



## V2267

## LINEAR INTEGRATED CIRCUIT

### DUAL VIDEO 6dB AMPLIFIER WITH 75Ω DRIVER

#### DESCRIPTION

The UTC V2267 is a dual video 6dB amplifier with 75Ω drivers for SVHS VCRs, HI-BAND VCRs, etc. Its operating supply voltage is 4.85 to 9V and bandwidth is 7MHz. Each channel has clamp function that fixes DC level of video signal and 75Ω drivers to be connected to TV monitors directly. Further more it has SAG corrective circuits that prevent the generation of SAG with a small capacitance.

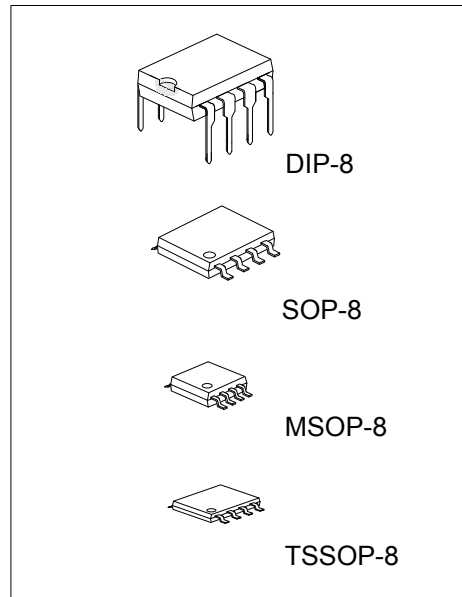
It is for VCR, Video Camera, TV, Video Disc Player.

#### FEATURES

- \* Dual Channel
- \* Wide Operating Voltage (4.85V ~ 9.0V)
- \* Low Operating Current 14.0mA (Dual)
- \* Wide Frequency Range (7MHz)
- \* Internal Clamp Function
- \* Internal Driver Circuit For 75Ω Load
- \* SAG Corrective Function
- \* Bipolar Technology

#### ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
V2267L-D08-T	V2267G-D08-T	DIP-8	Tube
-	V2267G-S08-R	SOP-8	Tape Reel
-	V2267G-SM1-R	MSOP-8	Tape Reel
-	V2267G-P08-R	TSSOP-8	Tape Reel



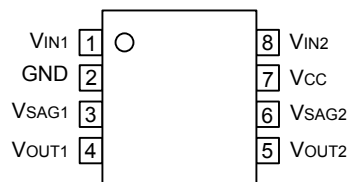
<p>V2267L-D08-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) T: Tube, R: Tape Reel (2) D08: DIP-8, SM1: MSOP-8, S08: SOP-8, P08: TSSOP-8 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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## MARKING

DIP-8	SOP-8
<p>             8 7 6 5 → Date Code              UTC              V2267              L: Lead Free              G: Halogen Free              Lot Code              1 2 3 4           </p>	<p>             8 7 6 5 → Date Code              UTC              V2267G              Lot Code              1 2 3 4           </p>
MSOP-8	TSSOP-8
<p>             8 7 6 5 → Date Code              UTC              V2267G              Lot Code              1 2 3 4           </p>	<p>             8 → Date Code              UTC              V2267G              Lot Code              1 2 3 4 5 6 7 8           </p>

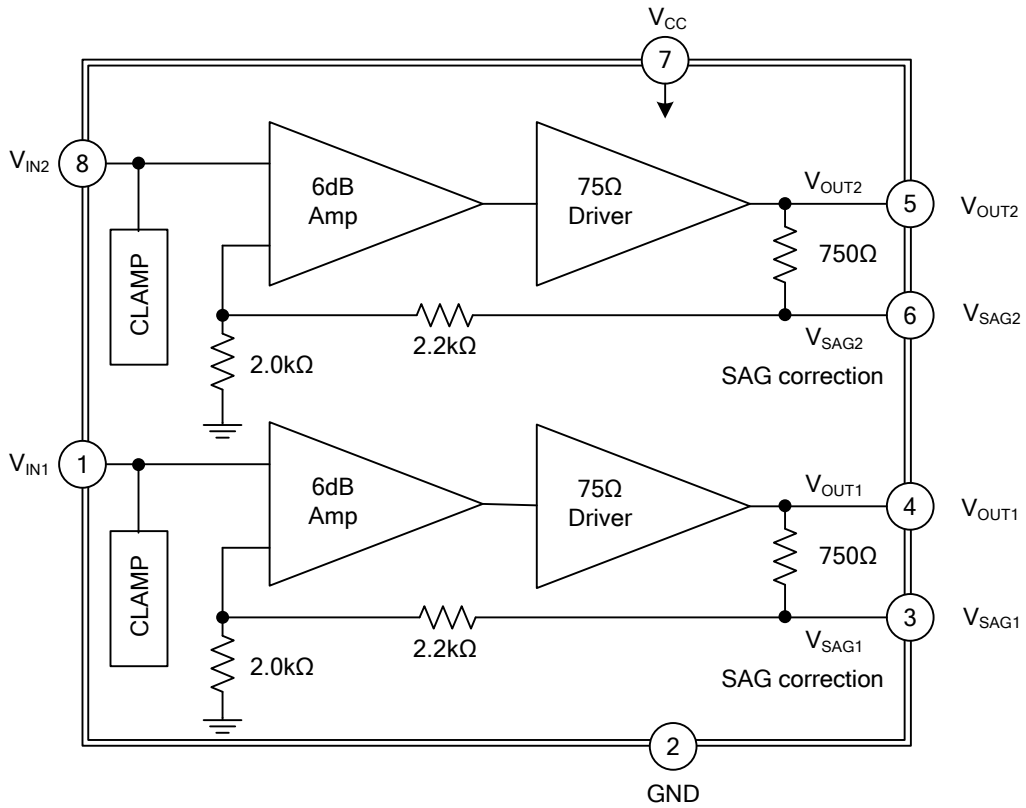
## PIN CONFIGURATIONS



## PIN DESCRIPTION

PIN NO.	PIN NAME	I/O	PIN DESCRIPTION
1	V <sub>IN1</sub>	I	Input terminal of 1V <sub>P-P</sub> composite signal or Y signal. Clamp level is 1.9V
2	GND		Ground
3	V <sub>SAG1</sub>	O	Channel 1 SAG correction output
4	V <sub>OUT1</sub>	O	Output terminal that can drive 75Ω line. Channel 1 output
5	V <sub>OUT2</sub>	O	Output terminal that can drive 75Ω line. Channel 2 output
6	V <sub>SAG2</sub>	O	Channel 2 SAG correction output
7	V <sub>CC</sub>		Supply voltage
8	V <sub>IN2</sub>	I	Input terminal of 1V <sub>P-P</sub> composite signal or Y signal. Clamp level is 1.9V

■ BLOCK DIAGRAM



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### ■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		$V_{CC}$	10	V
Power Dissipation	DIP-8	$P_D$	500	mW
	SOP-8		350	mW
	MSOP-8		300	mW
	TSSOP-8		250	mW
Operating Temperature		$T_{OPR}$	-40 ~ +85	°C
Storage Temperature		$T_{STG}$	-40 ~ +125	°C

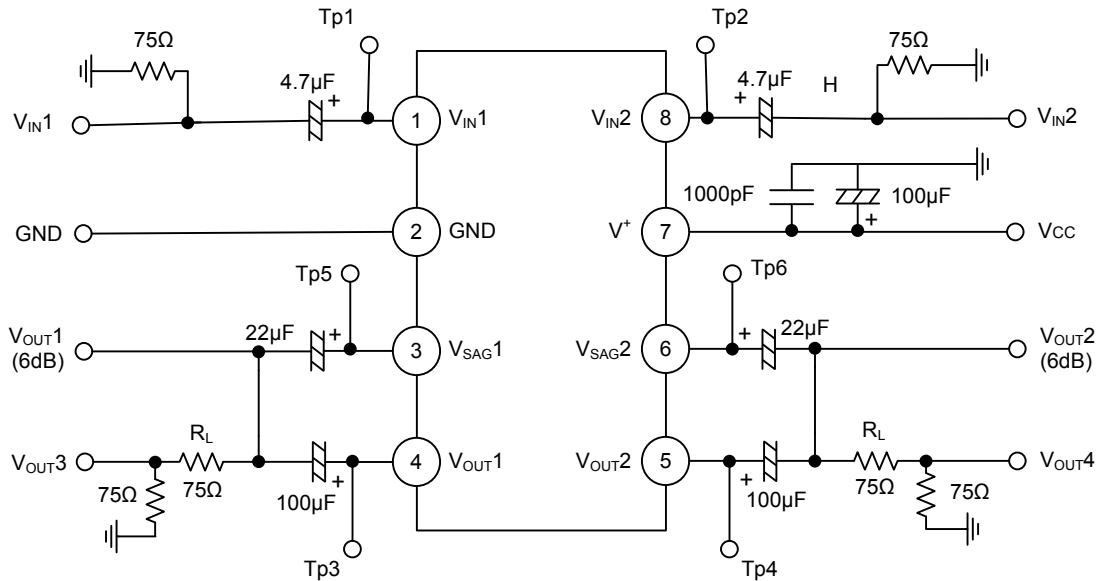
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

### ■ ELECTRICAL CHARACTERISTICS ( $V_{CC}=5V$ , $T_A=25^\circ C$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Clamp Voltage	$V_{CL}$	Measuring at TP1(TP2) No signal	1.79	1.91	2.03	V
Operating Current	$I_{CC}$	No signal		14.0	18.2	mA
Voltage Gain	$G_V$	$V_{OUT1}/V_{IN1}$ , $V_{OUT2}/V_{IN2}$ at $V_{IN1}(V_{IN2})=1MHz$ , $1V_{P-P}$ , Sinewave	5.7	6.2	6.7	dB
Frequency Characteristic	$G_F$	$V_{IN}=1V_{P-P}$ , Sinewave, 7MHz/1MHz			$\pm 1.0$	dB
Crosstalk	CT	$V_{OUT2}/V_{OUT1}$ at $V_{IN1} = 4.43MHz$ , $1V_{P-P}$ , $V_{IN2}=Gnd$ , Sinewave $V_{OUT1}/V_{OUT2}$ at $V_{IN2} = 4.43MHz$ , $1V_{P-P}$ , $V_{IN1}=Gnd$ , Sinewave		-70		dB
Gain Offset	$G_{CH}$	$V_{IN}=1MHz$ , $1V_{P-P}$ , $G_{V1} = V_{OUT1}/V_{IN1}$ , $G_{V2} = V_{OUT2}/V_{IN2}$ , $G_{CH} = G_{V1}-G_{V2}$			$\pm 0.5$	dB
SAG Terminal Gain	$G_{SAG}$		35	45		dB
Differential Gain	$G_{DIFF}$	$V_{IN1}=1V_{P-P}$ , Staircase Measuring $V_{OUT3}$ at $V_{IN1} =$ Staircase Signal		1.0	3.0	%
Differential Phase	DP	$V_{IN1}=1V_{P-P}$ , Staircase Measuring $V_{OUT3}$ at $V_{IN1} =$ Staircase Signal		1.0	3.0	deg

■ TEST CIRCUIT



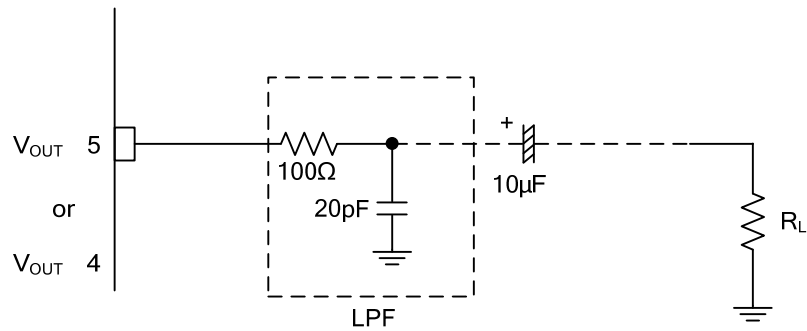
■ TEST METHODES

PARAMETER	SYMBOL	TEST METHODES
Input Clamp Voltage	$V_{CL}$	No signal Measuring at TP1(TP2)
Operating Current	$I_{CC}$	No signal 7PIN Sink Current
Voltage Gain	$G_V$	$V_{OUT1}/V_{IN1}$ , $V_{OUT2}/V_{IN2}$ , at $V_{IN1}(V_{IN2})=1\text{MHz}$ , $1V_{P-P}$ , Sinewave
Frequency Characteristic	$G_F$	$G_{V1M}$ ; Voltage Gain at $V_{IN1}(V_{IN2})=1\text{MHz}$ , $1V_{P-P}$ $G_{V10M}$ ; Voltage Gain at $V_{IN1}(V_{IN2})=10\text{MHz}$ , $1V_{P-P}$ , $G_F = G_{V10M} - G_{V1M}$
Crosstalk	CT	$V_{OUT2}/V_{IN1}$ at $V_{IN1} = 4.43\text{MHz}$ , $1V_{P-P}$ , Sinewave, $V_{IN2}=\text{Gnd}$ $V_{OUT1}/V_{IN2}$ at $V_{IN2}=4.43\text{MHz}$ , $1V_{P-P}$ , Sinewave, $V_{IN1}=\text{Gnd}$
Gain Offset	$G_{CH}$	$V_{IN}=1\text{MHz}$ , $1V_{P-P}$ , $G_{V1} = V_{OUT1}/V_{IN1}$ , $G_{V2} = V_{OUT2}/V_{IN2}$ , $G_{CH} = G_{V1}-G_{V2}$
Differential Gain	$G_{DIFF}$	$V_{IN1}=1V_{P-P}$ , Staircase, Measuring $V_{OUT3}$ at $V_{IN1} = \text{Staircase Signal}$
Differential Phase	DP	$V_{IN1}=1V_{P-P}$ , Staircase, Measuring $V_{OUT3}$ at $V_{IN1} = \text{Staircase Signal}$

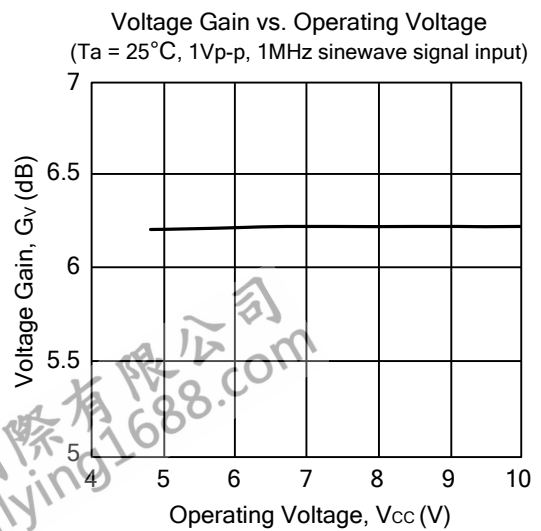
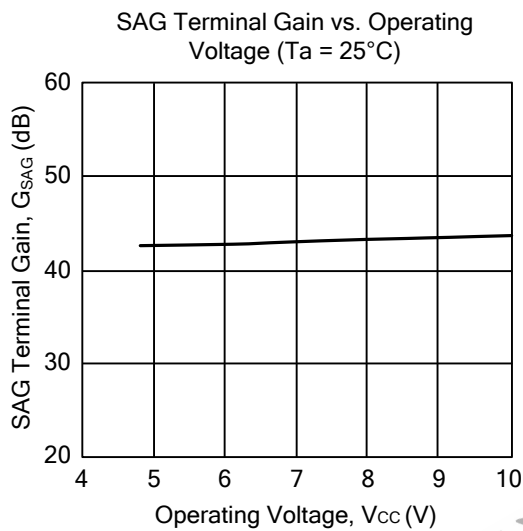
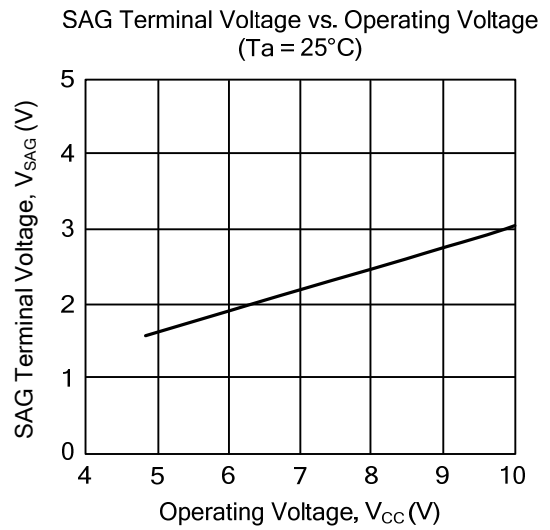
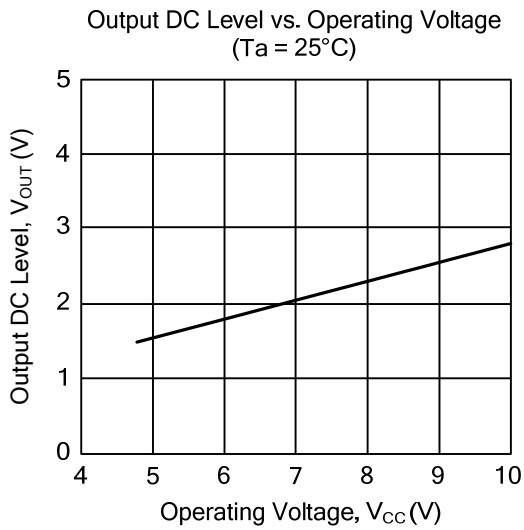
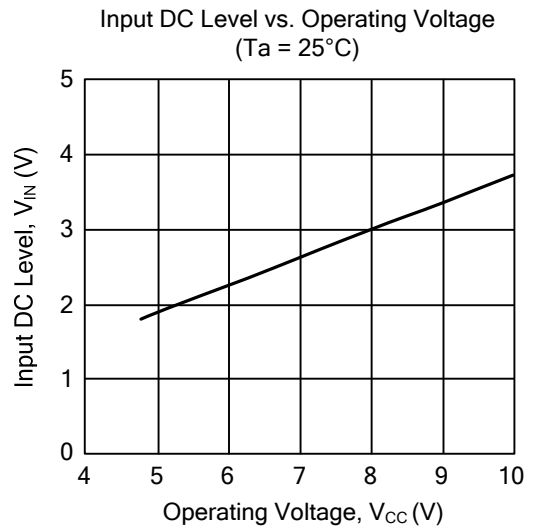
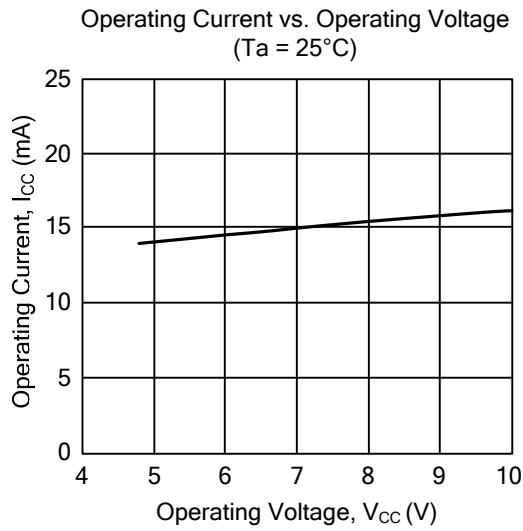
**■ APPLICATION****Oscillation Prevention**

It is much effective to insert LPF (Cutoff Frequency 70MHz) under light loading conditions ( $R_L \gg 1k\Omega$ )

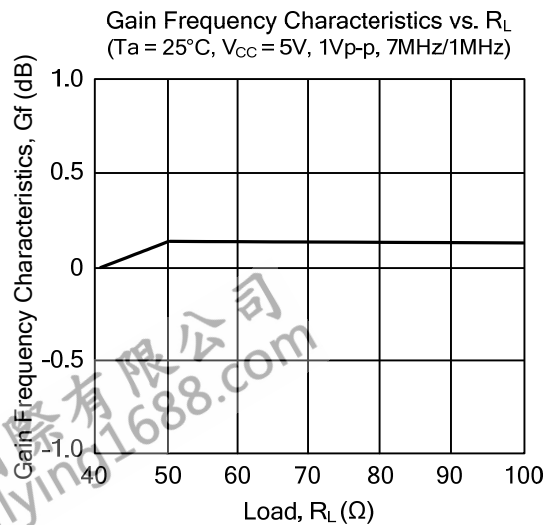
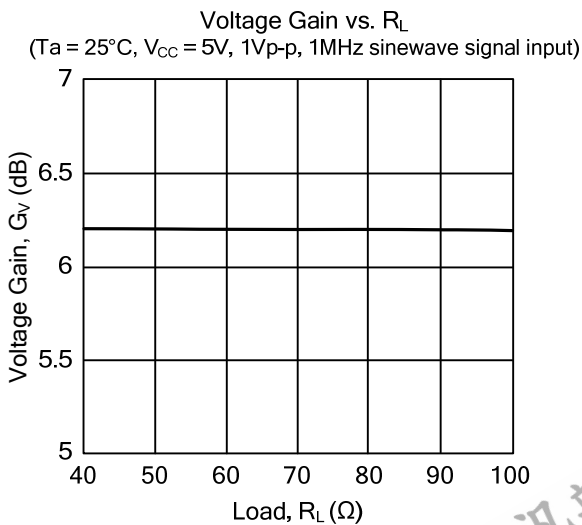
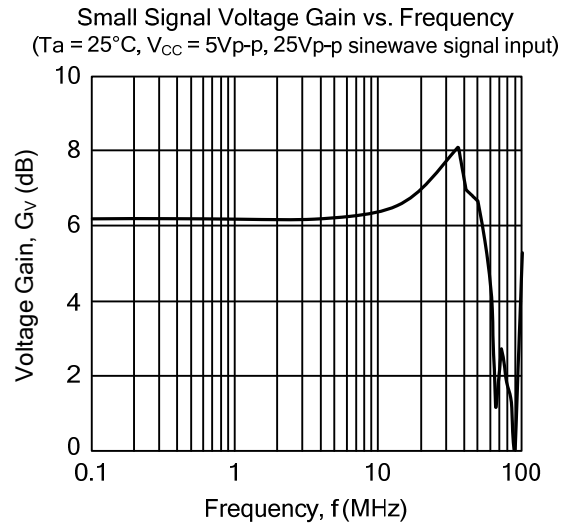
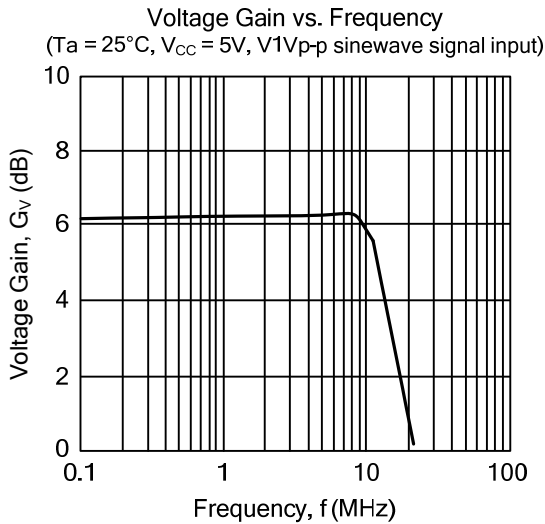
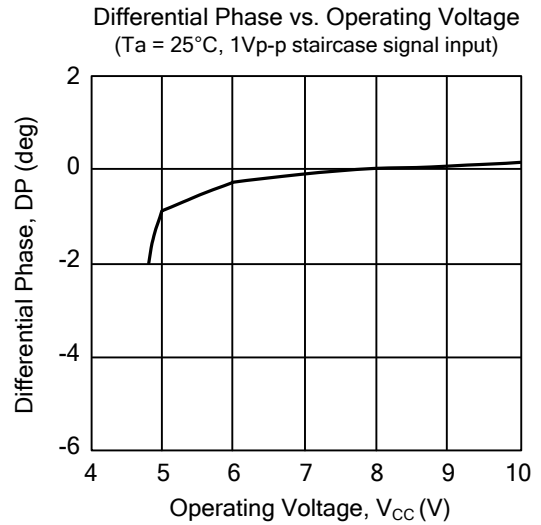
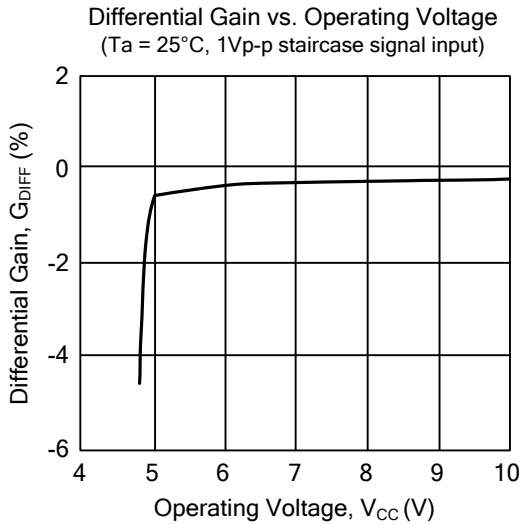
This IC requires  $1M\Omega$  resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



■ TYPICAL CHARACTERISTICS

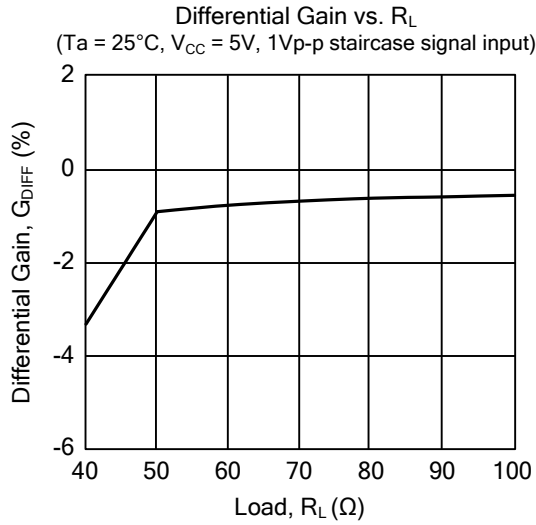


■ TYPICAL CHARACTERISTICS(Cont.)





■ TYPICAL CHARACTERISTICS(Cont.)



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