

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

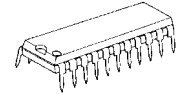
■GENERAL DESCRIPTION

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



NJM2586AM

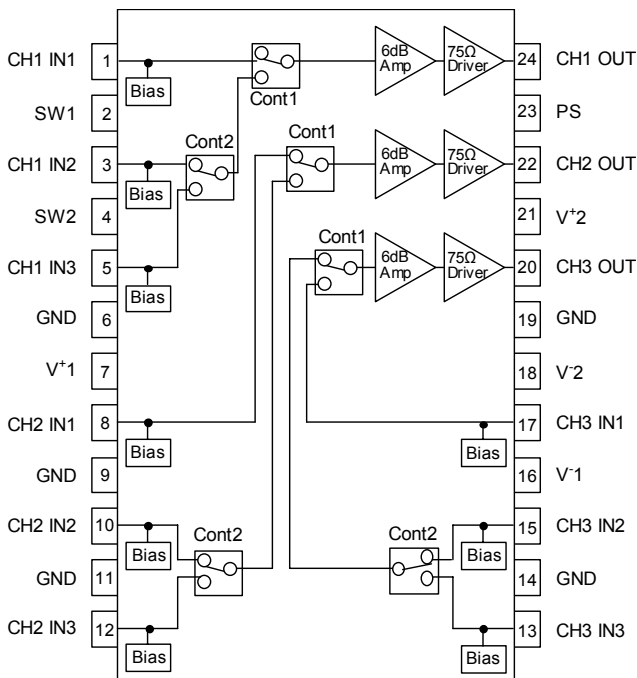


NJM2586AL

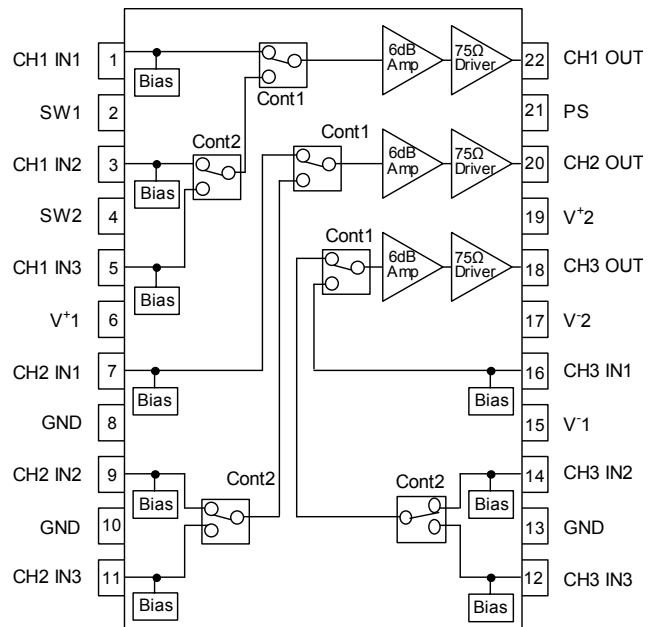
■ FEATURES

- 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 DMP24, SDIP22

■BLOCK DIAGRAM



DMP24



SDIP22

■ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	12.0	V
Power Dissipation	P _D	500 (DMP24) 700 (SDIP22)	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

■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	I _{save}	V ⁺ 1, V ⁺ 2, No Signal, Power Save Mode	-	0.7	1.2	mA
Maximum Output Voltage Swing	V _{om}	V _{in} =100kHz, Sine Signal, THD=1%	2.4	8.0	-	Vp-p
Voltage Gain	G _v	V _{in} =1MHz, 1.0Vp-p, Sine Signal	5.8	6.2	6.6	dB
Gain Difference Between channel	ΔG _{vI}	(IN1, IN2, IN3) V _{in} =1MHz, 1.0Vp-p, Sine Signal	-0.2	0	+0.2	dB
Gain Difference Between Block	ΔG _{vB}	(CH1, CH2, CH3) V _{in} =1MHz, 1.0Vp-p, Sine Signal	-0.2	0	+0.2	dB
Band Width	f		-	50	-	MHz
Frequency Characteristic	G _f	V _{in} =50MHz/1MHz, 1.0Vp-p, Sine signal	-	0	-	dB
Channel Cross talk 1	CT-I1	V _{in} =4.43MHz, 1.0Vp-p, Sine signal (IN1, IN2, IN3)	-	-60	-50	dB
Channel Cross talk 2	CT-I2	V _{in} =50MHz, 1.0Vp-p, Sine signal (IN1, IN2, IN3)	-	-40	-	dB
Block Cross talk 1	CT-B1	V _{in} =4.43MHz, 1.0Vp-p, Sine signal (CH1, CH2, CH3)	-	-60	-50	dB
Block Cross talk 2	CT-B2	V _{in} =50MHz, 1.0Vp-p, Sine signal (CH1, CH2, CH3)	-	-40	-	dB
Differential Gain	DG	V _{in} =1.0Vp-p, 10step Video Signal	-	0.3	-	%
Differential Phase	DP	V _{in} =1.0Vp-p, 10step Video Signal	-	0.3	-	deg
S/N Ratio	SN	V _{in} =1.0Vp-p, 100KHz to 6MHz 100% White Video Signal,	-	+65	-	dB
Output Voltage	V _o	No Signal	-100	0	100	mV
Output Offset Voltage	V _{os}	No Signal (Note1)	-60	0	60	mV
Power Save SW Change Voltage High Level	V _{thPH}	PS	2.0	-	V ⁺	V
Power Save SW Change Voltage Low Level	V _{thPL}	PS	0	-	0.6	V
Input Select SW Change Voltage High Level	V _{thSH}	SW1, SW2	2.0	-	V ⁺	V
Input Select SW Change Voltage Low Level	V _{thSL}	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

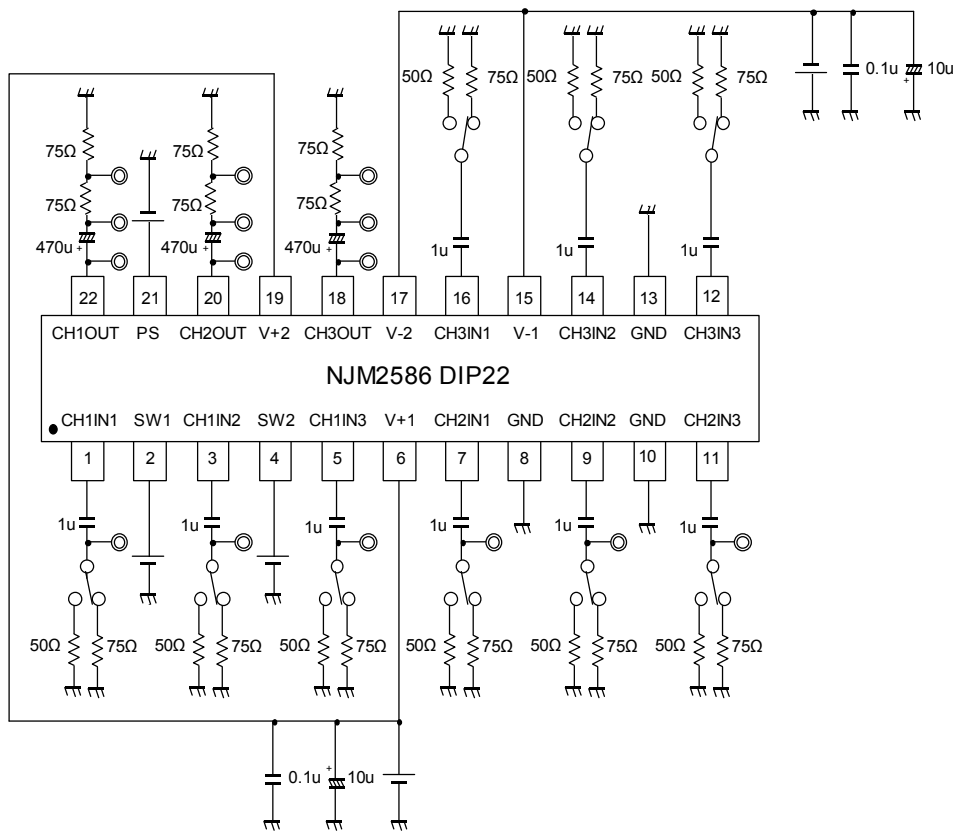
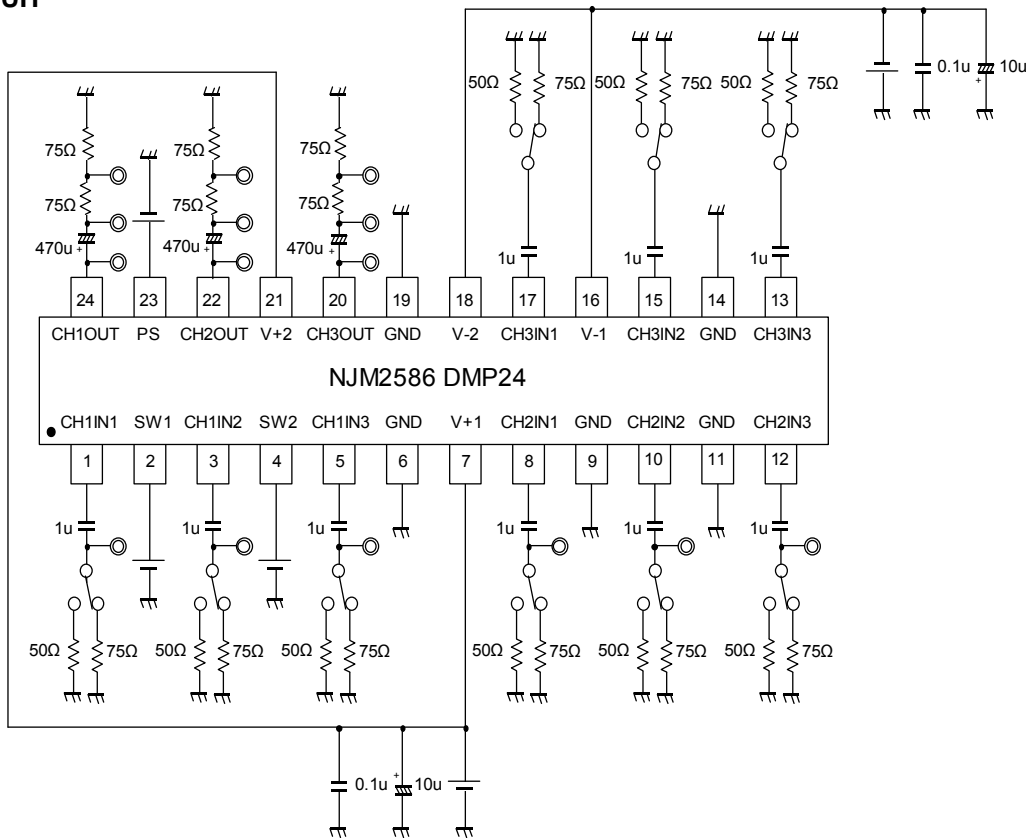
PARAMETER	STATUS	NOTE
PS	H	Power Save: OFF
	L	Power Save: ON
	OPEN	Power Save: ON

PARAMETER	STATUS		NOTE
	SW1	SW2	
SW1, SW2I	L, OPEN	X	IN1 (X=don't care)
	H	L, OPEN	IN2
	H	H	IN3

■ TERMINAL DESCRIPTION

No.	SYMBOL	VOLTAGE	EQUIVALENT CIRCUIT
1 3 5 8 10 12 13 15 17	CH1 IN1 CH1 IN2 CH1 IN3 CH2 IN1 CH2 IN2 CH2 IN3 CH3 IN1 CH3 IN2 CH3 IN3	0V	
20 22 24	CH1 OUT CH2 OUT CH3 OUT	0V	
2 4	SW1 SW2	0V	
23	Power Save	0V	

TEST CIRCUIT

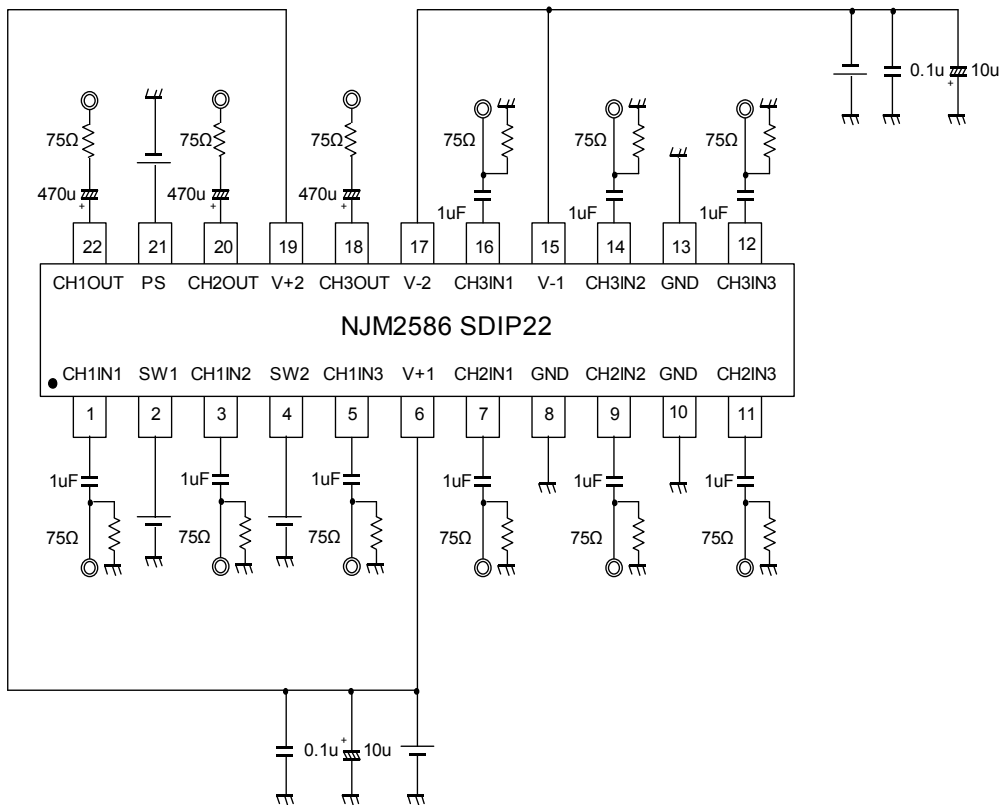
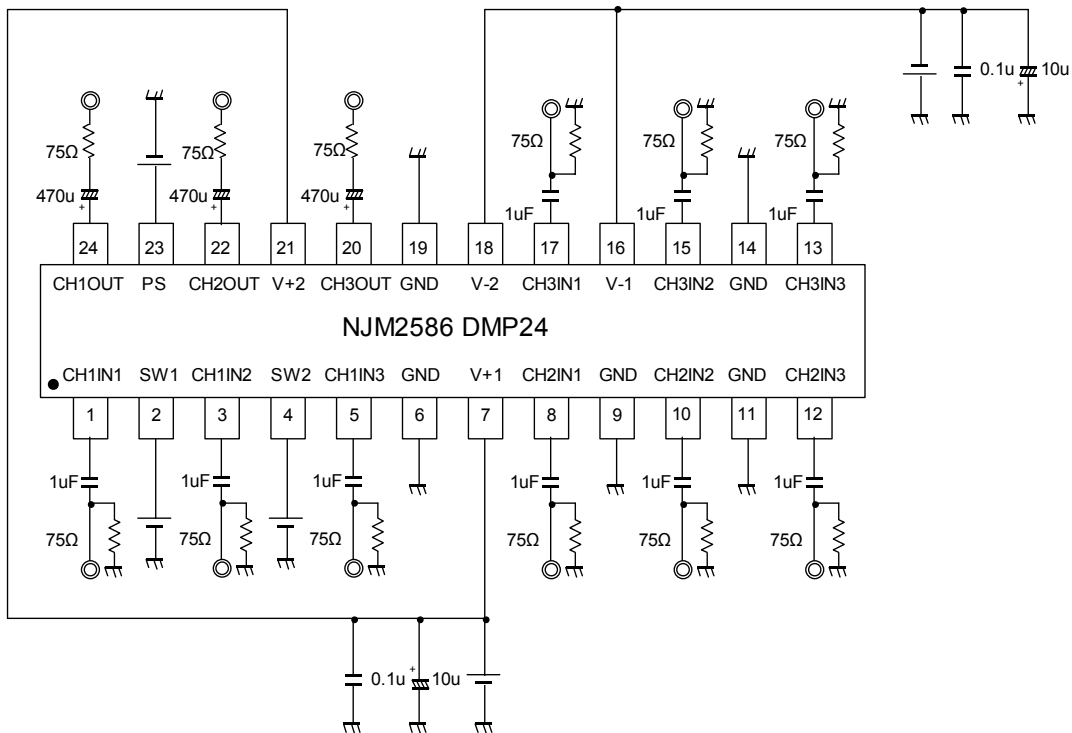


NOTE

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.

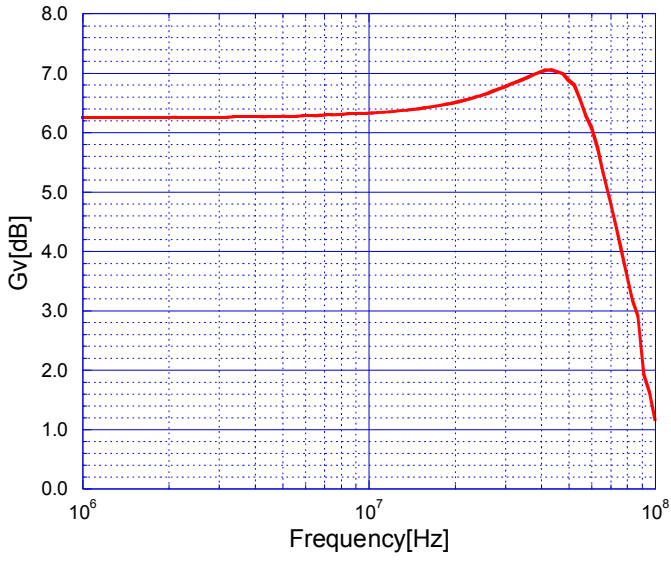


■NOTE

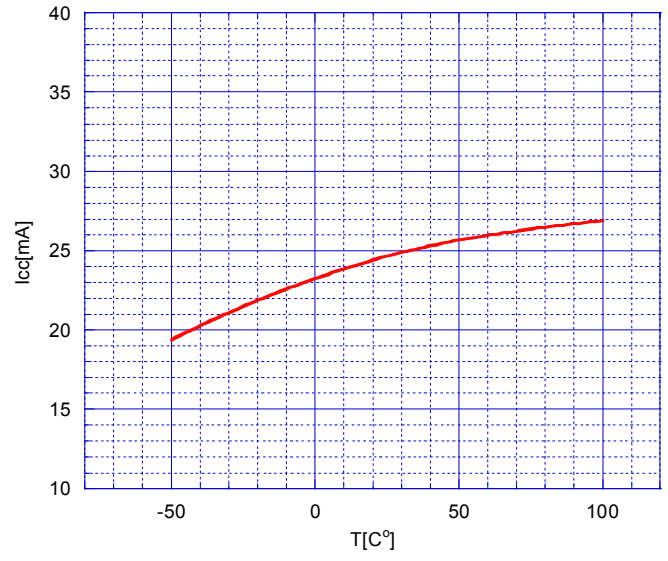
Please ground all GND terminals.

TYPICAL CHARACTERISTICS

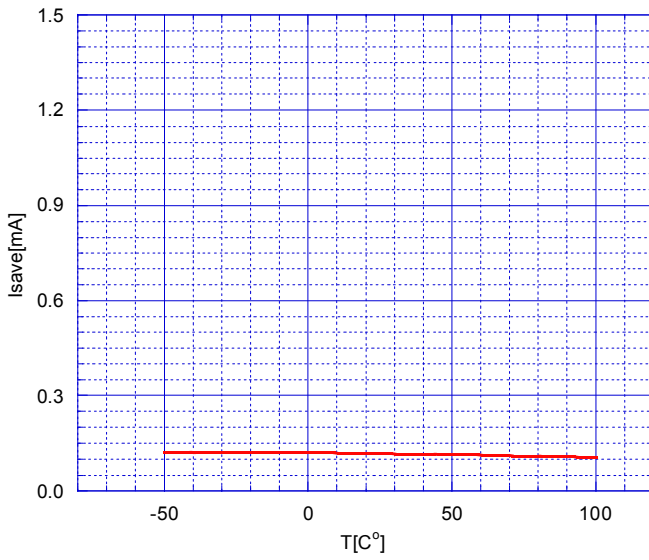
Voltage Gain vs. Frequency



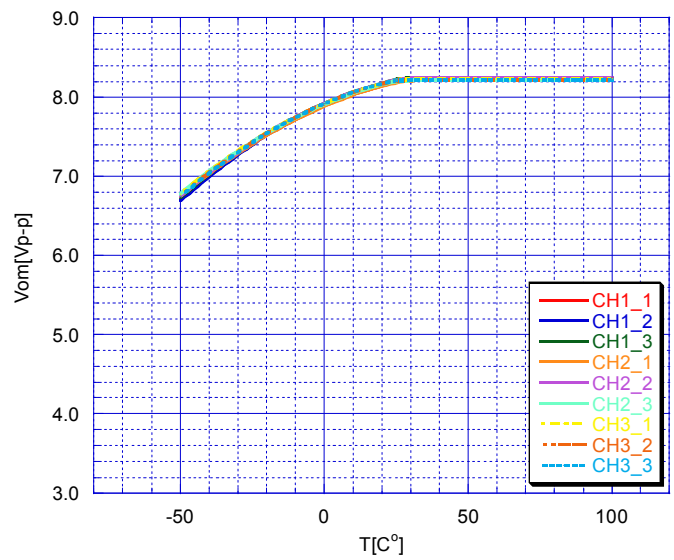
T vs Icc



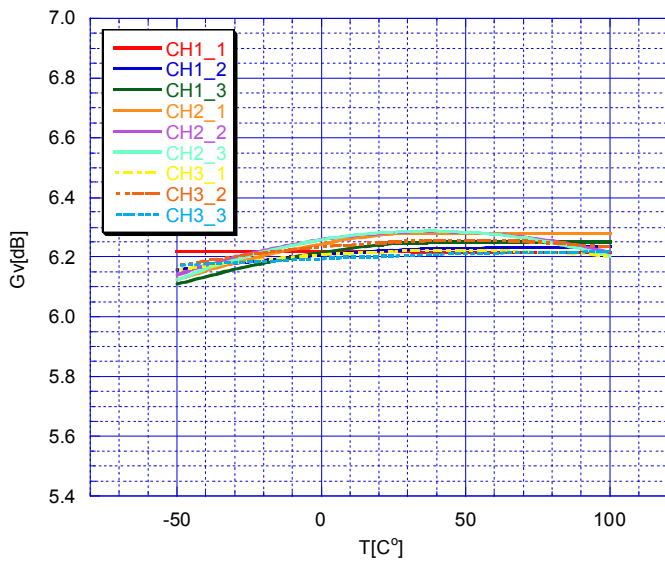
T vs Isave



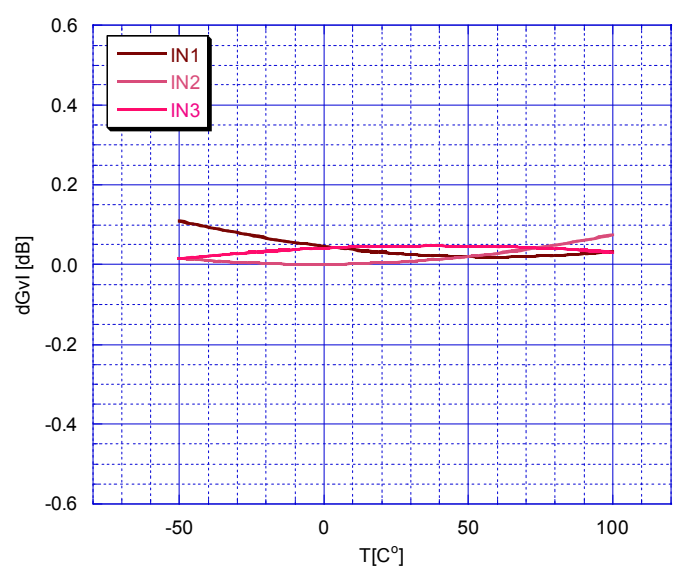
T vs Vom



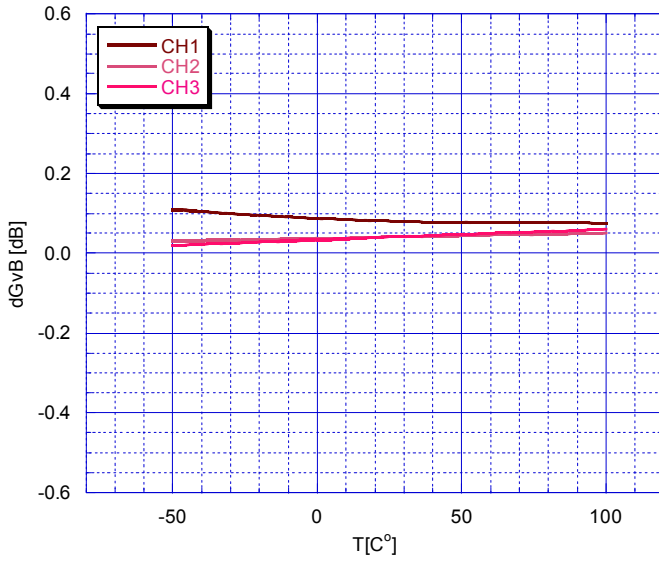
T vs Gv



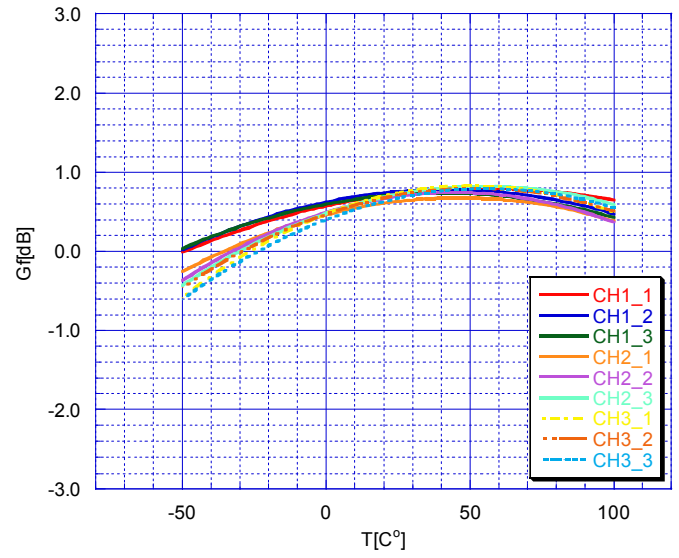
T vs dGvI



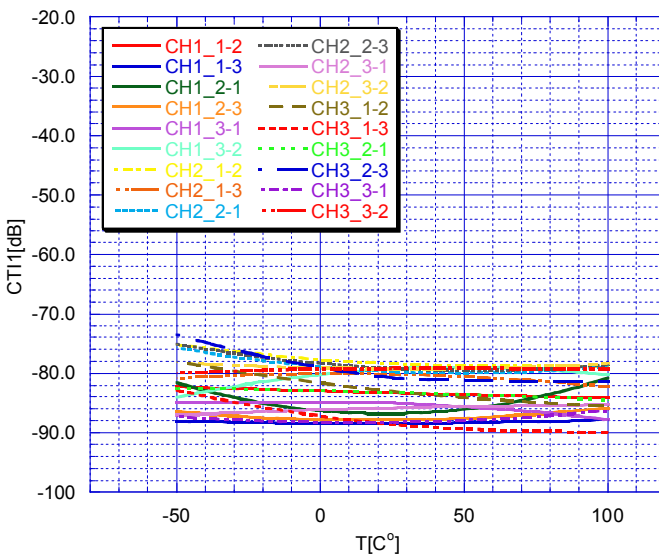
T vs dGvB



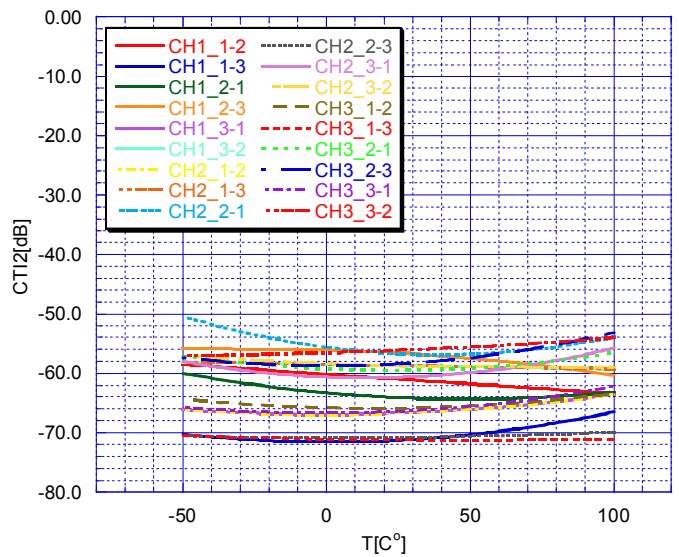
T vs Gf



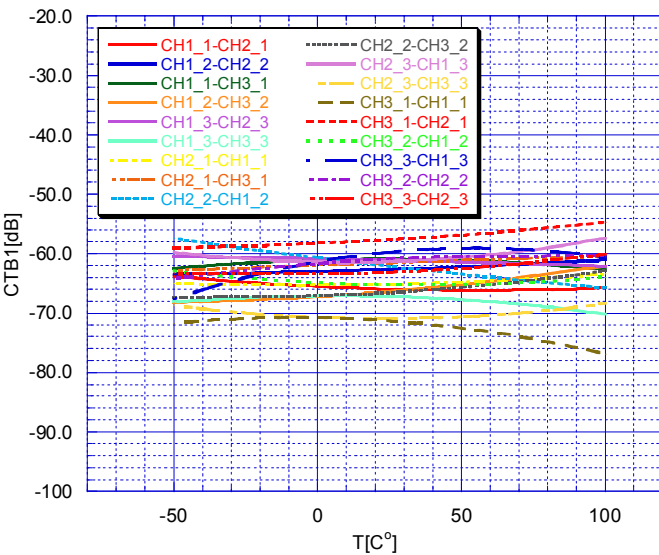
T vs CTI1



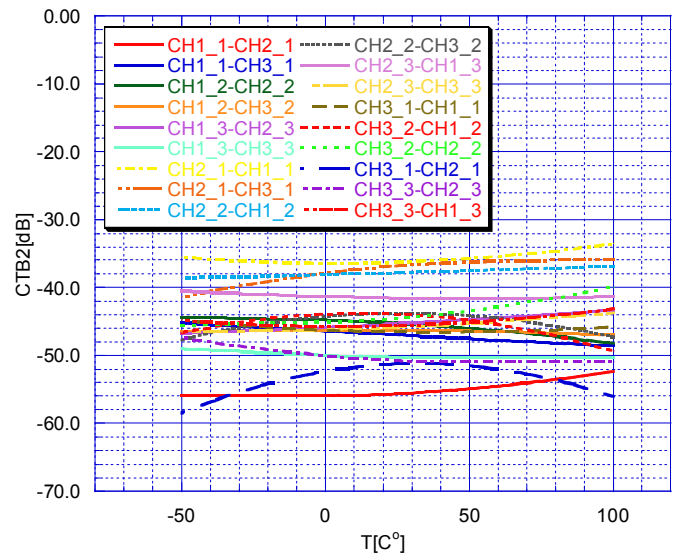
T vs CTI2



T vs CTB1



T vs CTB2



[CAUTION]

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