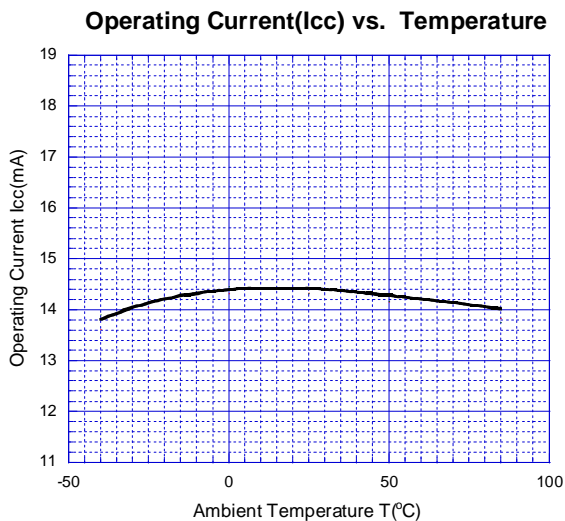
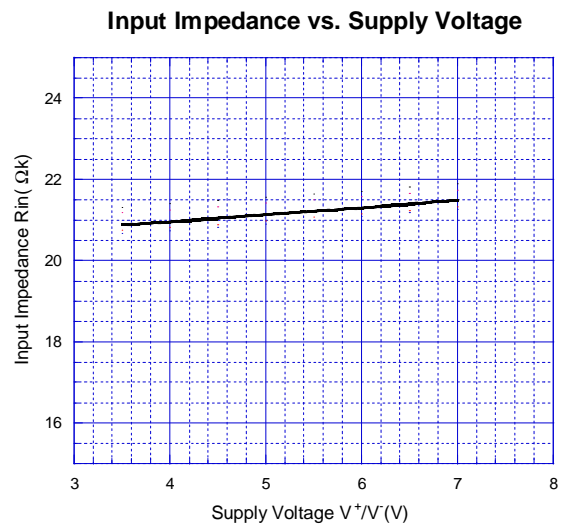
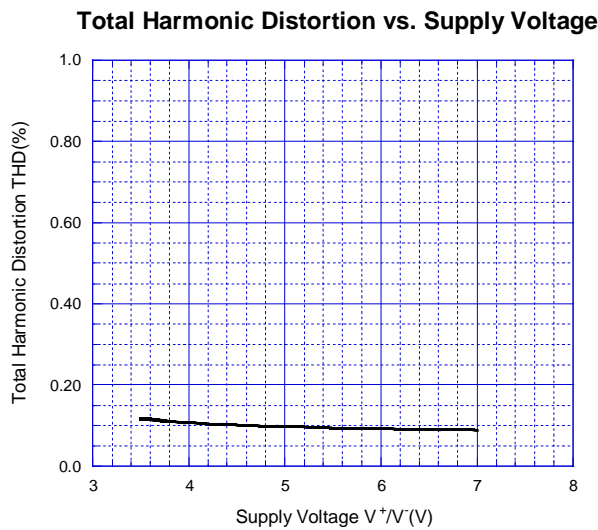
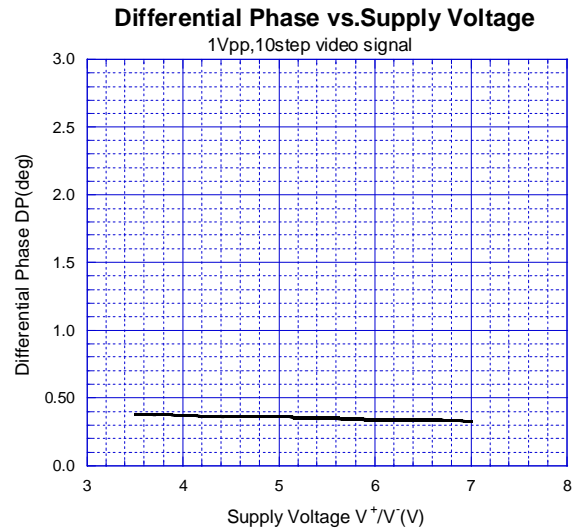
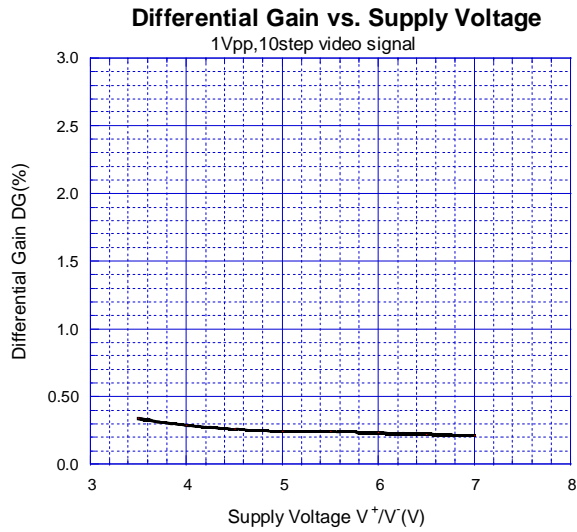
Voltage Gain vs. Supply Voltage



Gain Frequency Characteristic vs. Supply Voltage



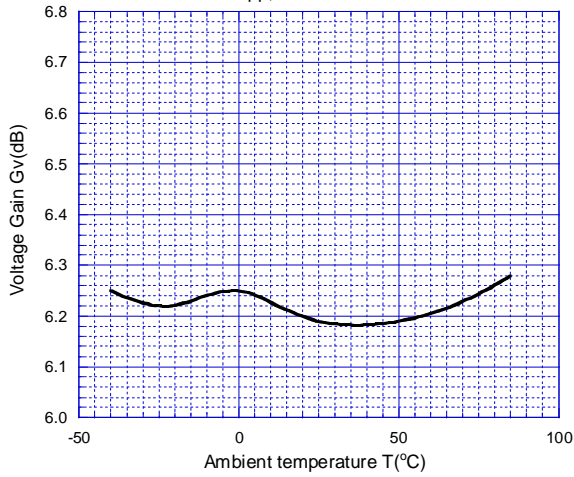
■ TYPICAL CHARACTERISTICS



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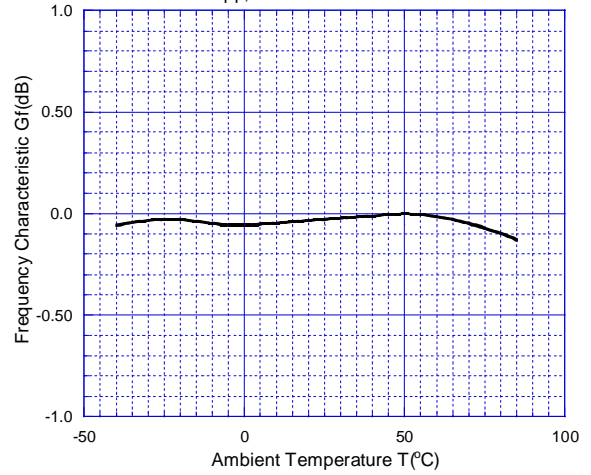
Voltage Gain vs. Temperature

1Vpp, 100kHz SinWave



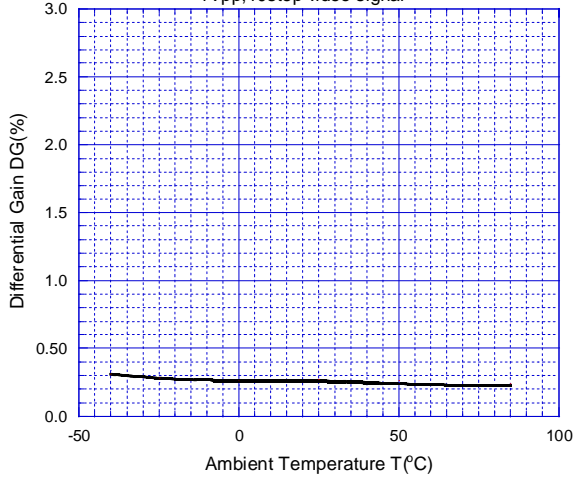
Gain Frequency Characteristic vs. Temperature

1Vpp, 5MHz/100kHz SinWave



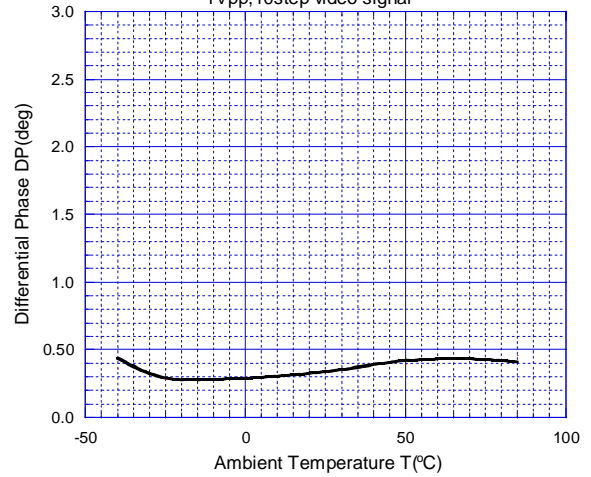
Differential Gain vs. Temperature

1Vpp, 10step video signal

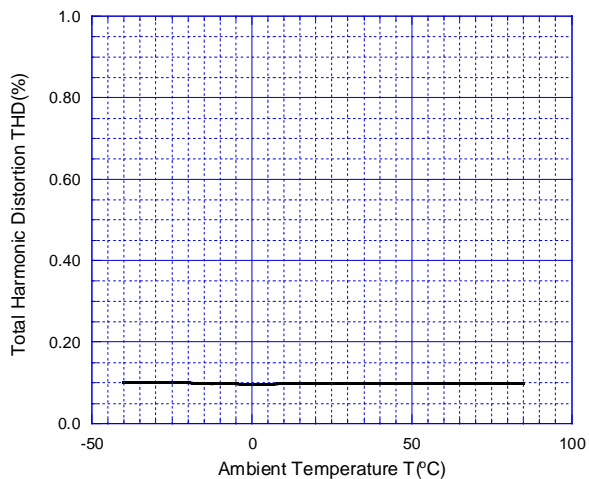


Differential Phase vs. Temperature

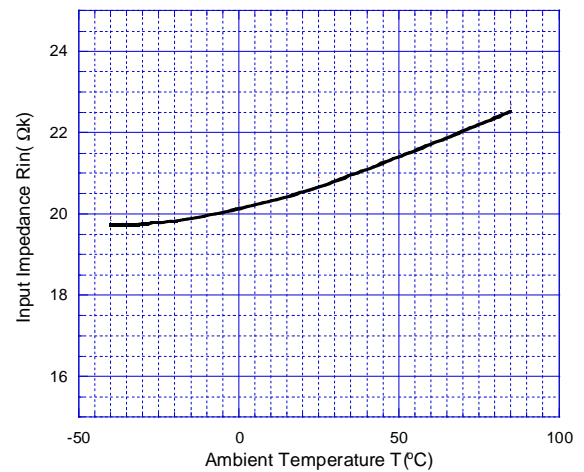
1Vpp, 10step video signal



Total Harmonic Distortion vs. Temperature



Input Impedance vs. Temperature



[CAUTION]

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