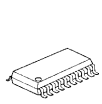
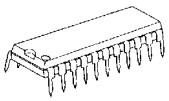
WIDE BAND 3-INPUT 1-OUTPUT 3-CIRCUIT VIDEO AMPLIFIER

■GENERAL DESCRIPTION

The **NJM2586A** is a wide band 3-input 1-output 3-circuit video amplifier. It is suitable for Y, Pb, and Pr signal because frequency range is 50MHz.The **NJM2586A** is suitable for AV receiver, STB, and other high quality AV systems.

■PACKAGE OUTLINE



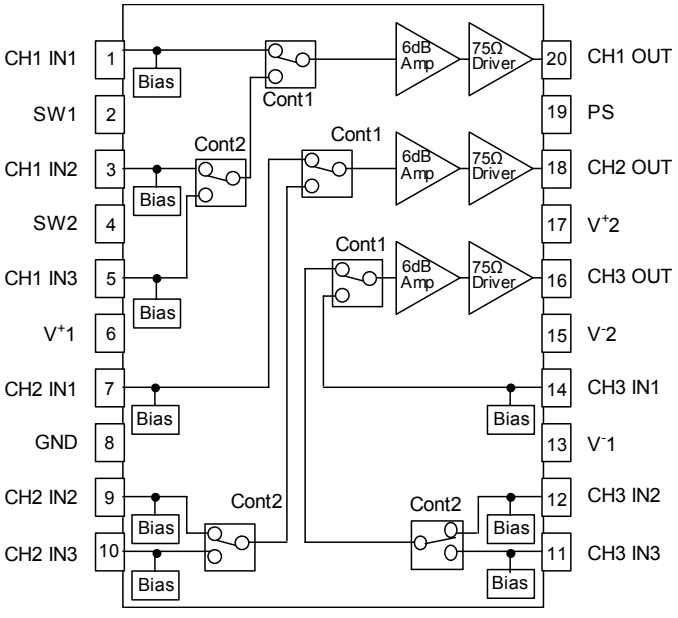


NJM2586AVC3 **NJM2586AL**

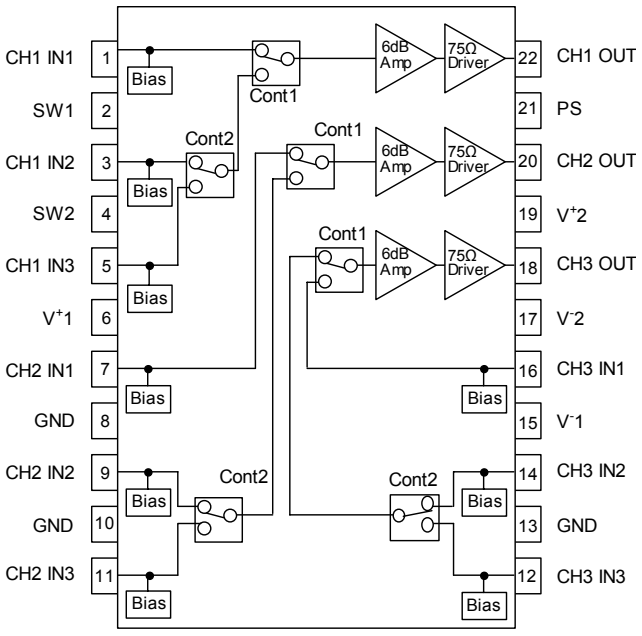
■ FEATURES

- Operating Voltage ±4.5 to ±5.5V
- Wide frequency range 0dB at 50MHz typ.
- Internal 3 input-1output 3-circuit video switch
- Internal 6dB Amplifier
- Internal 75Ω Driver Circuit (2-system drive)
- Power Save Circuit
- Bipolar Technology
- Package Outline SDIP22, SSOP20-C3

■BLOCK DIAGRAM



SSOP20-C3



SDIP22

■**ABSOLUTE MAXIMUM RATINGS** (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	±6.0	V
Power Dissipation	P_D	765 (SSOP20-C3)*note 700 (SDIP22)	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

(Note) At on a board of EIA/JEDEC specification. (114.3 x 76.2 x 1.6mm Two layers, FR-4)

■**ELECTRICAL CHARACTERISTICS** (Ta=25°C,V^+1=5V, V^+2=5V, V^-1=-5V, V^-2=-5V, R_L=150Ω)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I_{CC}	V^+1, V^+2, No Signal	-	23.0	35.0	mA
Operating Current at Power Save	Isave	V^+1, V^+2, No Signal, Power Save Mode	-	0.7	1.2	mA
Maximum Output Voltage Swing	Vom	Vin=100kHz, Sine Signal, THD=1%	2.4	8.0	-	Vp-p
Voltage Gain	Gv	Vin=1MHz, 1.0Vp-p, Sine Signal	5.8	6.2	6.6	dB
Gain Difference Between channel	ΔGvI	(IN1, IN2, IN3) Vin=1MHz, 1.0Vp-p,Sine Signal	-0.2	0	+0.2	dB
Gain Difference Between Block	ΔGvB	(CH1, CH2, CH3) Vin=1MHz, 1.0Vp-p,Sine Signal	-0.2	0	+0.2	dB
Band Width	f		-	50	-	MHz
Frequency Characteristic	Gf	Vin=50MHz/1MHz, 1.0Vp-p, Sine signal	-	0	-	dB
Channel Cross talk 1	CT-I1	Vin=4.43MHz, 1.0Vp-p, Sine signal (IN1, IN2, IN3)	-	-60	-50	dB
Channel Cross talk 2	CT-I2	Vin=50MHz, 1.0Vp-p, Sine signal (IN1, IN2, IN3)	-	-40	-	dB
Block Cross talk 1	CT-B1	Vin=4.43MHz, 1.0Vp-p, Sine signal (CH1, CH2, CH3)	-	-60	-50	dB
Block Cross talk 2	CT-B2	Vin=50MHz, 1.0Vp-p, Sine signal (CH1, CH2, CH3)	-	-40	-	dB
Differential Gain	DG	Vin=1.0Vp-p, 10step Video Signal	-	0.3	-	%
Differential Phase	DP	Vin=1.0Vp-p, 10step Video Signal	-	0.3	-	deg
S/N Ratio	SN	Vin=1.0Vp-p, 100KHz to 6MHz 100% White Video Signal,	-	+65	-	dB
Output Voltage	Vo	No Signal	-100	0	100	mV
Output Offset Voltage	Vos	No Signal (Note1)	-60	0	60	mV
Power Save SW Change Voltage High Level	VthPH	PS	2.0	-	V^+	V
Power Save SW Change Voltage Low Level	VthPL	PS	0	-	0.6	V
Input Select SW Change Voltage High Level	VthSH	SW1, SW2	2.0	-	V^+	V
Input Select SW Change Voltage Low Level	VthSL	SW1, SW2	0	-	0.6	V

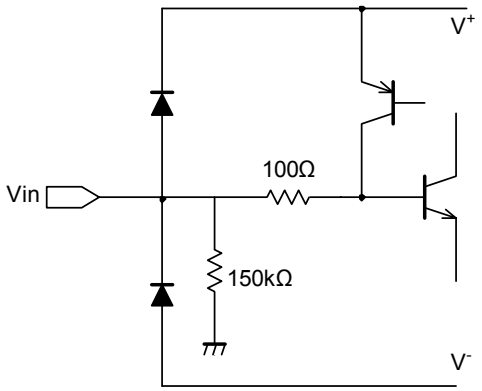
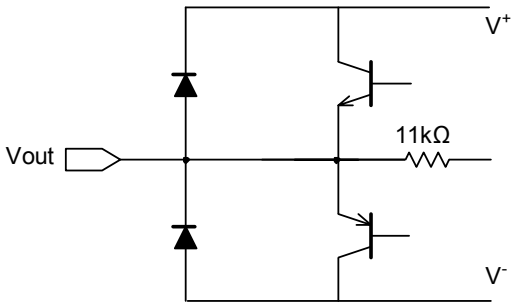
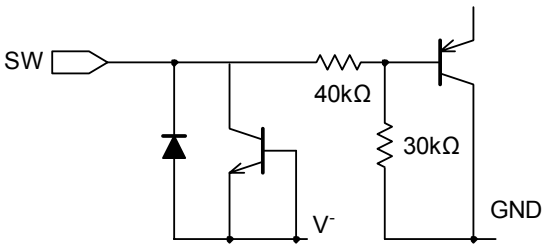
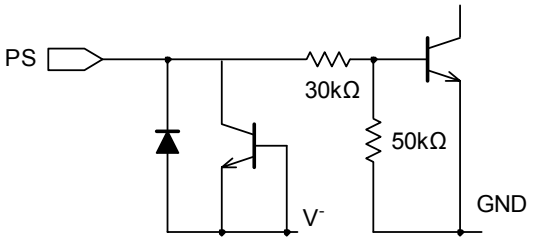
(Note1)
Measure the output DC voltage difference when changing IN1-IN2, IN1-IN3, and IN2-IN3 at CH1, CH2 and CH3.

■**CONTROL TERMINAL**

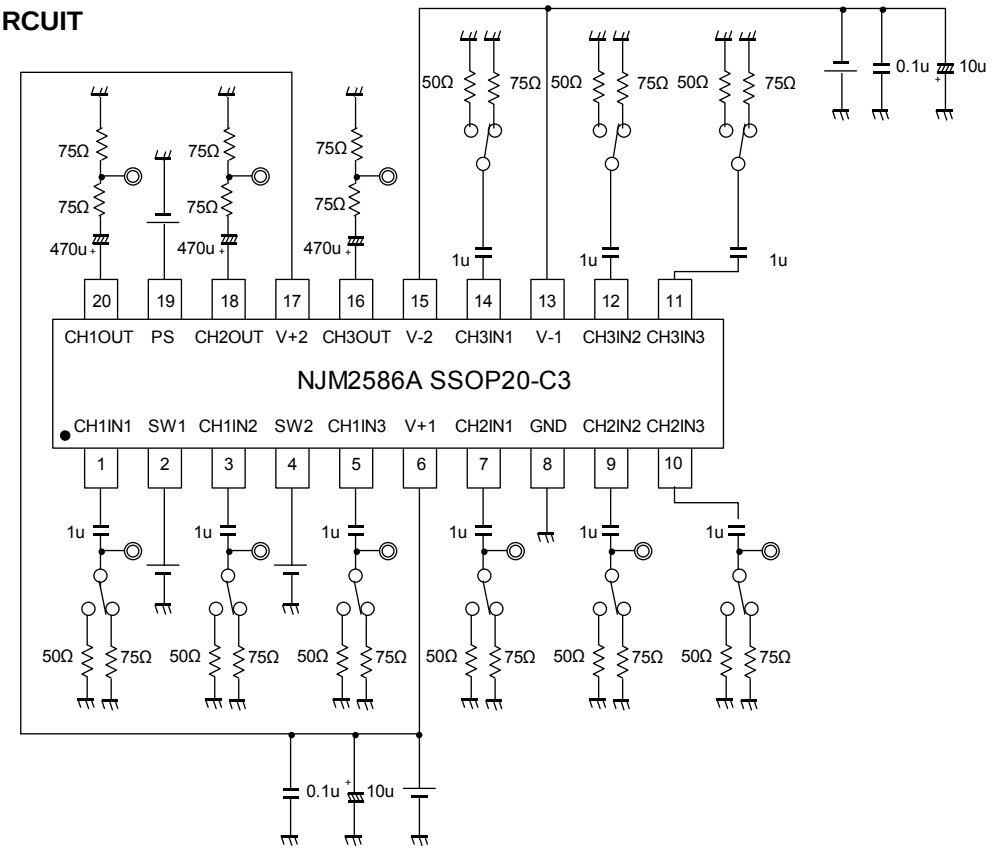
PARAMETER	STATUS	NOTE
PS	H	Power Save: OFF
	L	Power Save: ON
	OPEN	Power Save: ON

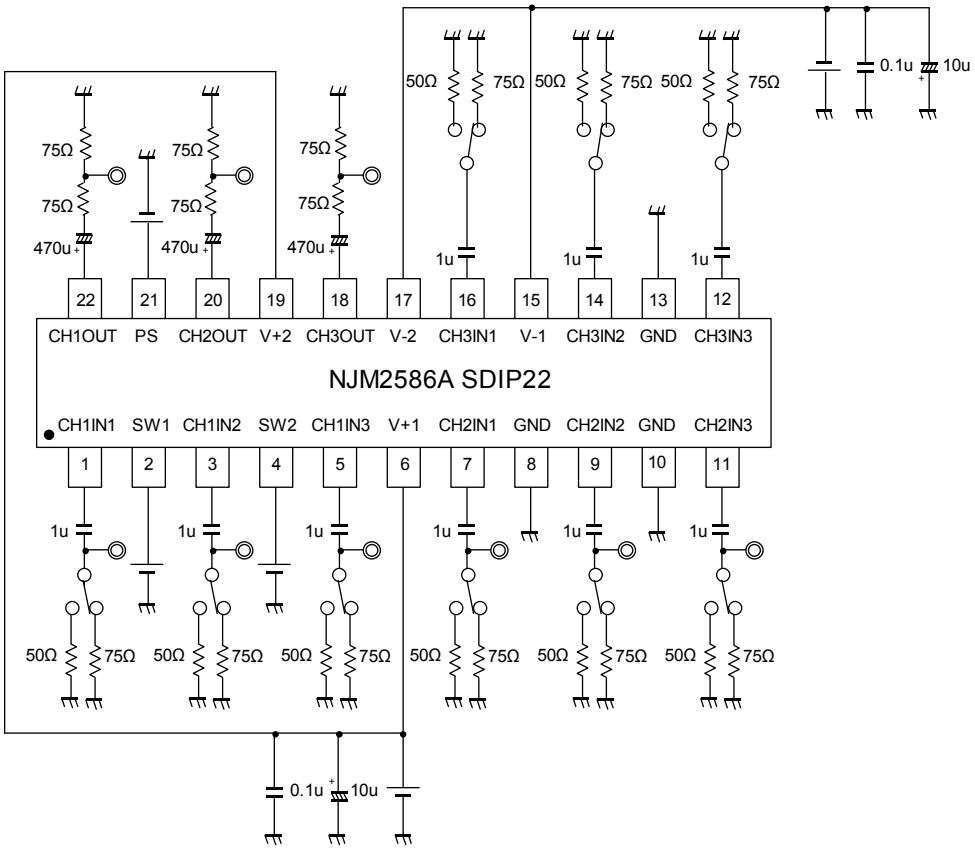
PARAMETER	STATUS		NOTE
	SW1	SW2	
SW1, SW2l	L, OPEN	X	IN1 (X=don't care)
	H	L, OPEN	IN2
	H	H	IN3

■ **TERMINAL DESCRIPTION**

No. (SSOP20-C3)	No. (SDIP22)	SYMBOL	VOLTAGE	EQUIVALENT CIRCUIT
1 3 5 7 9 10 14 12 11	1 3 5 7 9 11 16 14 12	CH1 IN1 CH1 IN2 CH1 IN3 CH2 IN1 CH2 IN2 CH2 IN3 CH3 IN1 CH3 IN2 CH3 IN3	0V	
20 18 16	22 20 18	CH1 OUT CH2 OUT CH3 OUT	0V	
2 4	2 4	SW1 SW2	0V	
19	23	Power Save	0V	

■TEST CIRCUIT



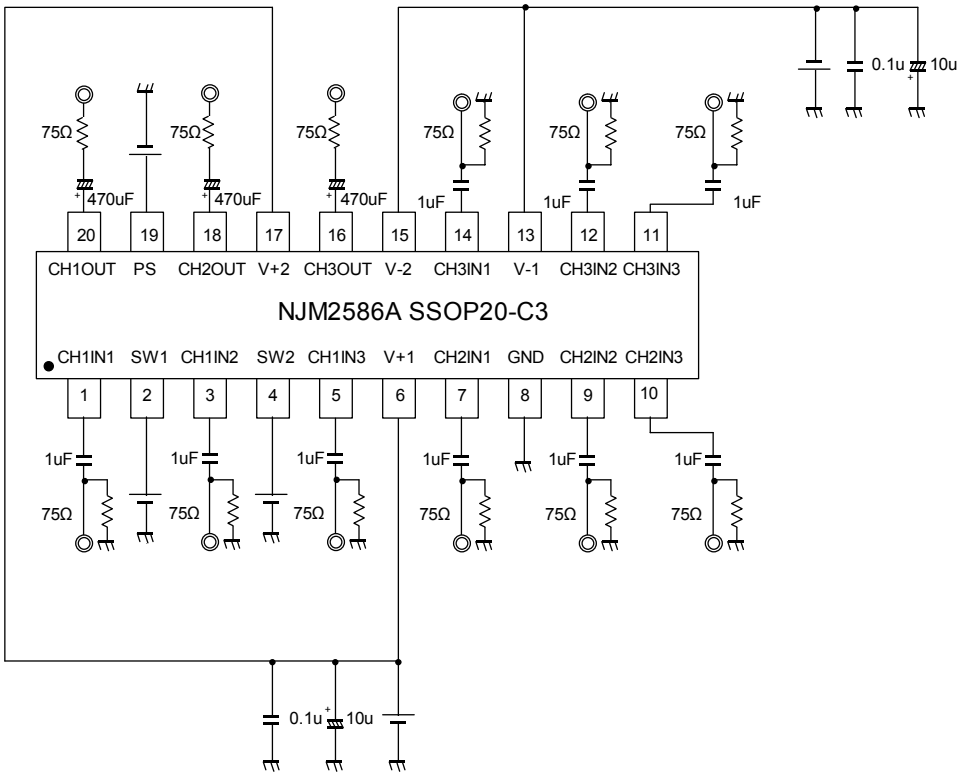


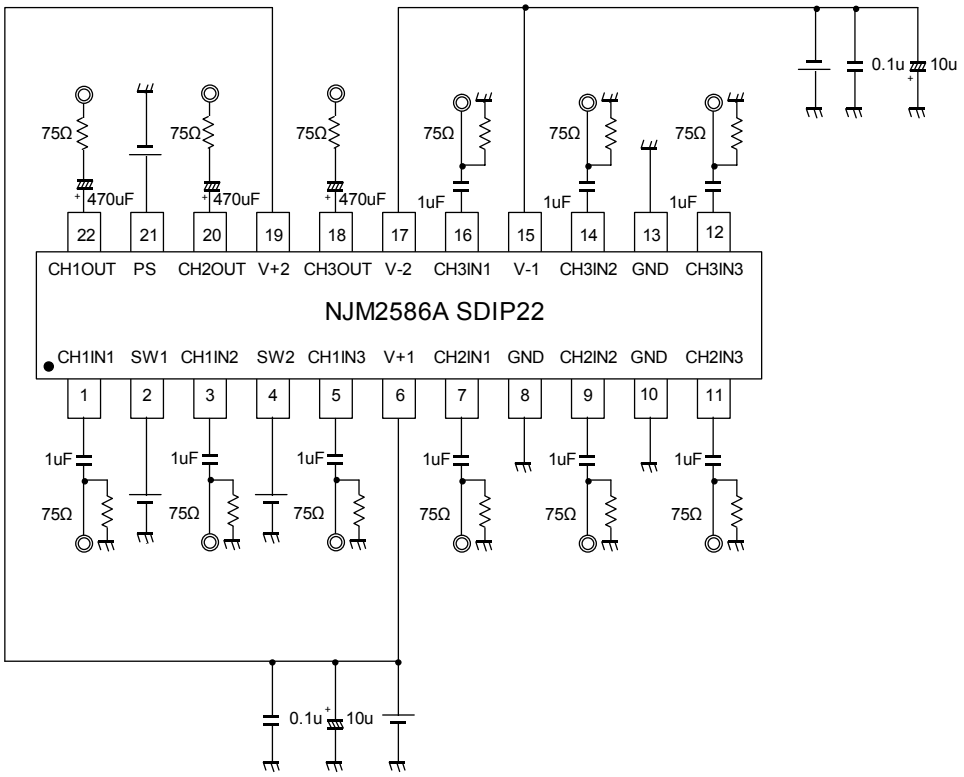
■NOTE

Please ground all GND terminals.

■APPLICATION CIRCUIT

(Note) When there is no problem in offset voltage, it is possible to remove the capacitor of 470uF of an output. The values of an output capacitor are a reference value. Please determine a value after sufficient evaluation.



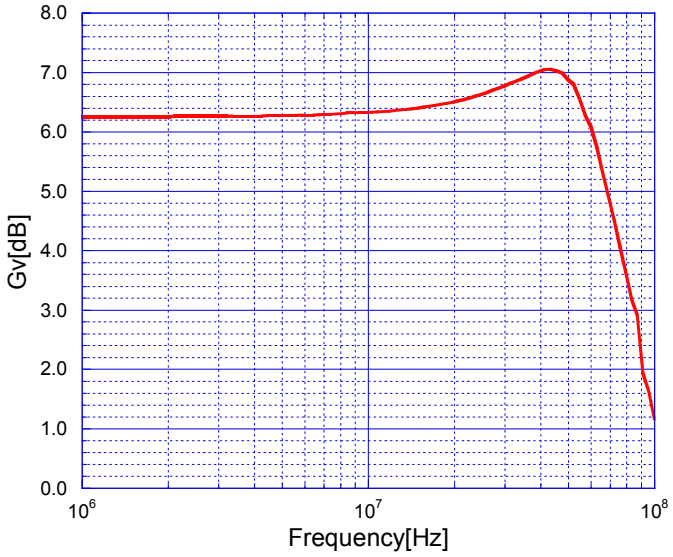


■NOTE

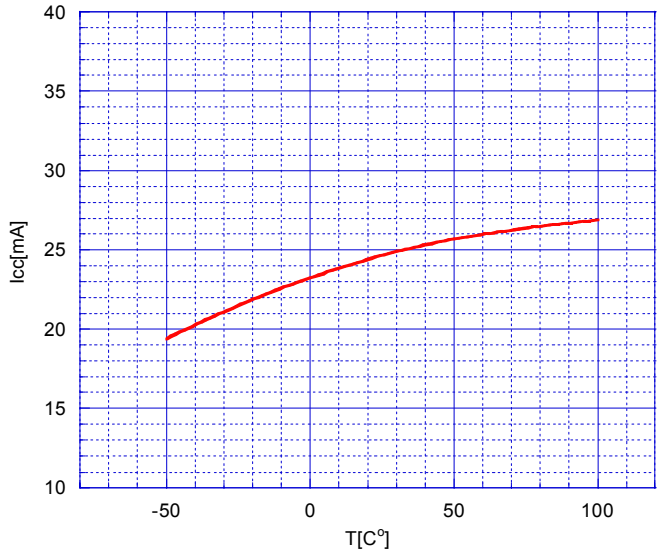
Please ground all GND terminals.

■TYPICAL CHARACTERISTICS

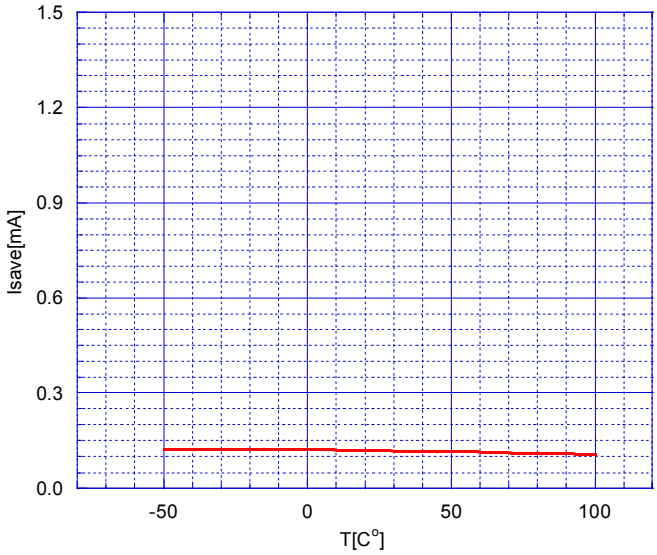
Voltage Gain vs. Frequency



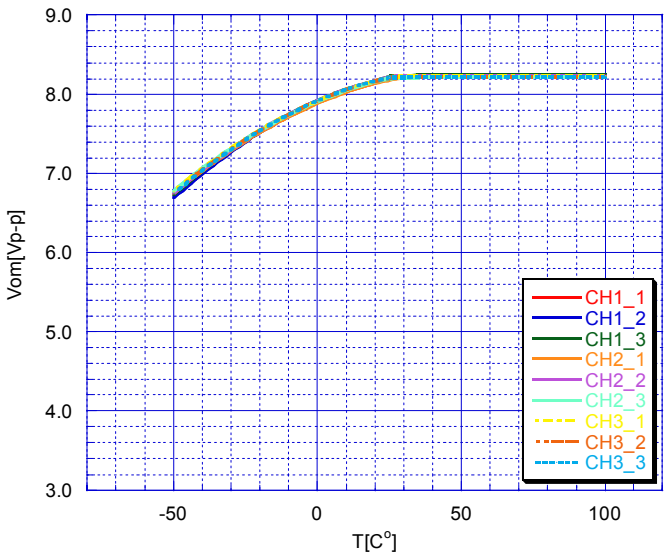
T vs Icc



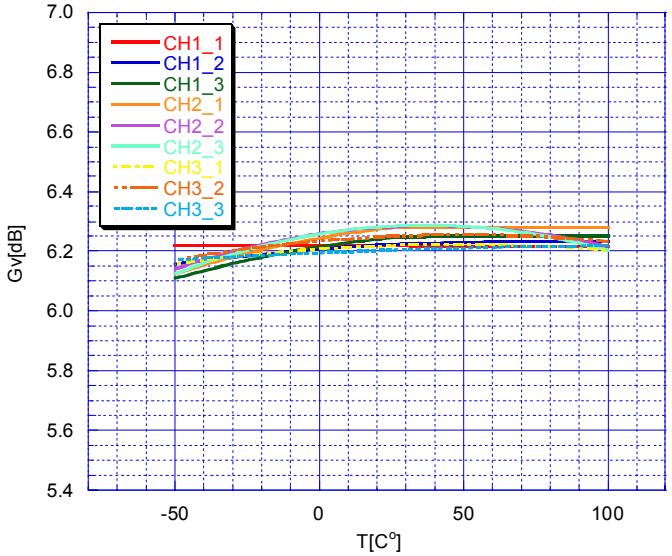
T vs Isave



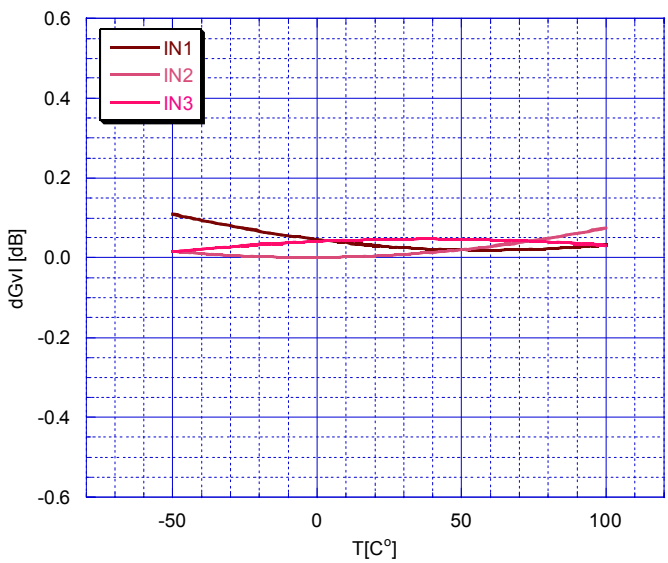
T vs Vom



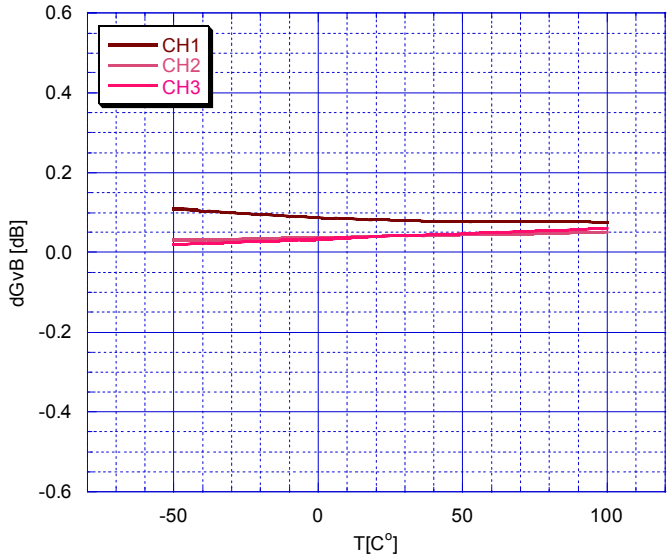
T vs Gv



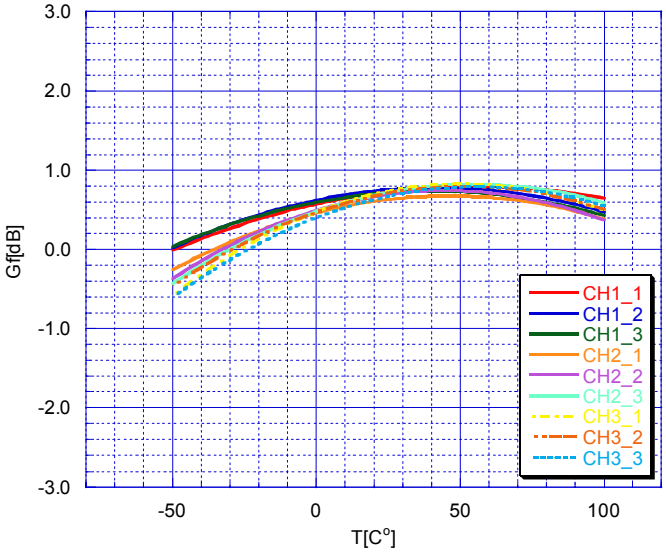
T vs dGvI



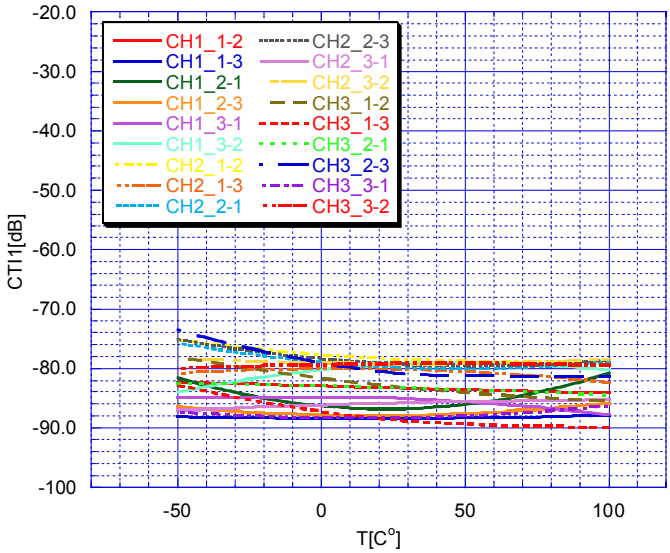
T vs dGvB



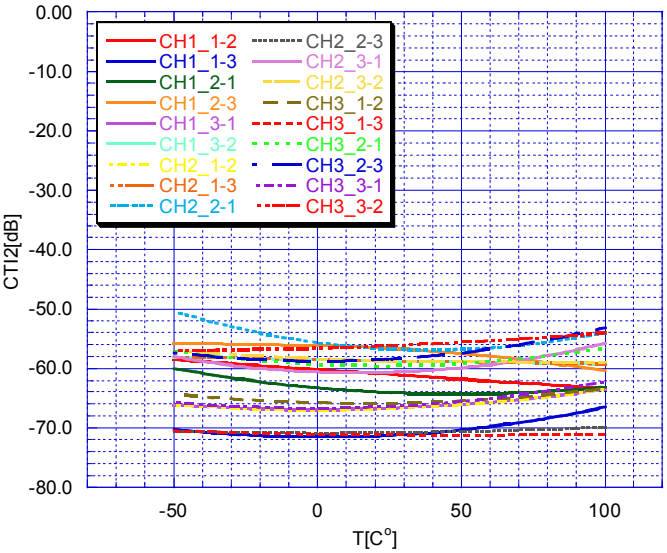
T vs Gf



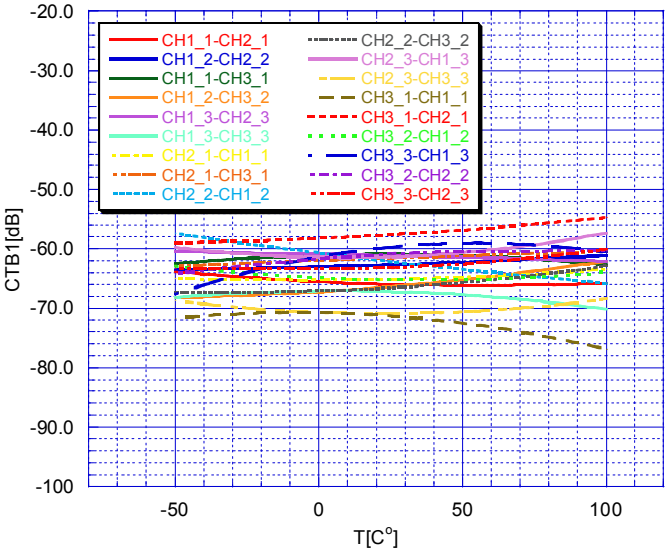
T vs CTI1



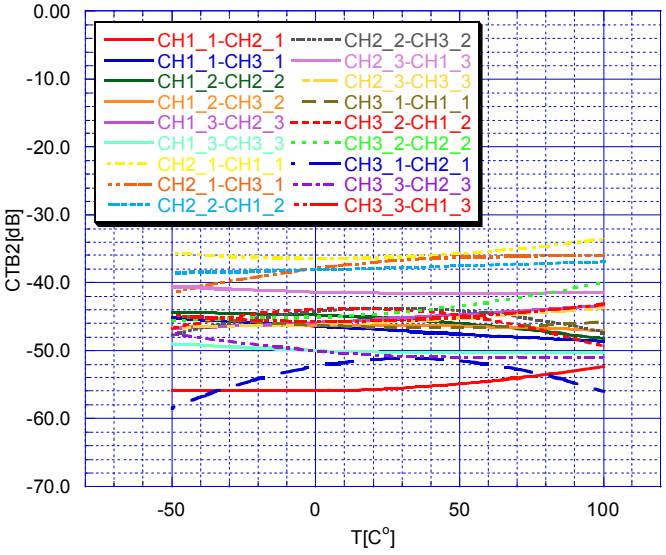
T vs CTI2



T vs CTB1



T vs CTB2



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