

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

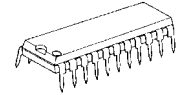
### ■GENERAL DESCRIPTION

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**

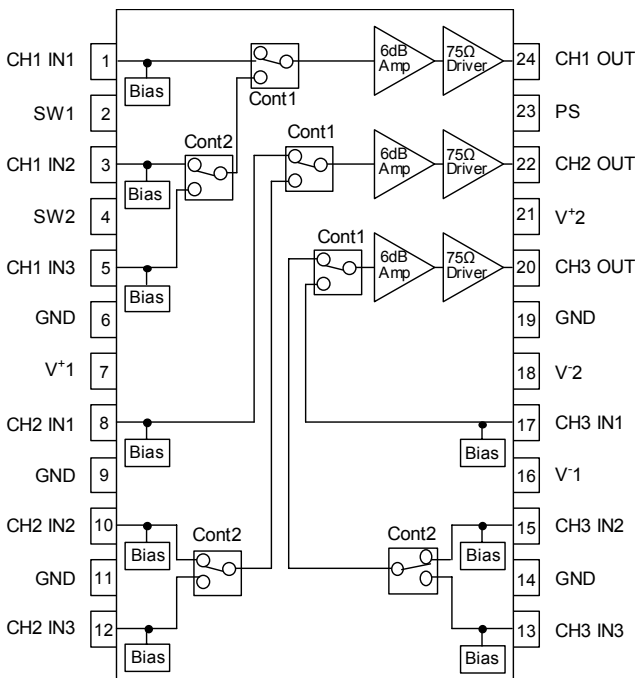


**NJM2586AL**

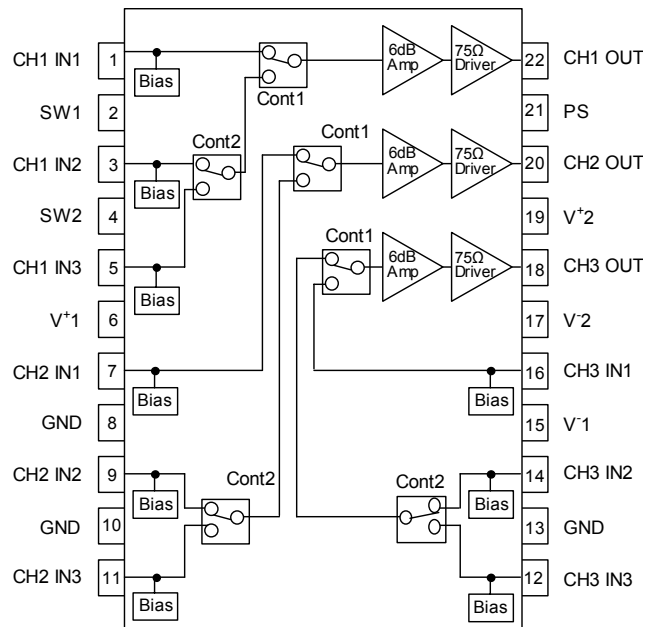
### ■ FEATURES

- 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
- 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 <sup>+</sup>	12.0	V
Power Dissipation	P <sub>D</sub>	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<sup>+</sup>1=5V, V<sup>+</sup>2=5V, V<sup>-</sup>1=-5V, V<sup>-</sup>2=-5V, R<sub>L</sub>=150Ω)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I <sub>CC</sub>	V <sup>+</sup> 1, V <sup>+</sup> 2, No Signal	-	23.0	35.0	mA
Operating Current at Power Save	I <sub>save</sub>	V <sup>+</sup> 1, V <sup>+</sup> 2, No Signal, Power Save Mode	-	0.7	1.2	mA
Maximum Output Voltage Swing	V <sub>om</sub>	V <sub>in</sub> =100kHz, Sine Signal, THD=1%	2.4	8.0	-	V <sub>p-p</sub>
Voltage Gain	G <sub>v</sub>	V <sub>in</sub> =1MHz, 1.0V <sub>p-p</sub> , Sine Signal	5.8	6.2	6.6	dB
Gain Difference Between channel	ΔG <sub>vI</sub>	(IN1, IN2, IN3) V <sub>in</sub> =1MHz, 1.0V <sub>p-p</sub> , Sine Signal	-0.2	0	+0.2	dB
Gain Difference Between Block	ΔG <sub>vB</sub>	(CH1, CH2, CH3) V <sub>in</sub> =1MHz, 1.0V <sub>p-p</sub> , Sine Signal	-0.2	0	+0.2	dB
Band Width	f		-	50	-	MHz
Frequency Characteristic	G <sub>f</sub>	V <sub>in</sub> =50MHz/1MHz, 1.0V <sub>p-p</sub> , Sine signal	-	0	-	dB
Channel Cross talk 1	CT-I1	V <sub>in</sub> =4.43MHz, 1.0V <sub>p-p</sub> , Sine signal (IN1, IN2, IN3)	-	-60	-50	dB
Channel Cross talk 2	CT-I2	V <sub>in</sub> =50MHz, 1.0V <sub>p-p</sub> , Sine signal (IN1, IN2, IN3)	-	-40	-	dB
Block Cross talk 1	CT-B1	V <sub>in</sub> =4.43MHz, 1.0V <sub>p-p</sub> , Sine signal (CH1, CH2, CH3)	-	-60	-50	dB
Block Cross talk 2	CT-B2	V <sub>in</sub> =50MHz, 1.0V <sub>p-p</sub> , Sine signal (CH1, CH2, CH3)	-	-40	-	dB
Differential Gain	DG	V <sub>in</sub> =1.0V <sub>p-p</sub> , 10step Video Signal	-	0.3	-	%
Differential Phase	DP	V <sub>in</sub> =1.0V <sub>p-p</sub> , 10step Video Signal	-	0.3	-	deg
S/N Ratio	SN	V <sub>in</sub> =1.0V <sub>p-p</sub> , 100KHz to 6MHz 100% White Video Signal,	-	+65	-	dB
Output Voltage	V <sub>o</sub>	No Signal	-100	0	100	mV
Output Offset Voltage	V <sub>os</sub>	No Signal (Note1)	-60	0	60	mV
Power Save SW Change Voltage High Level	V <sub>thPH</sub>	PS	2.0	-	V <sup>+</sup>	V
Power Save SW Change Voltage Low Level	V <sub>thPL</sub>	PS	0	-	0.6	V
Input Select SW Change Voltage High Level	V <sub>thSH</sub>	SW1, SW2	2.0	-	V <sup>+</sup>	V
Input Select SW Change Voltage Low Level	V <sub>thSL</sub>	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

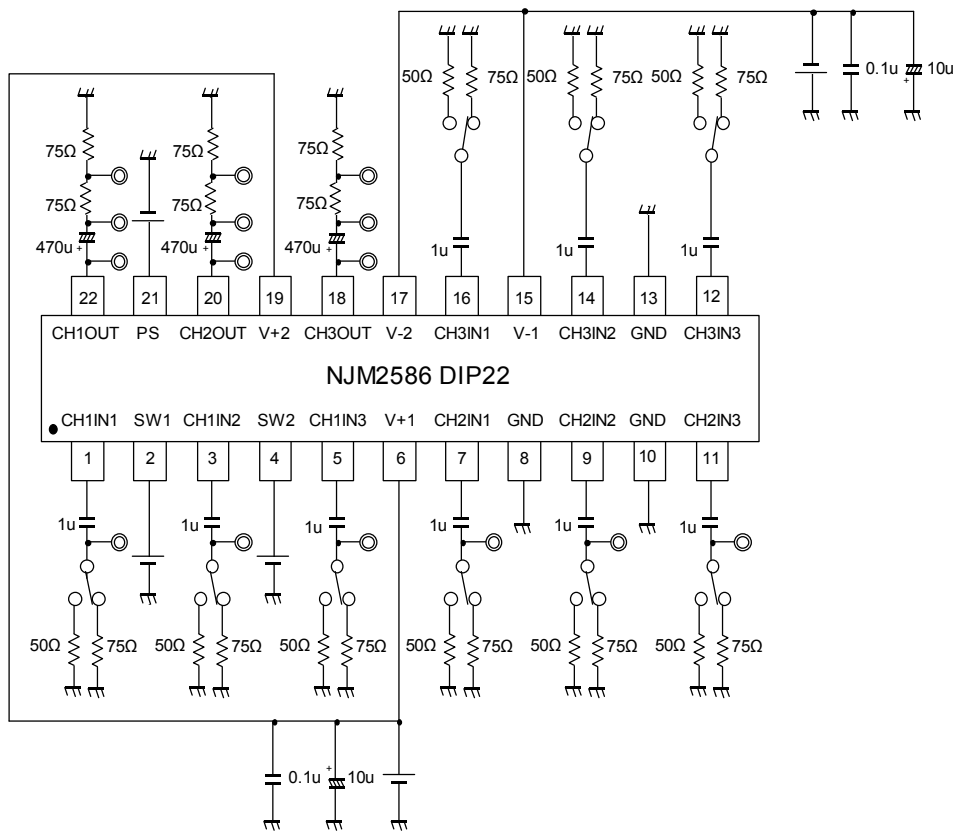
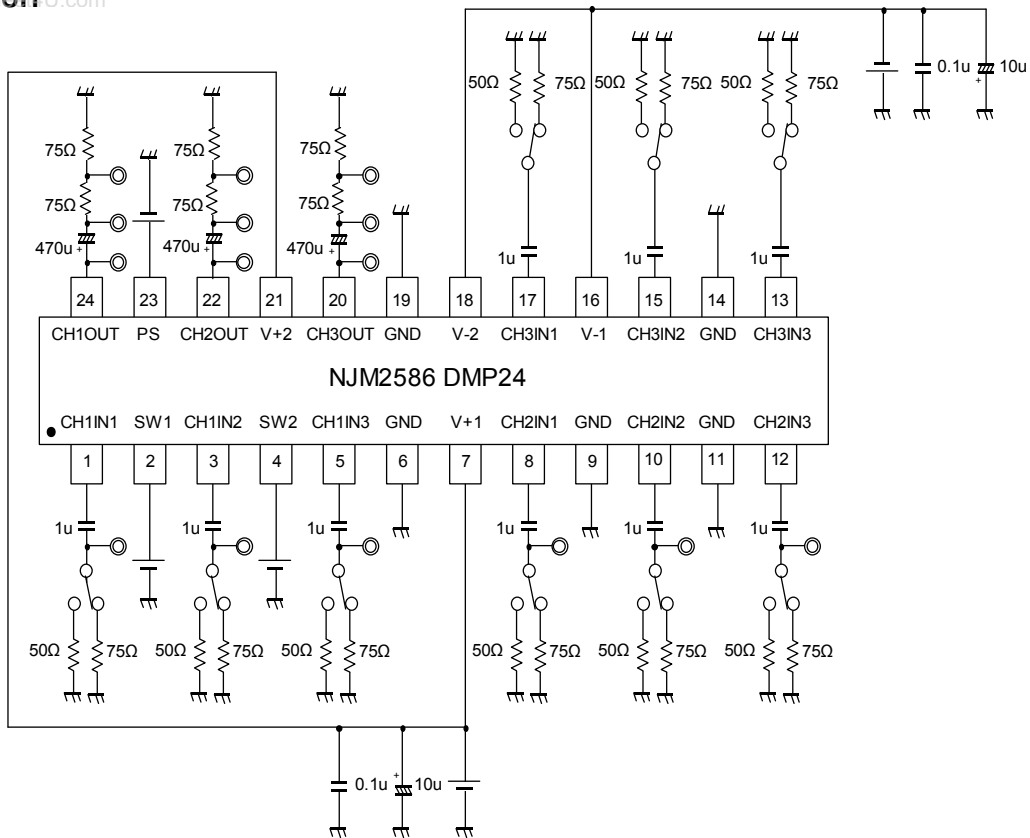
PARAMETER	STATUS	NOTE
PS	H	Power Save: OFF
	L	Power Save: ON
	OPEN	Power Save: ON

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	

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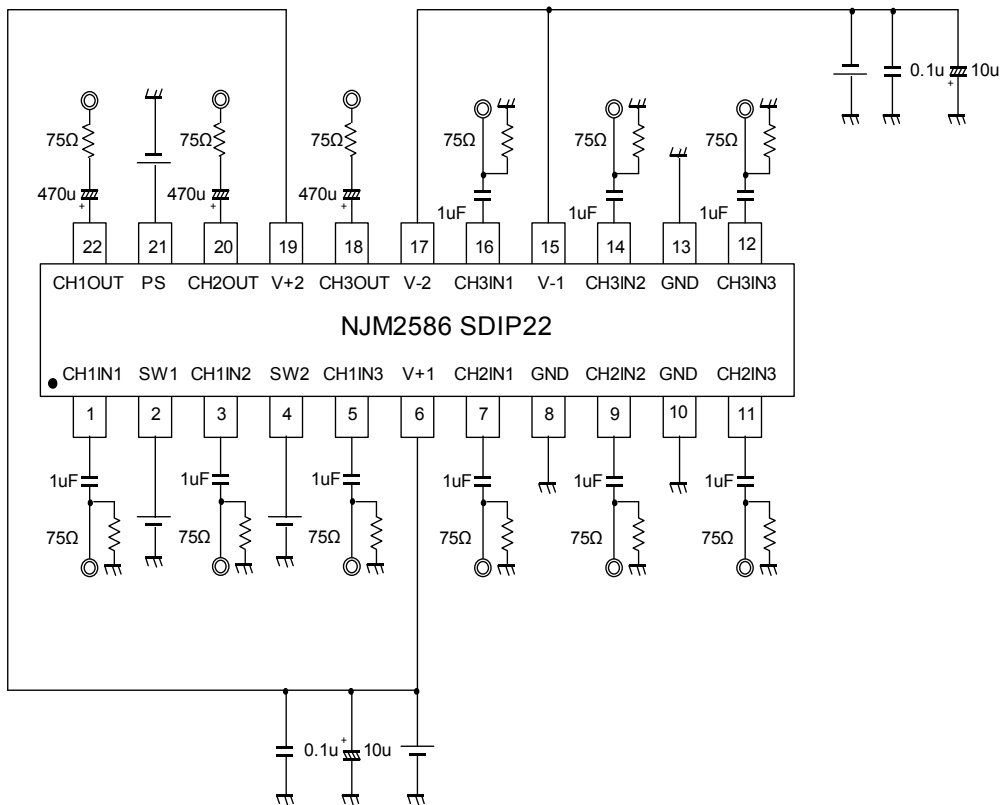
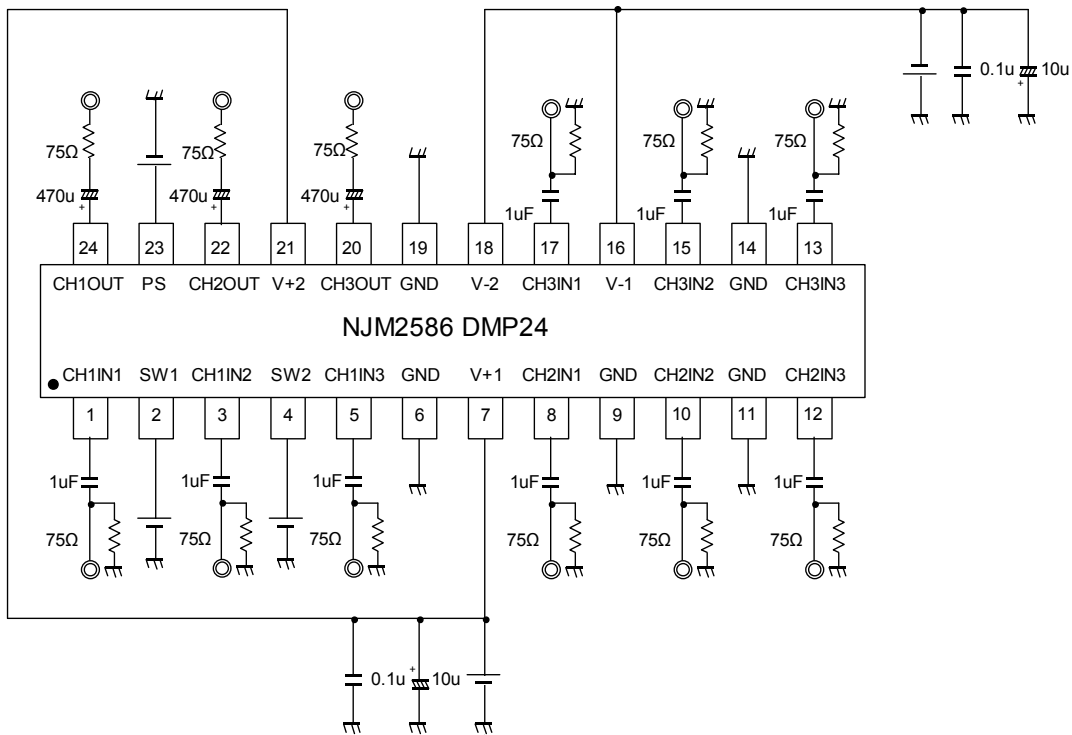


NOTE

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.

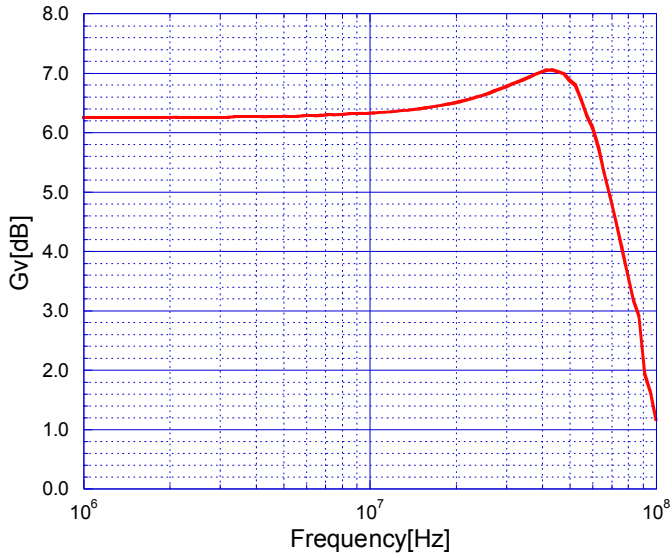


NOTE

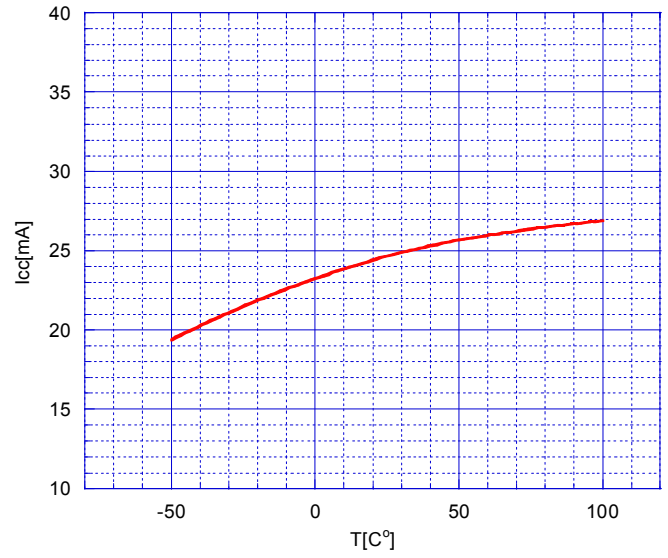
Please ground all GND terminals.

## TYPICAL CHARACTERISTICS

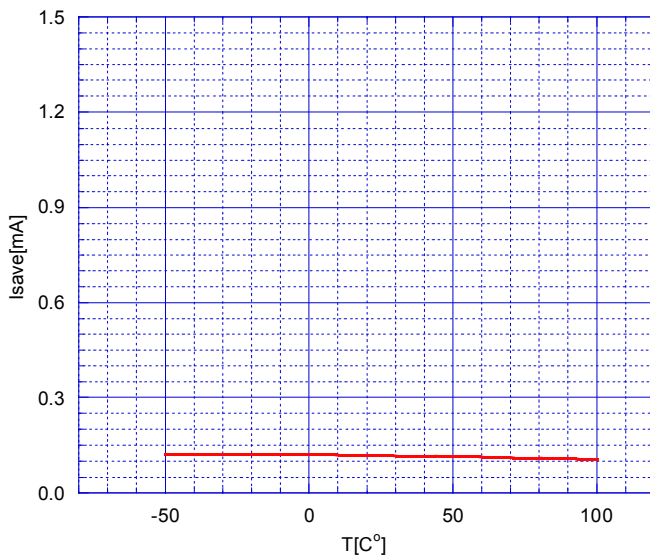
### Voltage Gain vs. Frequency



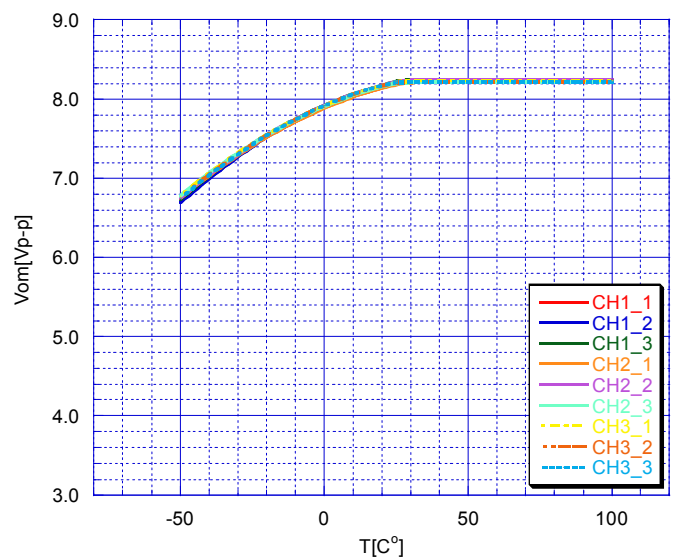
### T vs Icc



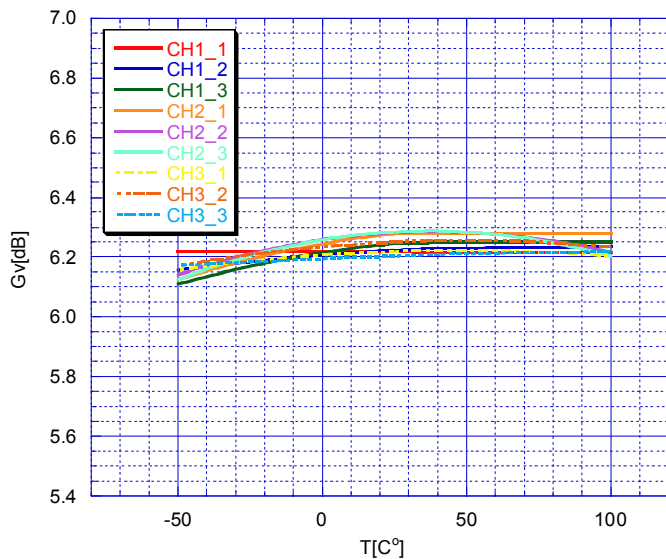
### T vs Isave



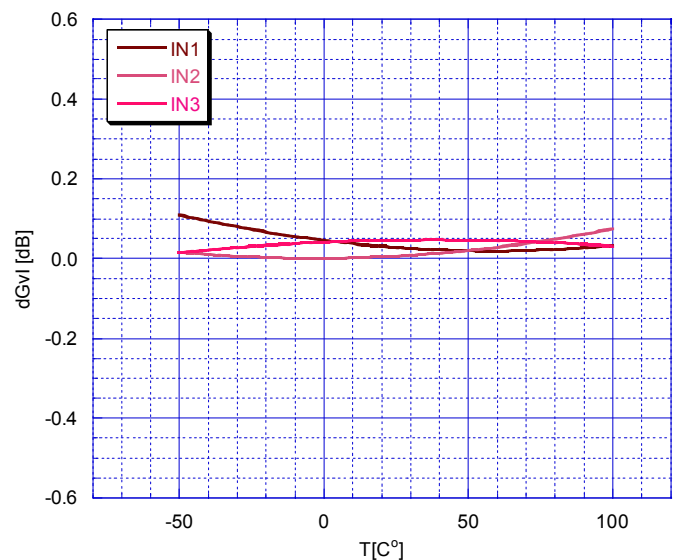
### T vs Vom



### T vs Gv

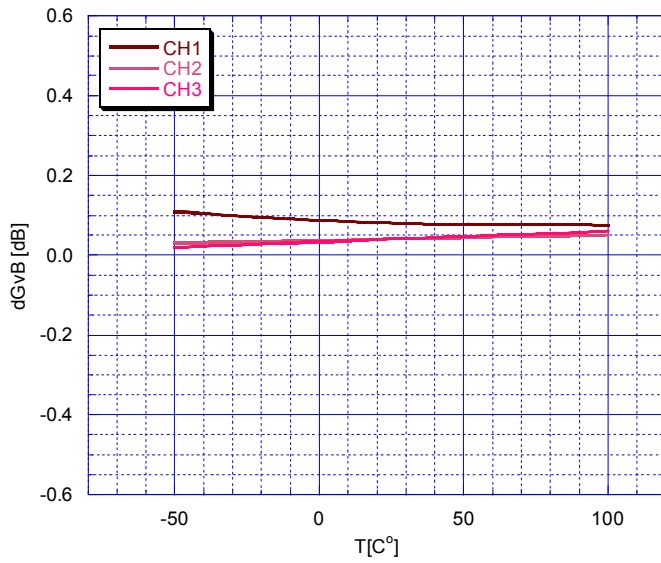


### T vs dGvI

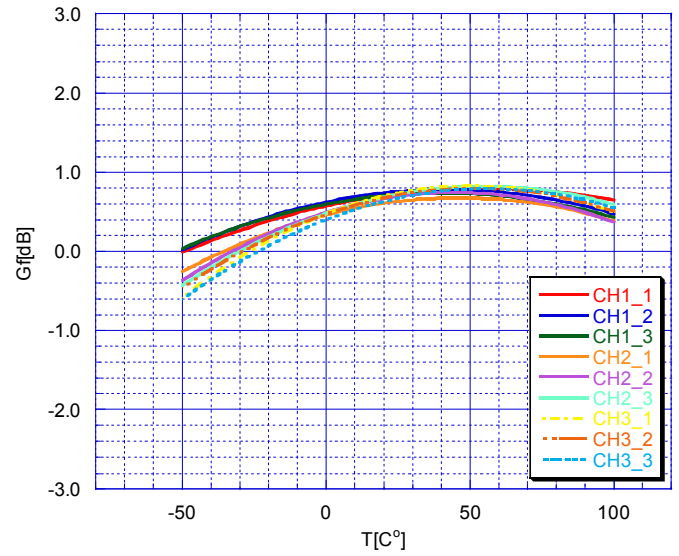


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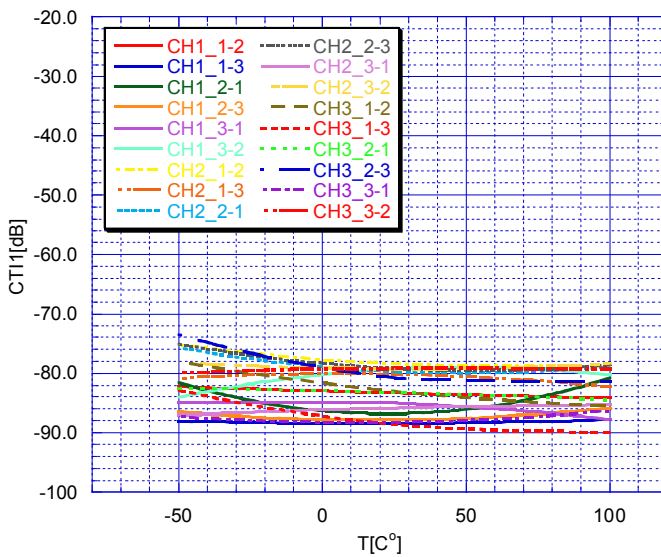
### T vs dGvB



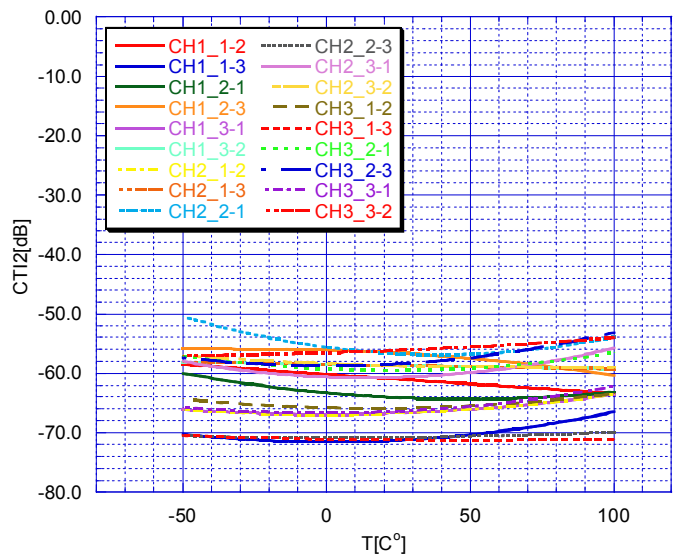
### T vs Gf



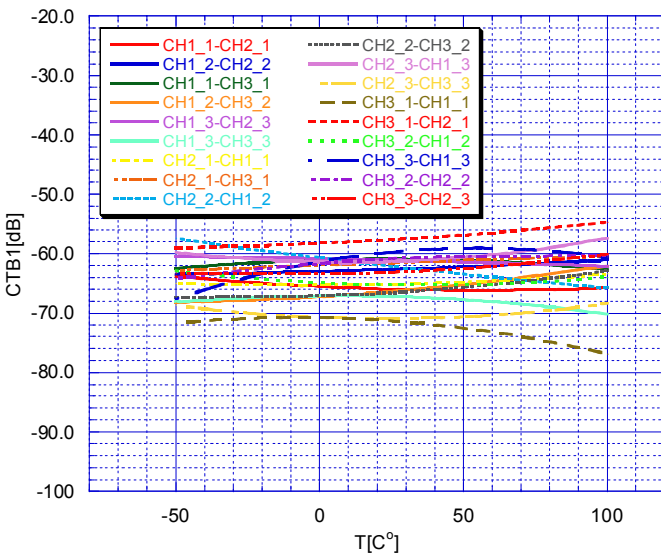
### T vs CTI1



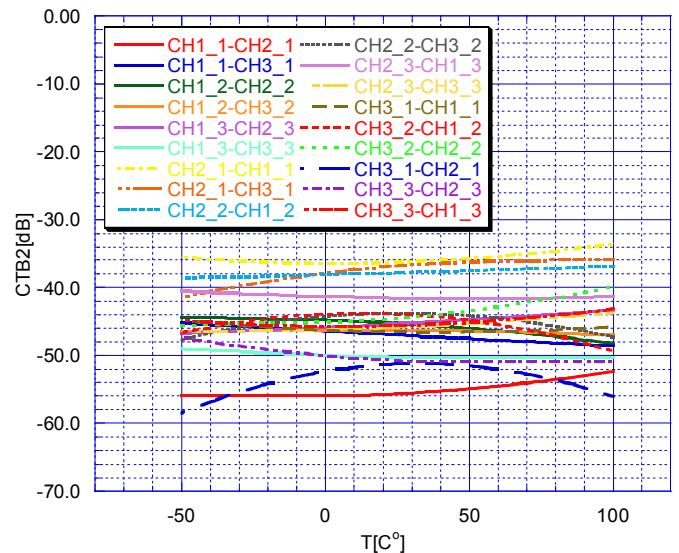
### T vs CTI2



### T vs CTB1



### T vs CTB2





[CAUTION]  
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