

## 4 INPUT 1 OUTPUT VIDEO SWITCH with ISOLATION AMP.

### ■ GENERAL DESCRIPTION

The **NJM2526** is a 4-input 1-output video switch with isolation amplifier. Isolation circuit removes the noise of a signal.

The **NJM2526** includes sync chip clamp circuit. It is suitable for the change of the composite signal, synchronized signal of the Car AV equipment

### ■ PACKAGE OUTLINE

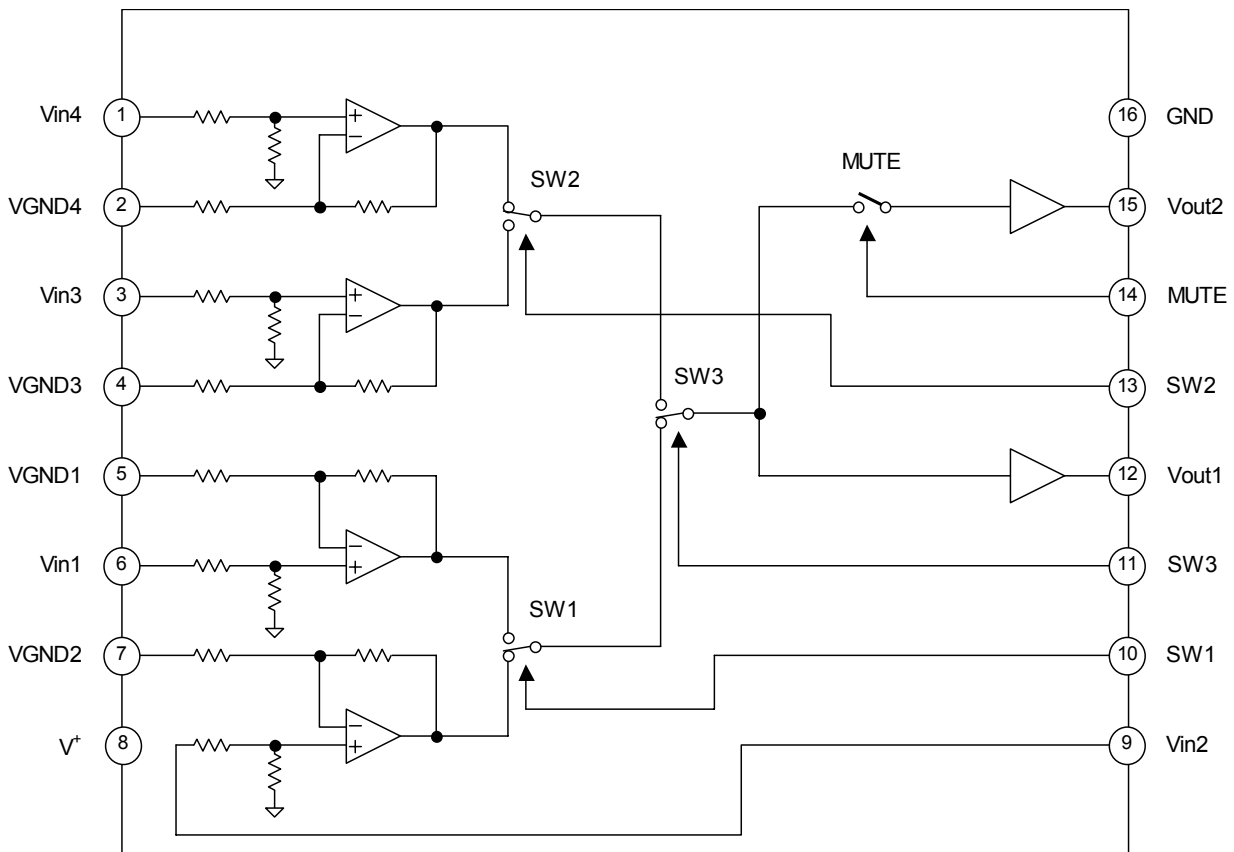


**NJM2526V**

### ■ FEATURES

- Operating Voltage      4.5 to 9.0V
- Internal Isolation Amp.
- Internal 4 input 1 output Video Switch
- Syncchip Clamp
- Bipolar Technology
- Package Outline      SSOP16

### ■ BLOCK DIAGRAM



# NJM2526

## ■ ABOSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V <sup>+</sup>	15.0	V
Power Dissipation	P <sub>D</sub>	300	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

## ■ RECOMMENDED OPERATING CONDITION (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	Vopr		4.5	-	9.0	V

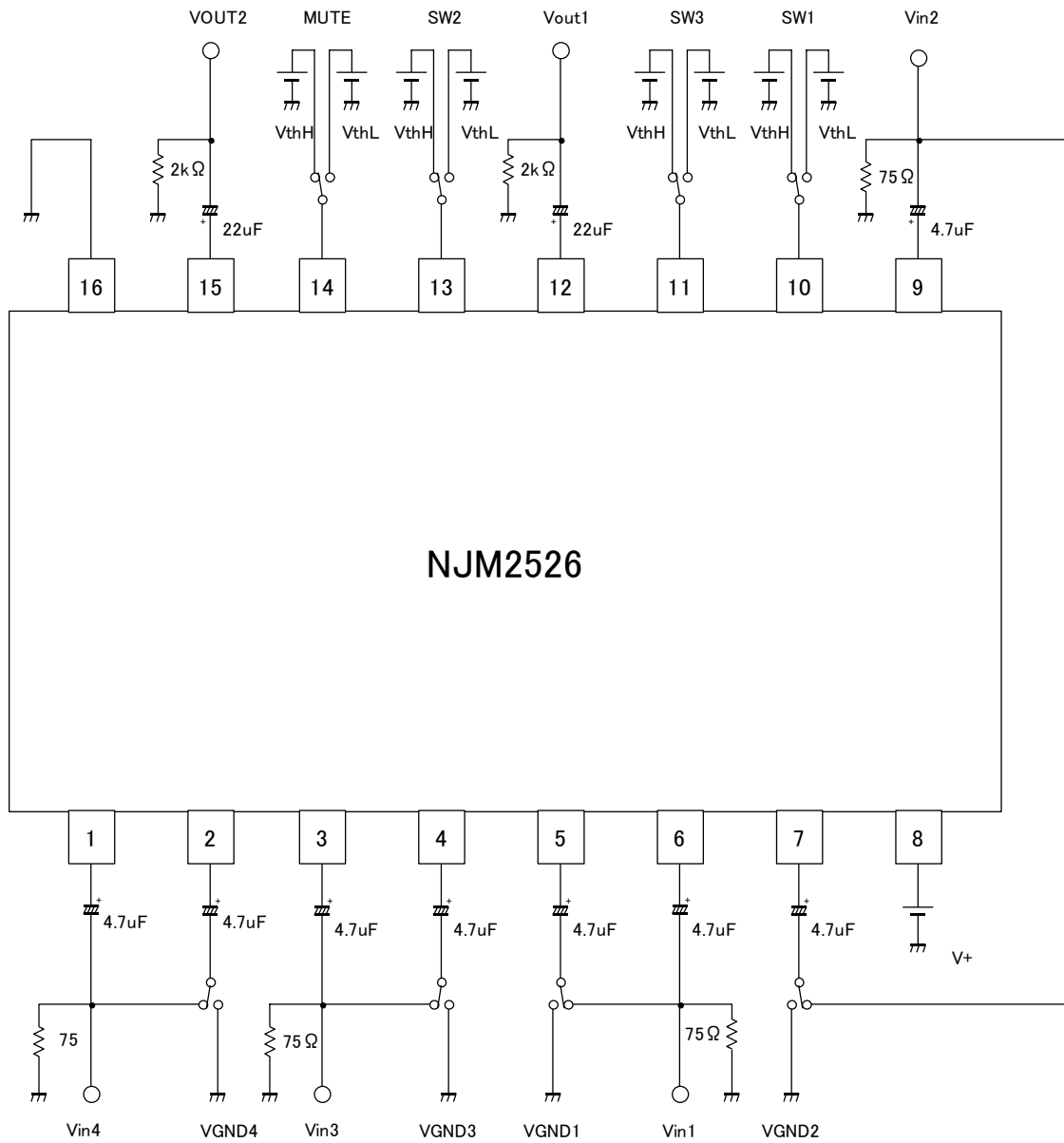
## ■ ELECTRICAL CHARACTERISTICS (V<sup>+</sup>=5.0V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I <sub>CC</sub>	No Signal	-	10	15	mA
Maximum Output Level	Vom1	Vin=100kHz, Sigh-Signal, THD=1%,	2.0	2.2	-	Vp-p
Voltage Gain	Gv	Vin=100kHz, 1.0Vp-p Sign-Signal	-1.0	0	1.0	dB
Frequency Characteristics	Gf	Vin=10MHz / 1MHz, 1.0Vpp Sign-Signal	-1.0	0	1.0	dB
Common Mode Rejection Ratio	CMR	Vin=20kHz, 1.0Vpp	-	-50	-	dB
Crosstalk Between Input	CT-I	Vin=4.43MHz, 1.0Vp-p Sign-Signal	-	-65	-	dB
Differential Gain	DG	Vin=1.0Vp-p 10step Video Signal	-	0.3	-	%
Differential Phase	DP	Vin=1.0Vp-p 10step Video Signal	-	0.4	-	deg
SW Change High Level	VthH		2.0	-	V <sup>+</sup>	V
SW Change Low Level	VthL		0	-	0.6	V

## ■ SW vs. INPUT/OUTPUT

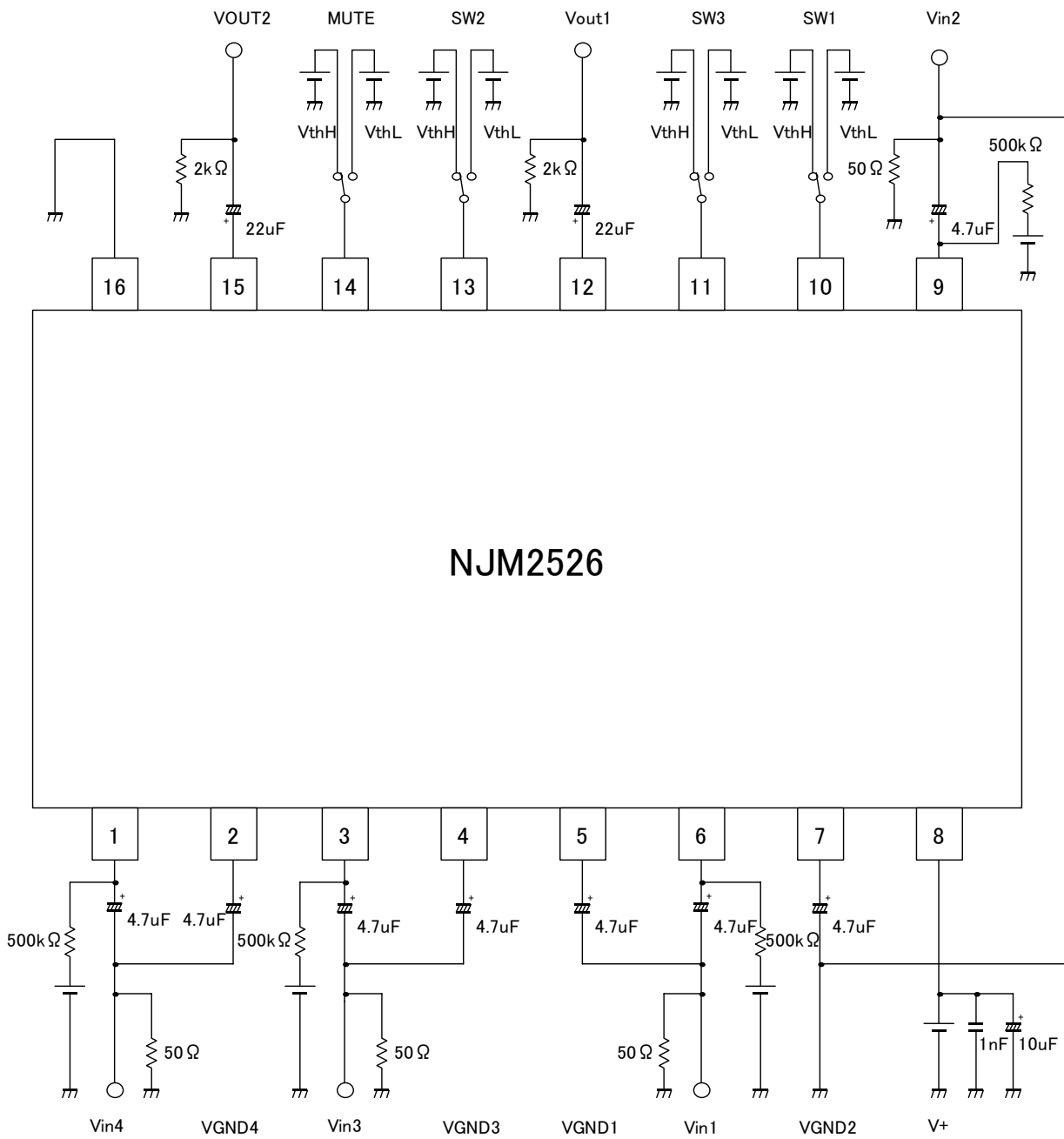
SW1	SW2	SW3	MUTE	Vout1	Vout2
L	X	L	L	Vin1	Vin1
L	X	L	H	Vin1	MUTE
H	X	L	L	Vin2	Vin2
H	X	L	H	Vin2	MUTE
X	L	H	L	Vin3	Vin3
X	L	H	H	Vin3	MUTE
X	H	H	L	Vin4	Vin4
X	H	H	H	Vin4	MUTE

## TEST CIRCUIT 1

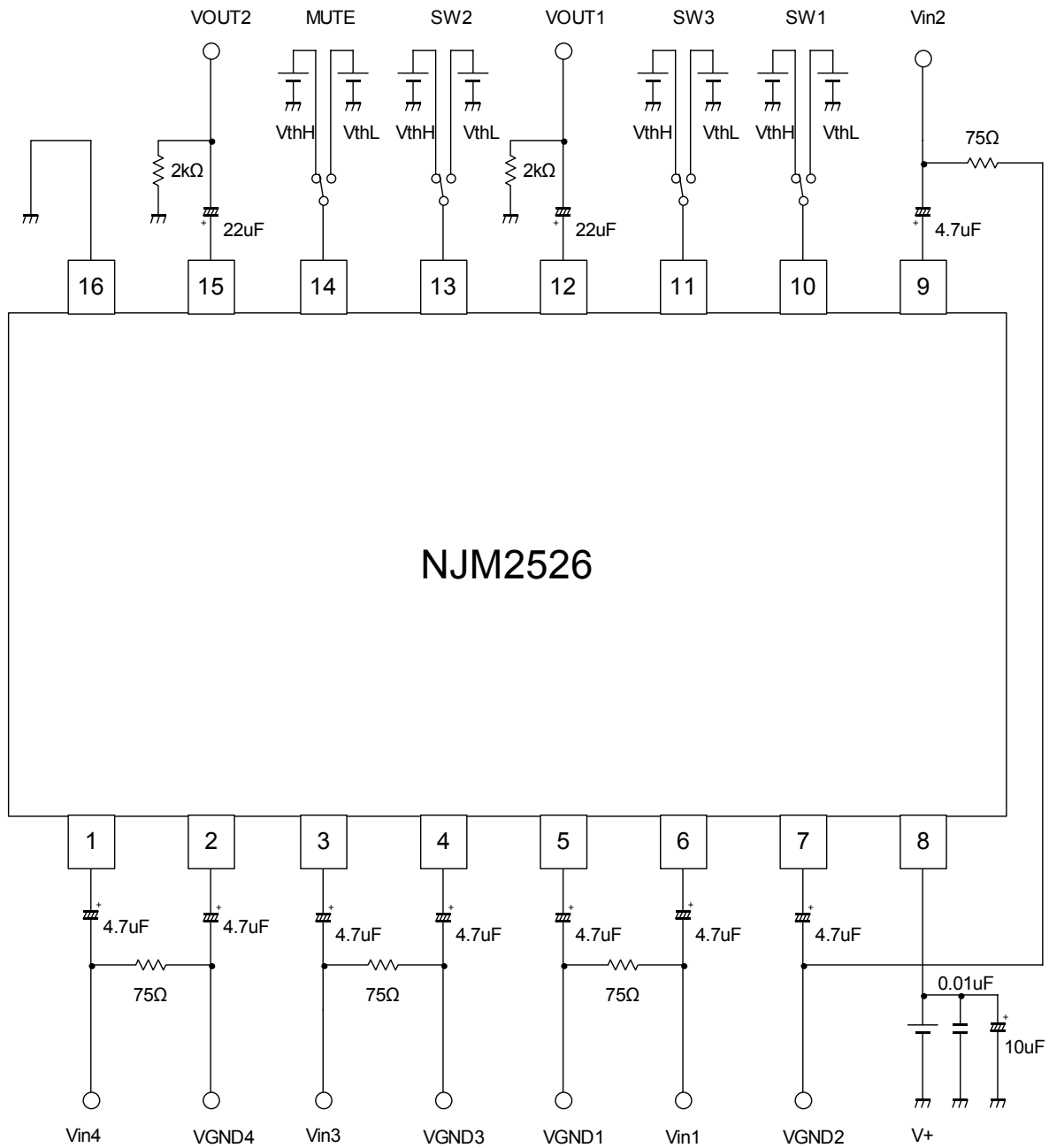


# NJM2526

## TEST CIRCUIT 2 (measure on CMR)



## APPLICATION CIRCUIT



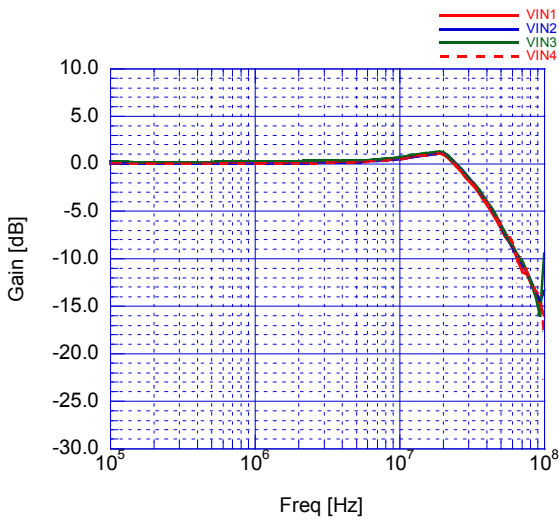
# NJM2526

## ■ EQUIVALENT CIRCUIT

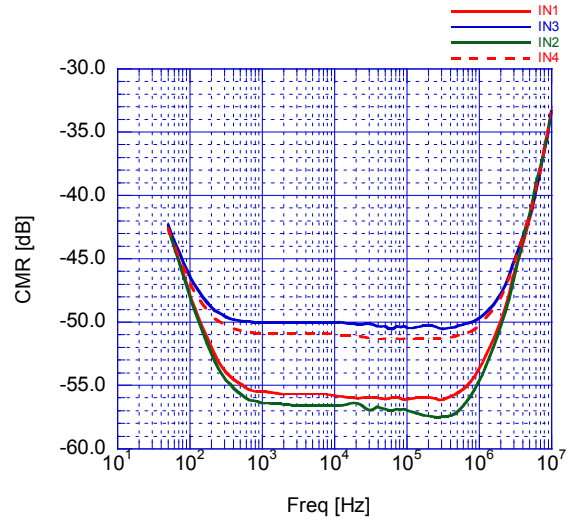
Pin No.	Symbol	Inside Equivalent Circuit	Voltage
1 3 6 9	Vin4 Vin3 Vin1 Vin2		1.64V
2 4 5 7	VGND4 VGND3 VGND1 VGND2		1.63V
8	V <sup>+</sup>		-
10 11 13 14	SW1 SW3 SW2 MUTE		-
12 15	Vout1 Vout2		0.87V
16	GND		-

## TYPICAL CHARACTERISTICS

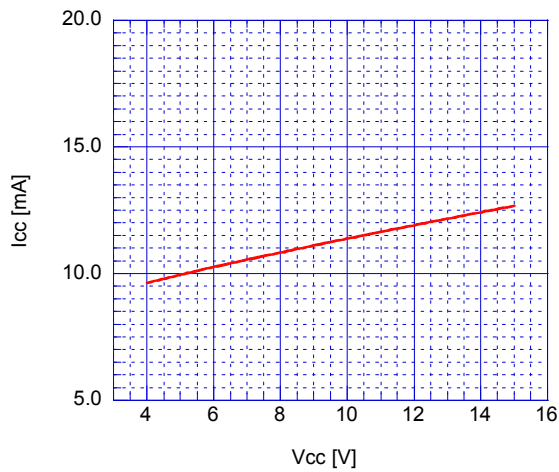
Voltage Gain vs. Frequency  
( $V_+ = 5V, V_{in} = 1V_{pp}$ )



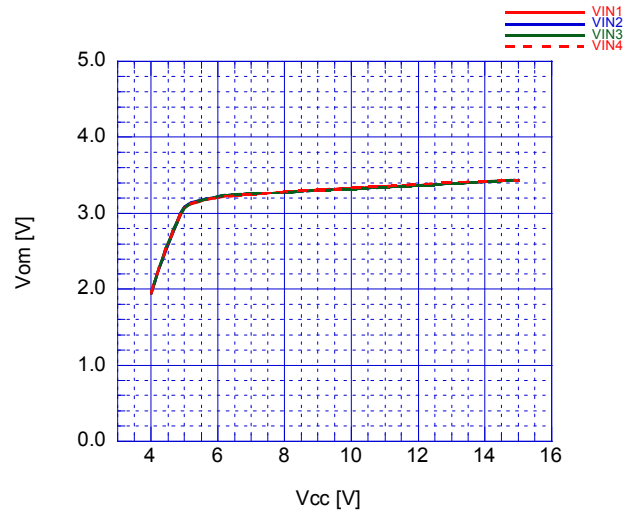
Common Mode Rejection Ratio vs. Frequency  
( $V_+ = 5V, V_{in} = 1V_{pp}$ )



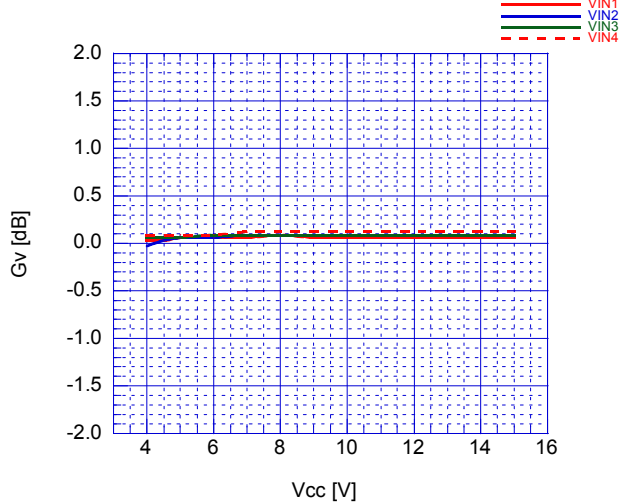
Supply Current vs. Supply Voltage  
(No Signal)



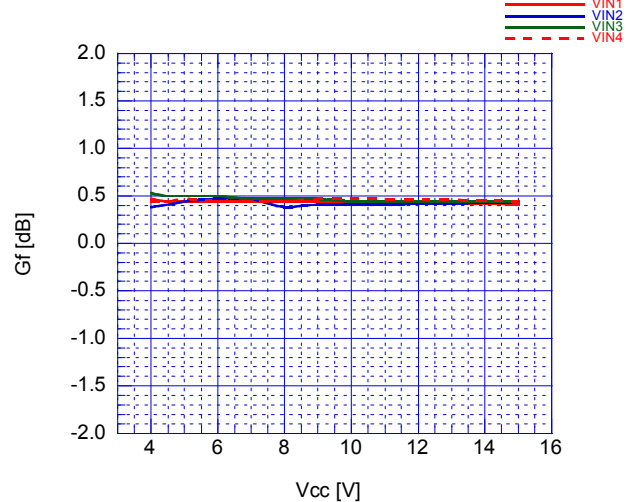
Maximum Output Voltage Swing vs. Supply Voltage  
( $V_{in} = 100kHz$  sine-signal THD=1%)



Voltage Gain vs. Supply Voltage  
( $V_{in} = 100kHz$  1Vpp sine-signal)

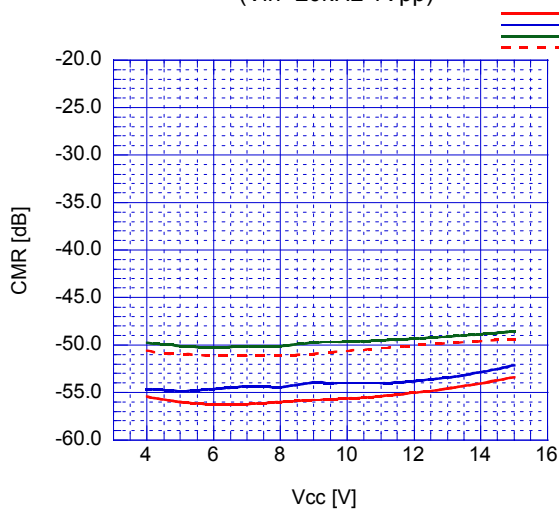


Frequency vs. Supply Voltage  
( $V_{in} = 10MHz/1MHz$  1Vpp sine-signal)

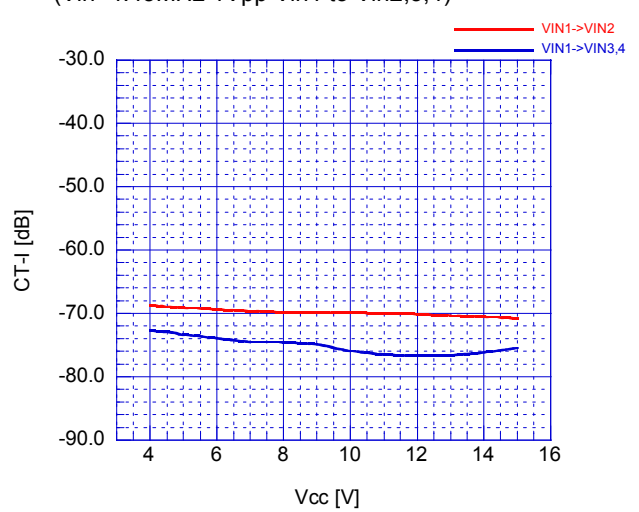


## TYPICAL CHARACTERISTICS

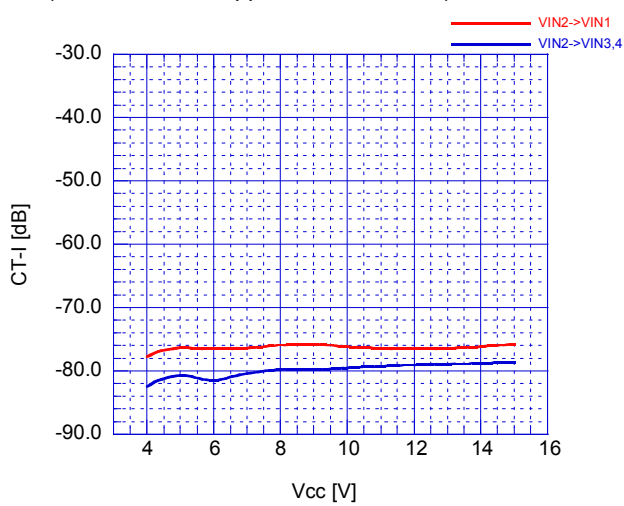
Common Mode Rejection ratio vs. Supply Voltage  
( $V_{in}=20\text{kHz}$  1Vpp)



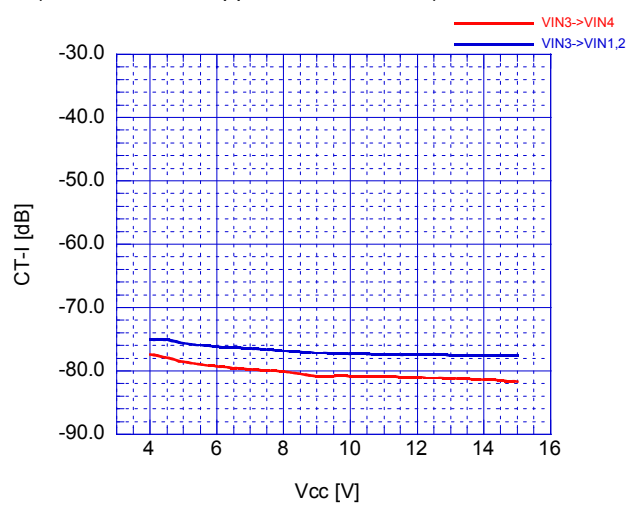
Crosstalk vs. Supply Voltage  
( $V_{in}=4.43\text{MHz}$  1Vpp  $V_{in1}$  to  $V_{in2,3,4}$ )



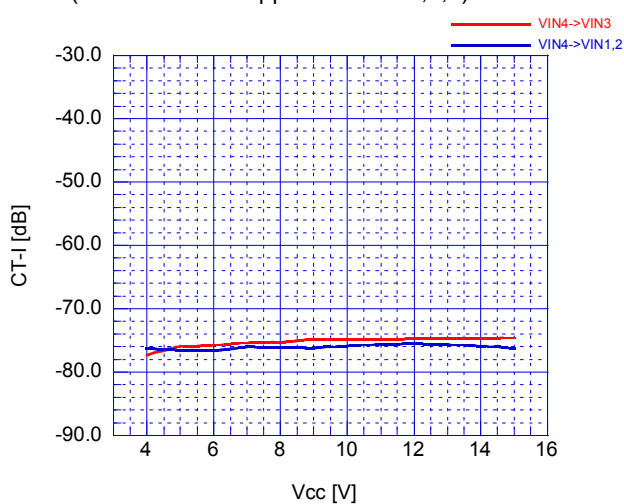
Crosstalk vs. Supply Voltage  
( $V_{in}=4.43\text{MHz}$  1Vpp,  $V_{in2}$  to  $V_{in1,3,4}$ )



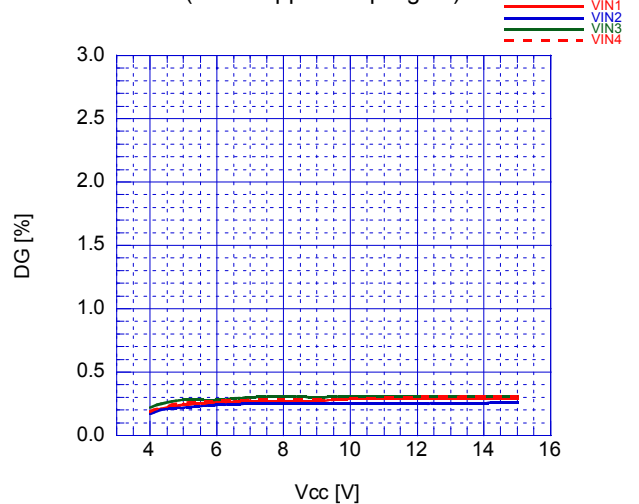
Crosstalk vs. Supply Voltage  
( $V_{in}=4.43\text{MHz}$  1Vpp,  $V_{in3}$  to  $V_{in1,2,4}$ )



Crosstalk vs. Supply Voltage  
( $V_{in}=4.43\text{MHz}$  1Vpp  $V_{in4}$  to  $V_{in1,2,3}$ )



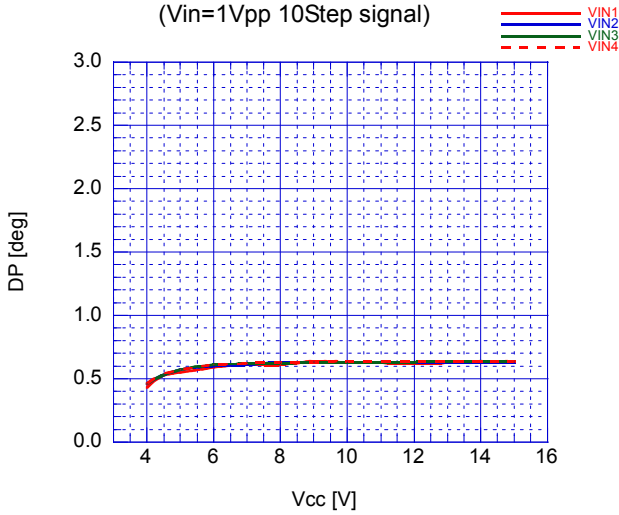
Differential Gain vs. Supply Voltage  
( $V_{iin}=1\text{Vpp}$  10Step signal)



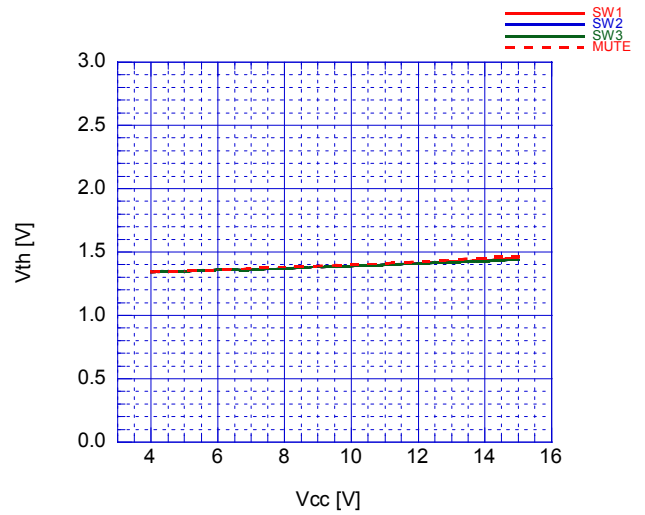


## TYPICAL CHARACTERISTICS

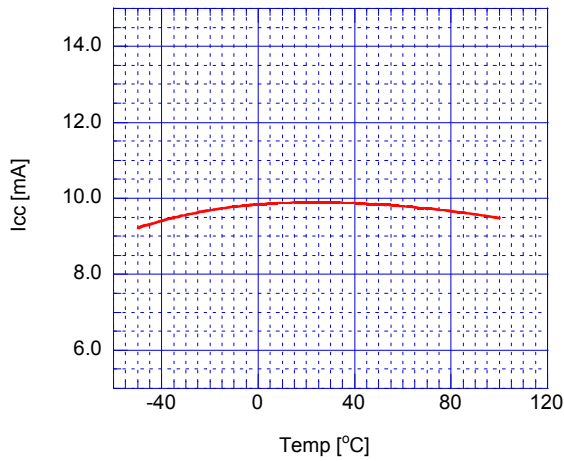
Differential Phase vs. Supply Voltage  
(Vin=1Vpp 10Step signal)



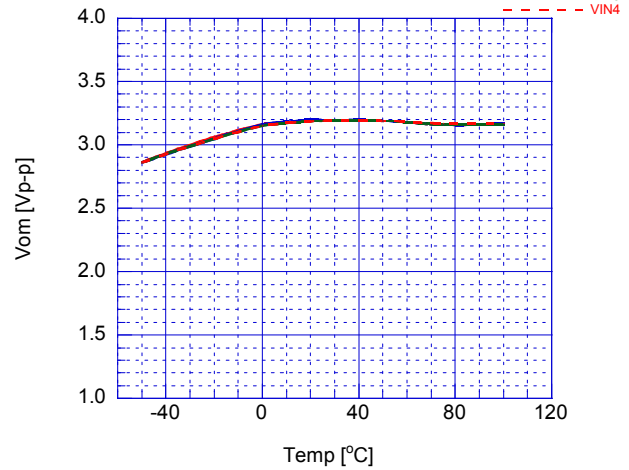
SW Change Voltage vs. Supply Voltage



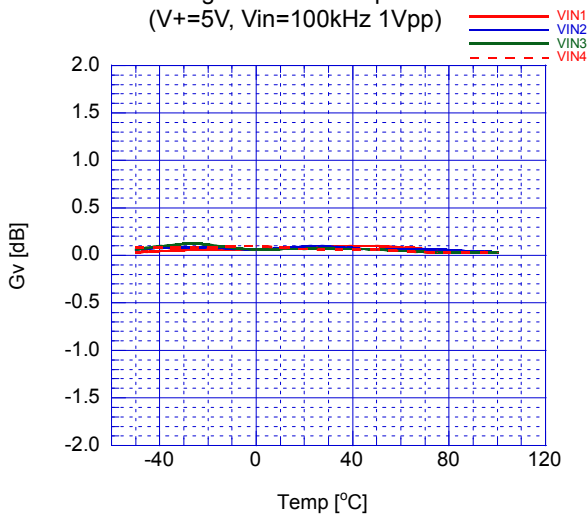
Supply Current vs. Temperature  
(V+=5V, No Signal)



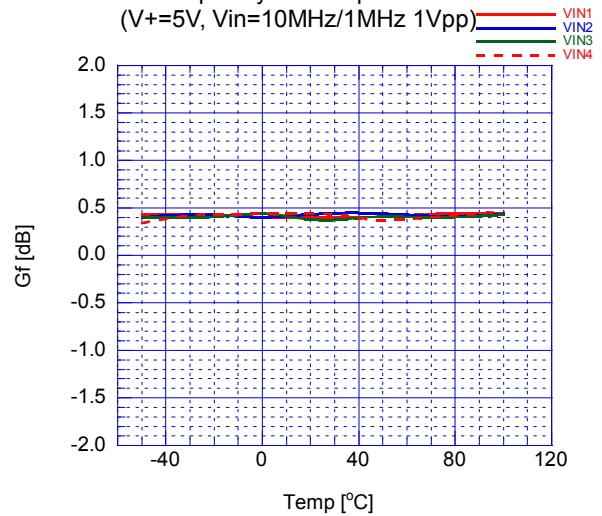
Maximum Output Voltage Swing vs. Temperature  
(V+=5V, Vin=100kHz 1Vpp)



Voltage Gain vs. Temperature  
(V+=5V, Vin=100kHz 1Vpp)

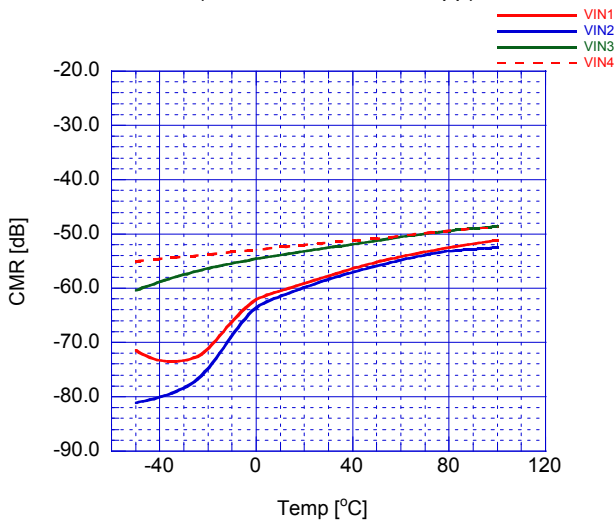


Frequency vs. Temperature  
(V+=5V, Vin=10MHz/1MHz 1Vpp)

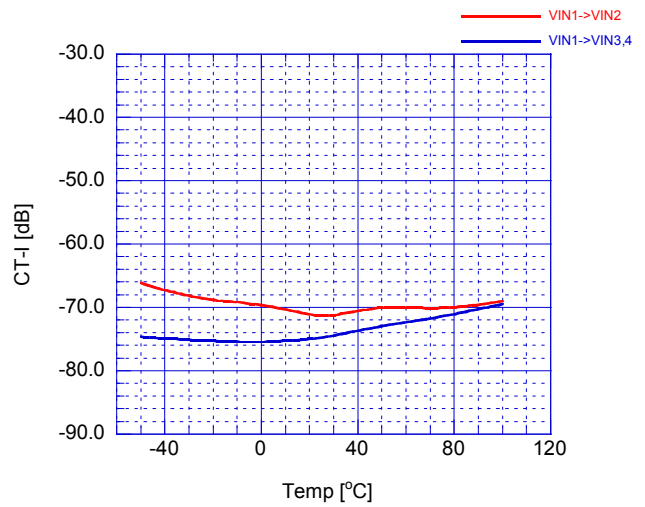


## TYPICAL CHARACTERISTICS

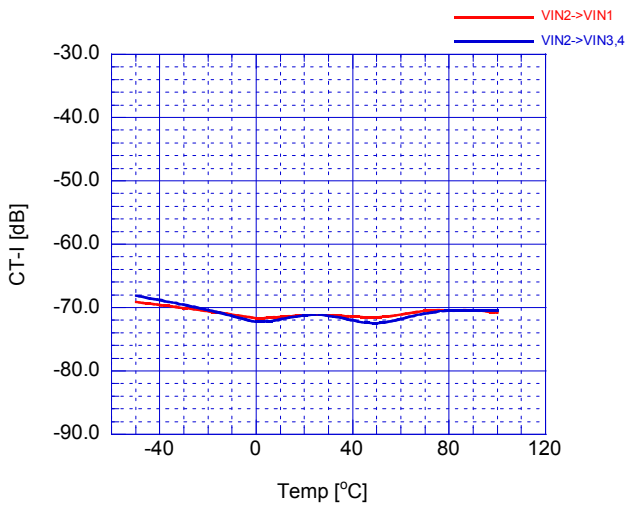
Common Mode Rejection vs. Temperature  
(V+=5V, Vin=20kHz 1Vpp)



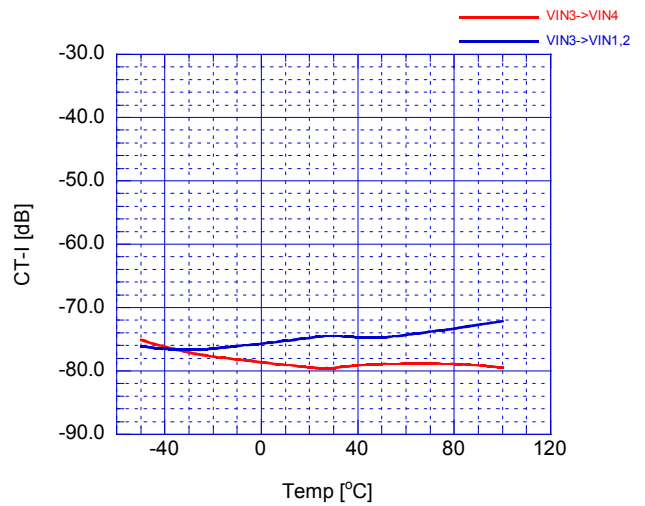
Crosstalk vs. Temperature  
(V+=5V, Vin=4.43MHz 1Vpp, Vin1 to Vin2,3,4)



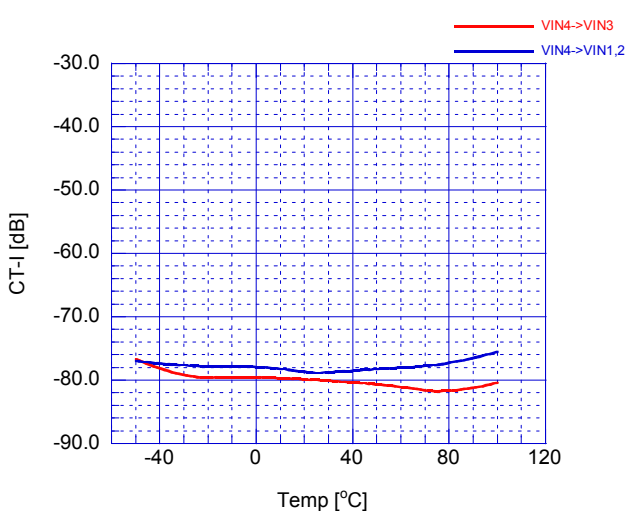
Crosstalk vs. Temperature  
(V+=5V, Vin=4.43MHz 1Vpp, Vin2 to Vin1,3,4)



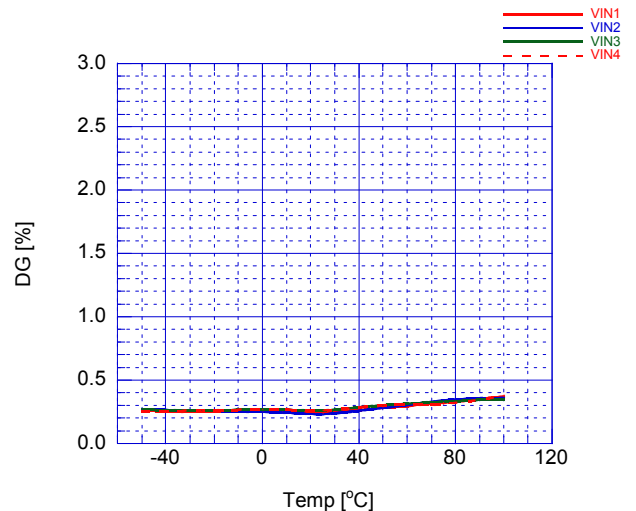
Crosstalk vs. Temperature  
(V+=5V, Vin=4.43MHz 1Vpp, Vin3 to Vin1,2,4)



Crosstalk vs. Temperature  
(V+=5V, Vin=4.43MHz 1Vpp, Vin4 to Vin1,2,3)

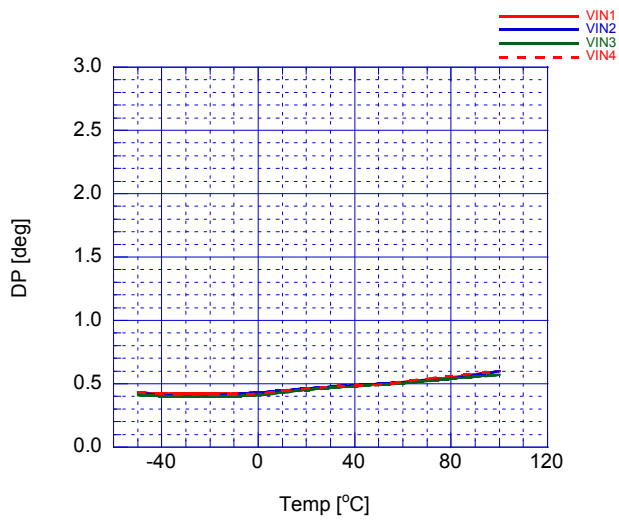


Differential Gain vs. Temperature  
(V+=5V, Vin=1Vpp 10Step signal)

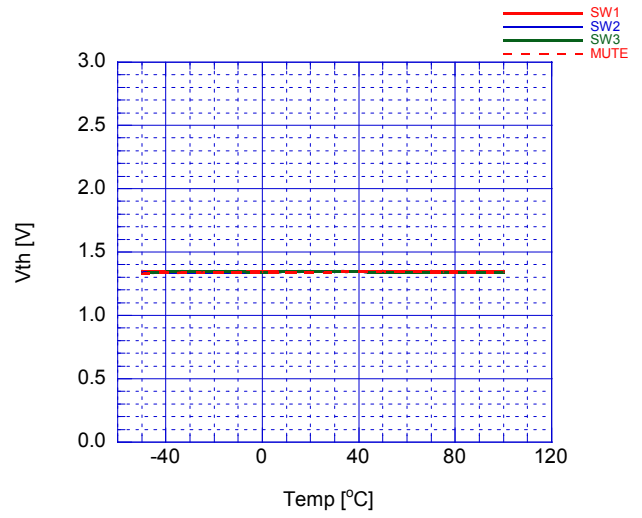


## ■ TYPICAL CHARACTERISTICS

Differential Phase vs. Temperature  
(V+=5V, Vin=1Vpp 10Step signal)



SW Change Voltage vs. Temperature  
(V+=5V)



**[CAUTION]**

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