

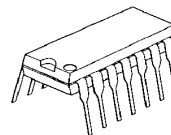
DUAL SUPPLY WIDE BAND 3ch VIDEO AMPLIFIER

■ GENERAL DESCRIPTION

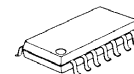
The **NJM2581** is a dual supply voltage wide band 3ch video amplifier. It is suitable for Y, Pb, and Pr signal because frequency range is 50MHz.

The **NJM2581** is suitable for Set Top Box, AV amplifier, and other high quality AV systems.

■ PACKAGE OUTLINE



NJM2581D

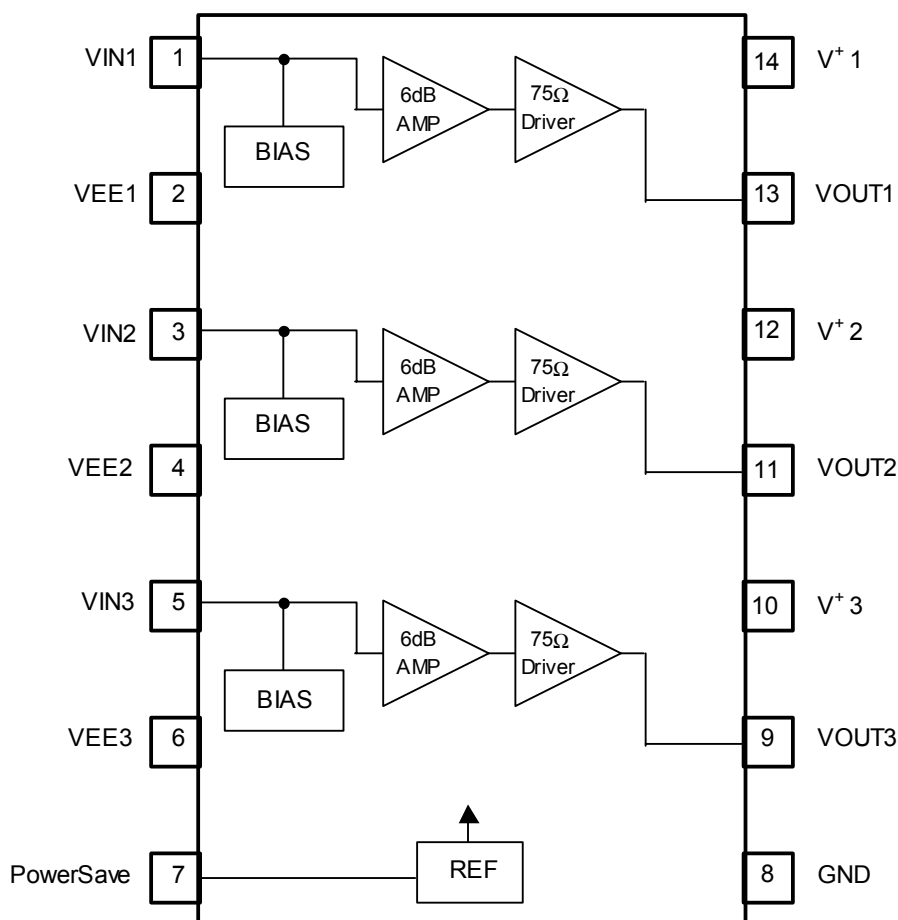


NJM2581M

■ FEATURES

- Operating Voltage ± 4.5 to $\pm 5.5V$
- Wide frequency range 50MHz at 0dB typ.
- Internal 6dB Amplifier
- Internal 75Ω Driver Circuit (2-system drive)
- Power Save Circuit
- Bipolar Technology
- Package Outline DIP14, DMP14

■ BLOCK DIAGRAM



NJM2581

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	$V^{+/-}$	±6.0	V
Power Dissipation	P_D	(DIP) 500 (DMP) 350	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

■ ELECTRICAL CHARACTERISTICS

($V^+=\pm 5.0V$, $R_L=150\Omega$, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I_{CC}	No signal	-	23.0	33.0	mA
Operating Current (Power Save)	I_{save}	No signal, Power Save	-	-	1.2	mA
Maximum Output Voltage	V_{om}	$V_{in}=1kHz$, Sin signal, THD=1%,	7.4	8.0	-	Vp-p
Voltage Gain	G_v	$V_{in}=1MHz$, 1.0Vp-p Sin signal	6.0	6.4	6.8	dB
Band Width	f		-	50	-	MHz
Frequency Characteristic	G_f	$V_{in}=50MHz / 1MHz$, 1.0Vp-p, Sin signal	-	0	-	dB
Cross talk 1	CTB1	$V_{in}=4.43MHz$, 1.0Vp-p, Sin signal	-	-60	-50	dB
Cross talk 2	CTB2	$V_{in}=50MHz$, 1.0Vp-p, Sin signal	-	-40	-	dB
Differential Gain	DG	$V_{in}=1.0Vp-p$ 10step Video signal *1	-	0.3	-	%
Differential Phase	DP	$V_{in}=1.0Vp-p$ 10step Video signal *1	-	0.3	-	deg
S/N	SN_v	$V_{in}=1.0Vp-p$, 100% White Video signal *1	-	70	-	dB
Power Save Switch Change Voltage H Level	V_{thPH}	IC Operating	2.0	-	V^+	V
Power Save Switch Change Voltage L Level	V_{thPL}	IC Waiting	0	-	0.6	V

*1: Refer to TEST CIRCUIT 2.

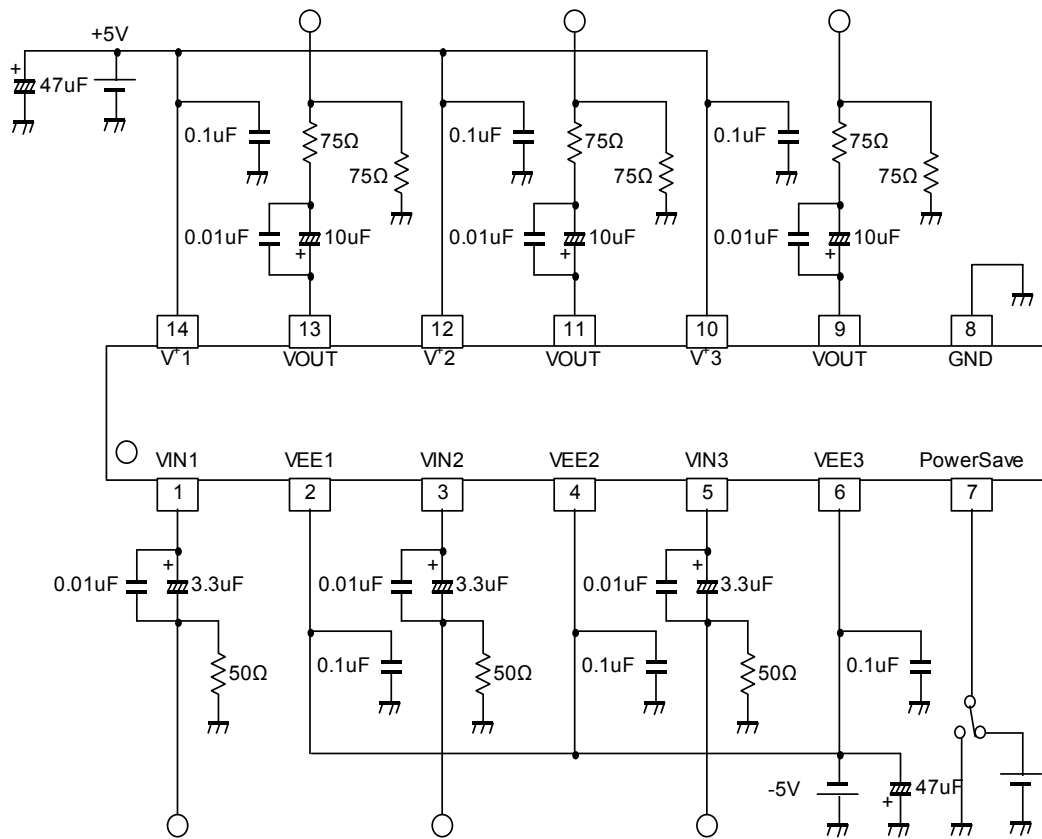
■ MODE SWITCH FUNCTION

PIN	MODE	NOTES
Power Save	H	Power Save : OFF
	L	Power Save : ON
	OPEN	Power Save : ON

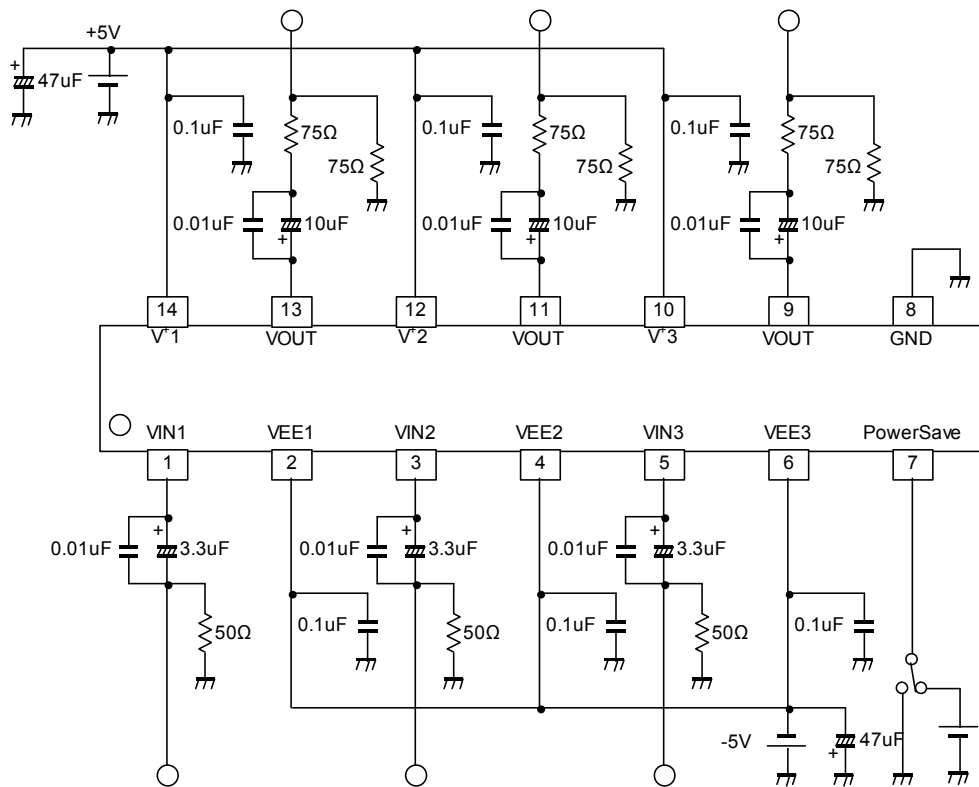
■ EQUIVALENT CIRCUIT

PIN No.	PIN NAME	FUNCTION	INSIDE EQUIVALENT CIRCUIT
1 3 5	VIN1 VIN2 VIN3	Input	
13 11 9	VOUT1 VOUT2 VOUT3	Output	
7	PowerSave	Power Save	
14 12 10	V ⁺ 1 V ⁺ 2 V ⁺ 3	V+	_____
2 4 6	VEE1 VEE2 VEE3	V-	_____
8	GND	GND	_____

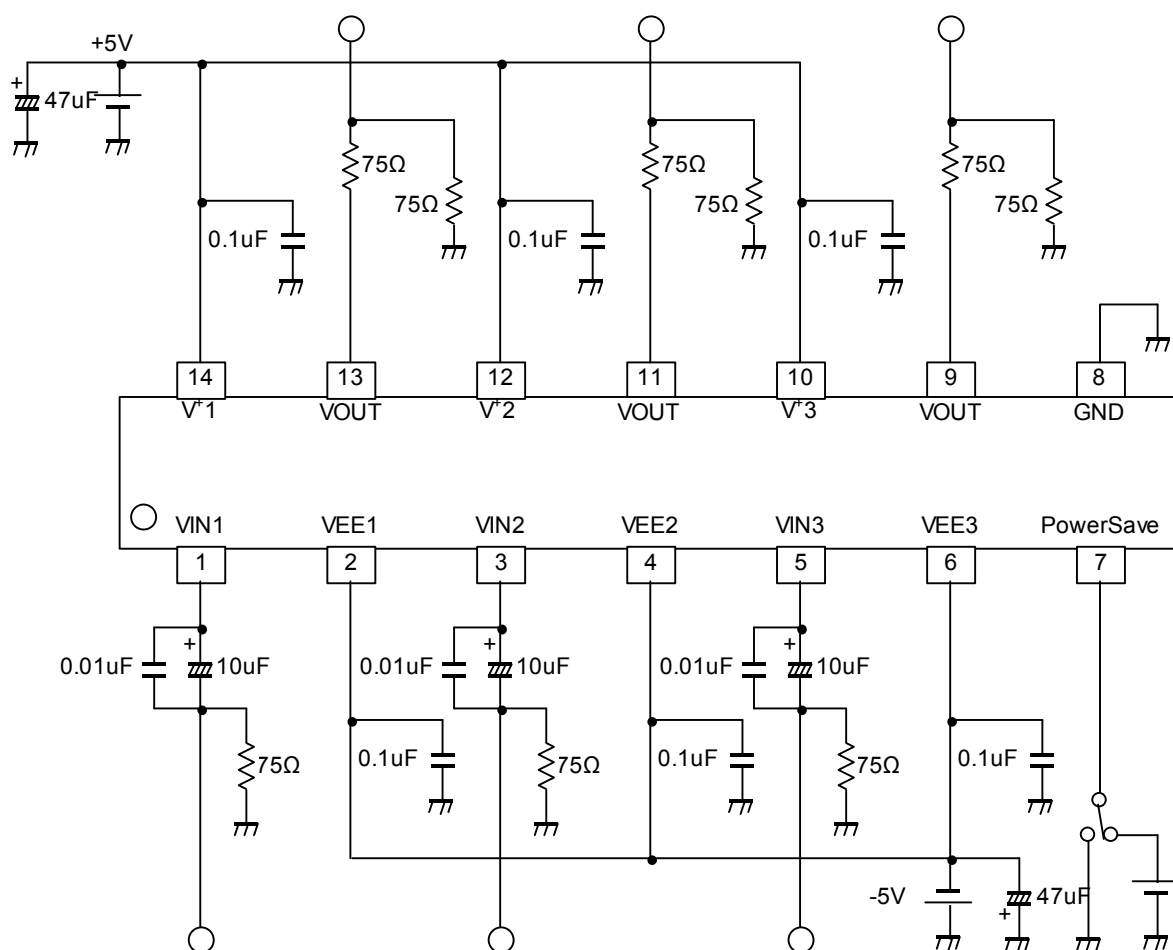
■ TEST CIRCUIT 1



■ TEST CIRCUIT 2

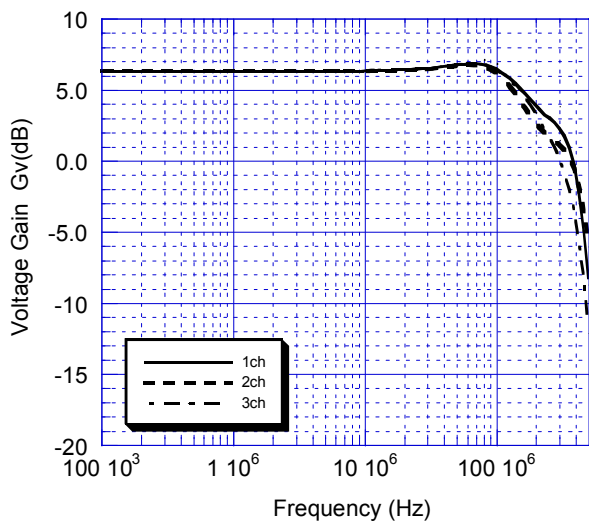


■ APPLICATION CIRCUIT

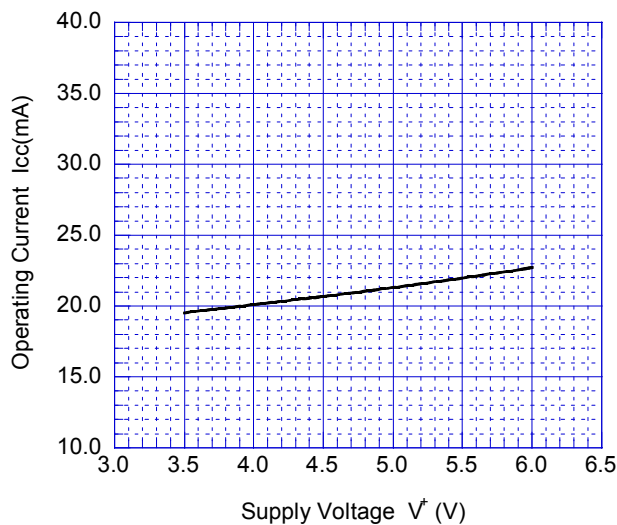


■ TYPICAL CHARACTERISTICS

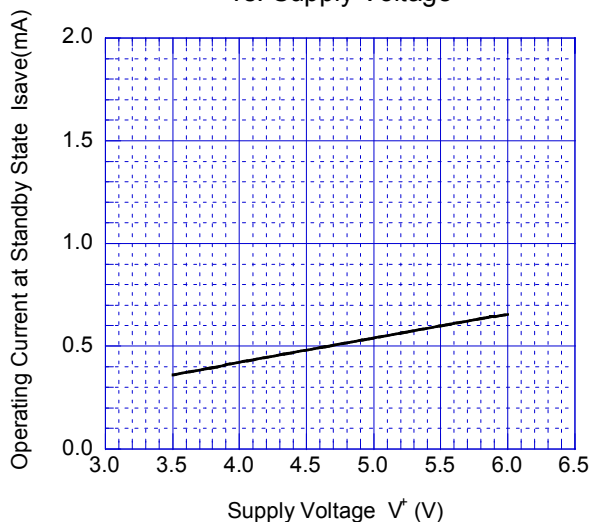
Voltage Gain vs. Frequency



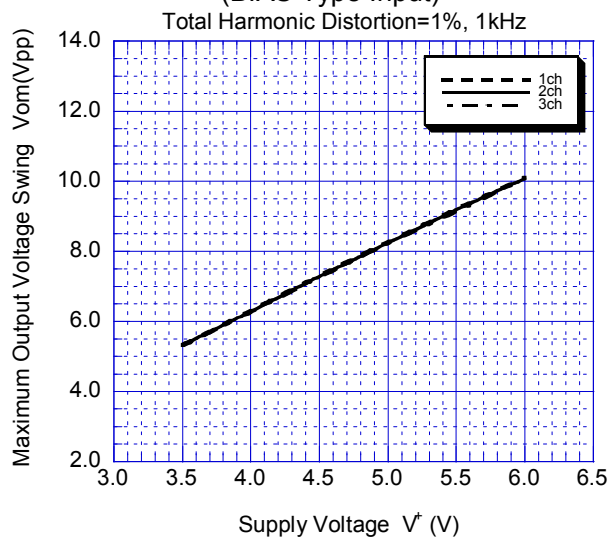
Operating Current vs. Supply Voltage



Operating Current at Standby State vs. Supply Voltage

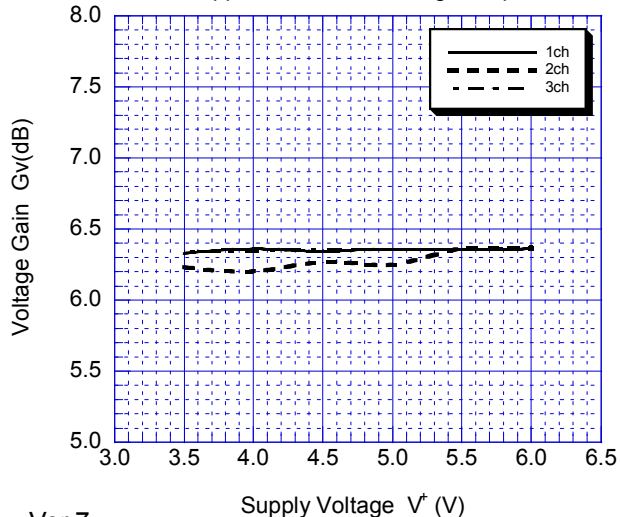


Maximum Output Voltage Swing vs. Supply Voltage
(BIAS Type Input)



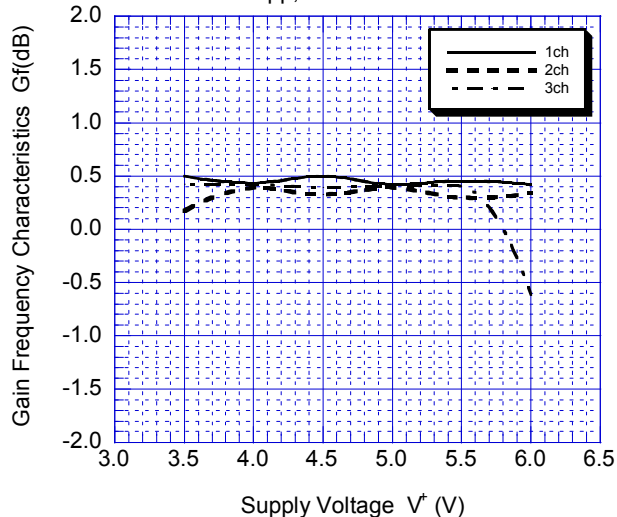
Voltage Gain vs. Supply Voltage

1Vpp, 1MHz sinewave signal input



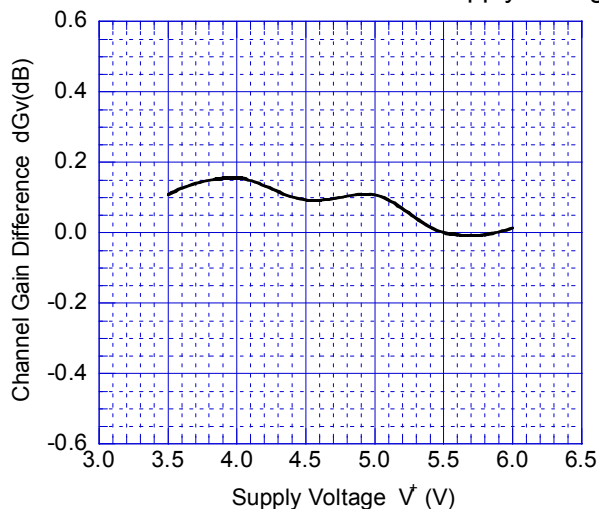
Gain Frequency Characteristics vs. Supply Voltage

1Vpp, 50MHz/1MHz



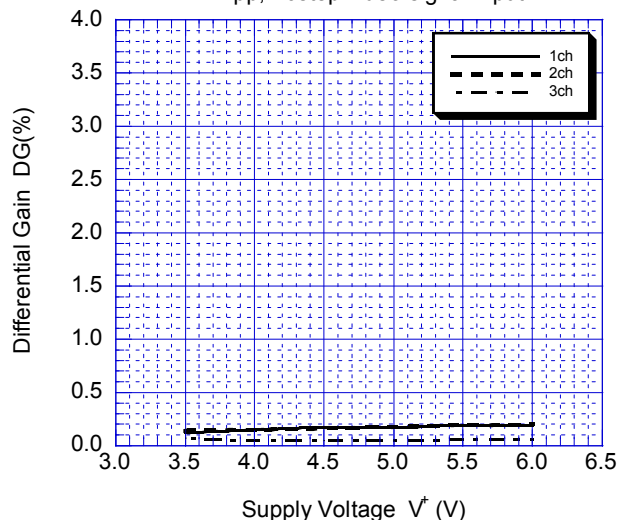
■ TYPICAL CHARACTERISTICS

Channel Gain Difference vs. Supply Voltage



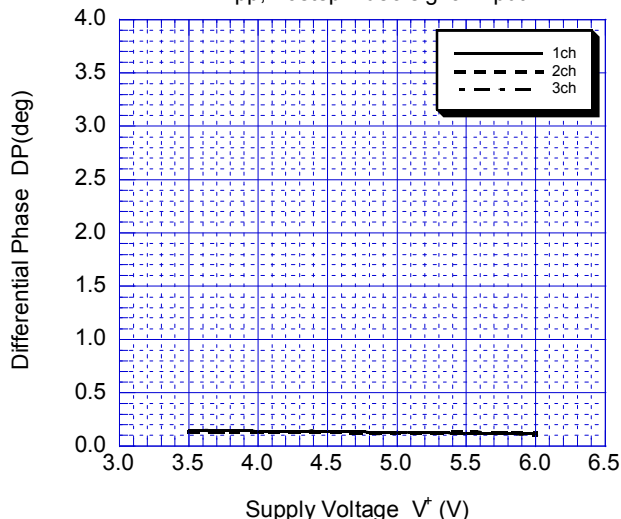
Differential Gain vs. Supply Voltage

1Vpp, 10step video signal input



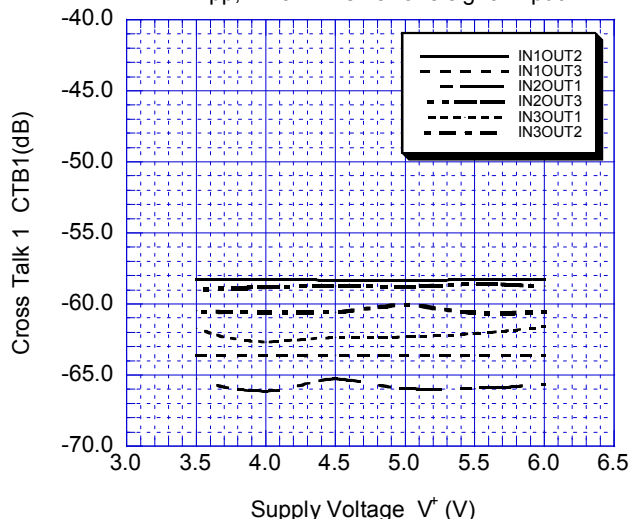
Differential Phase vs. Supply Voltage

1Vpp, 10step video signal input



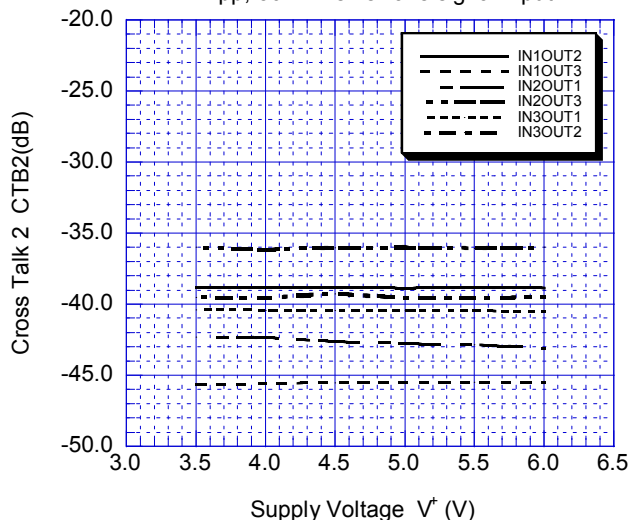
Cross Talk 1 vs. Supply Voltage

1Vpp, 4.43MHz sinewave signal input



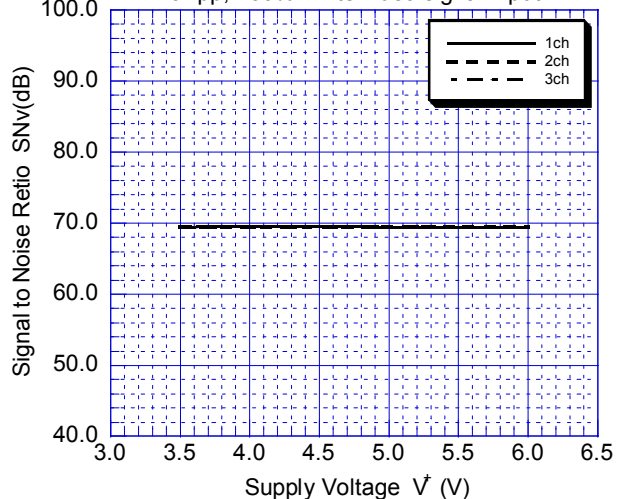
Cross Talk 2 vs. Supply Voltage

1Vpp, 50MHz sinewave signal input



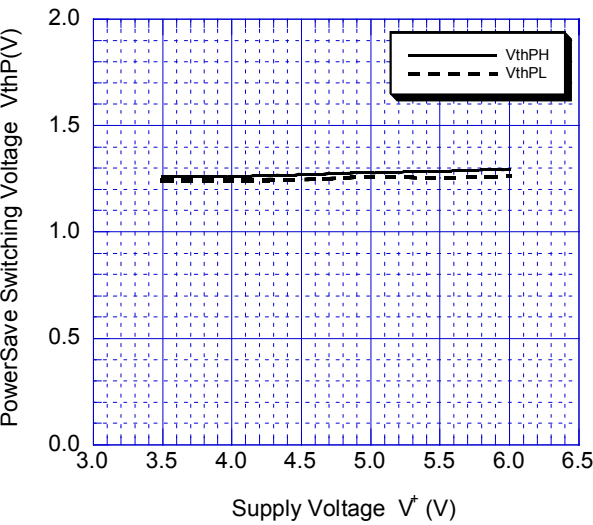
Signal to Noise Ratio vs. Supply Voltage

1.0Vpp, 100% white video signal input



■ TYPICAL CHARACTERISTICS

PowerSave Switching Voltage vs. Supply Voltage



[CAUTION]
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