



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.

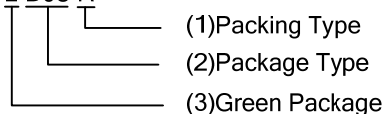
■ FEATURES

- * 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

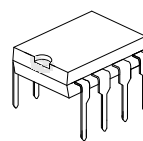
■ ORDERING INFORMATION

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

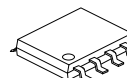
V2267L-D08-R



- (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



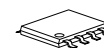
DIP-8



SOP-8



MSOP-8

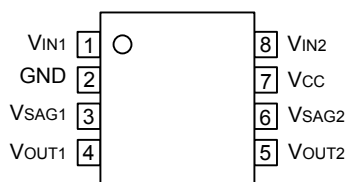


TSSOP-8

MARKING

DIP-8	SOP-8
UTC □□□□ → Date Code V2267 □ → L: Lead Free □ → G: Halogen Free □□ → Lot Code	UTC □□□□ → Date Code V2267G □ → Lot Code
MSOP-8	TSSOP-8
UTC □□□□ → Date Code V2267G □ → Lot Code	UTC □□□□ → Date Code V2267G □ → Lot Code

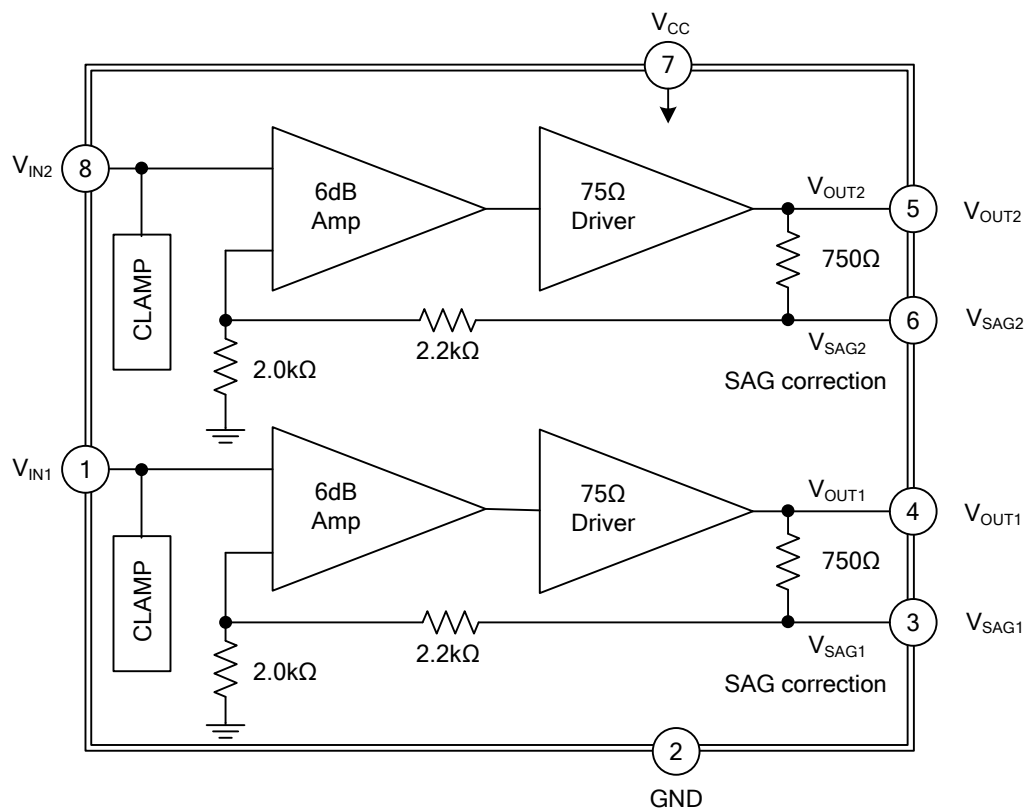
PIN CONFIGURATIONS



PIN DESCRIPTION

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

■ BLOCK DIAGRAM



■ 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

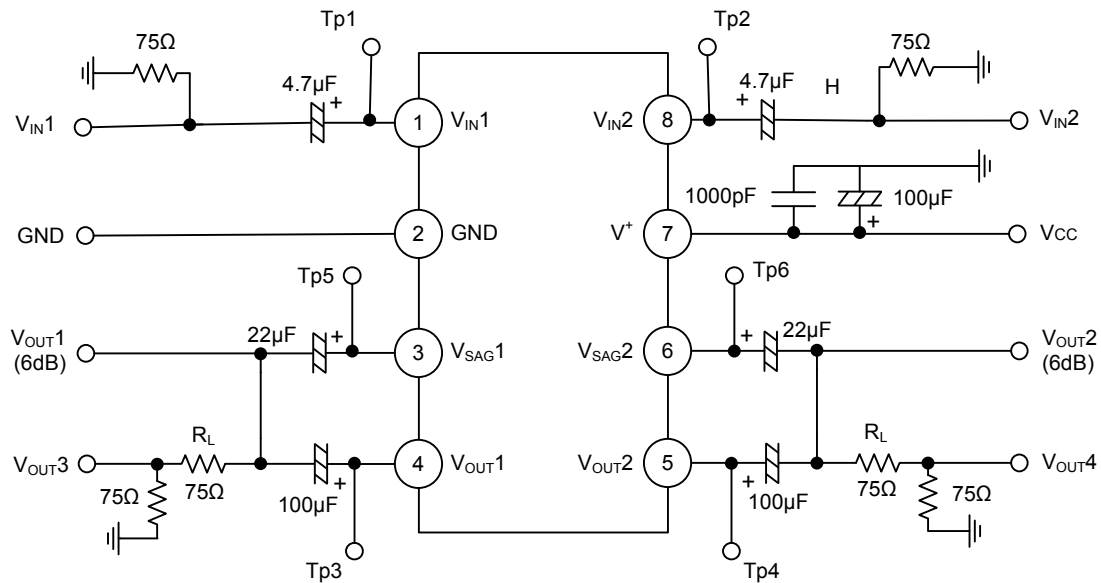
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

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			± 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}	$V_{IN}=1MHz$, $1V_{P-P}$, $G_{V1}=V_{OUT1}/V_{IN1}$, $G_{V2}=V_{OUT2}/V_{IN2}$, $G_{CH}=G_{V1}-G_{V2}$			± 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

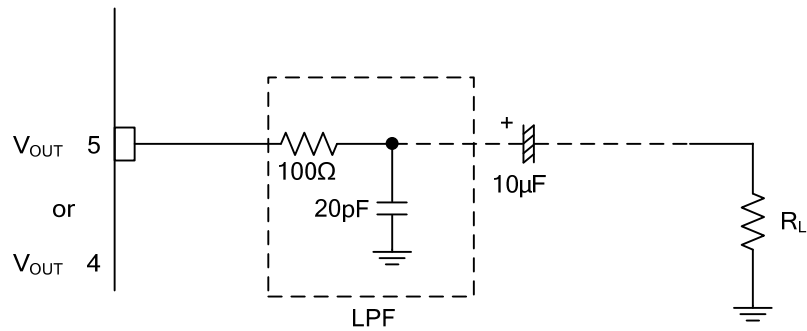
PARAMETER	SYMBOL	TEST METHODES
Input Clamp Voltage	V_{CL}	No signal Measuring at TP1(TP2)
Operating Current	I_{CC}	No signal 7PIN Sink Current
Voltage Gain	G_V	V_{OUT1}/V_{IN1} , V_{OUT2}/V_{IN2} , at $V_{IN1}(V_{IN2})=1\text{MHz}$, $1V_{P-P}$, Sinewave
Frequency Characteristic	G_F	G_{V1M} ; Voltage 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, $V_{IN2}=Gnd$ V_{OUT1}/V_{IN2} at $V_{IN2}=4.43\text{MHz}$, $1V_{P-P}$, Sinewave, $V_{IN1}=Gnd$
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

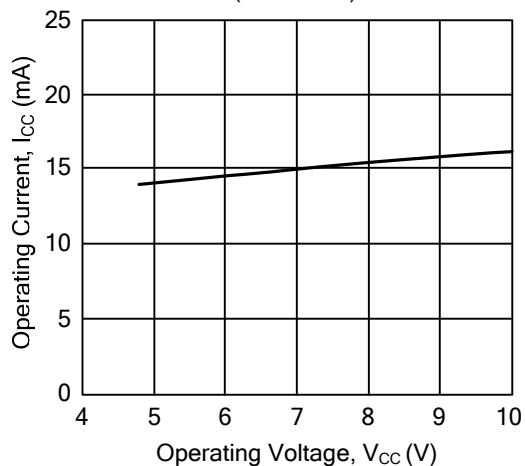
It is much effective to insert LPF (Cutoff Frequency 70MHz) under light loading conditions ($R_L \gg 1k\Omega$)

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

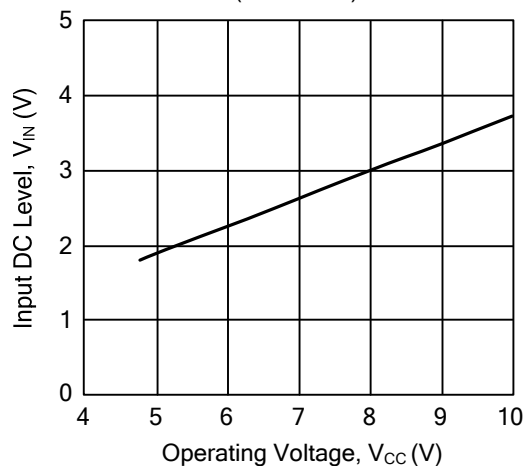


■ TYPICAL CHARACTERISTICS

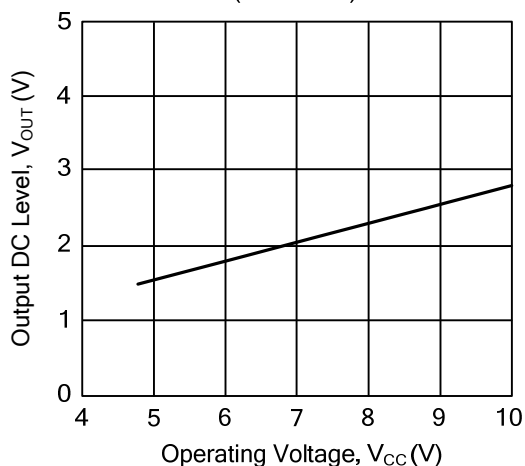
Operating Current vs. Operating Voltage
($T_a = 25^\circ\text{C}$)



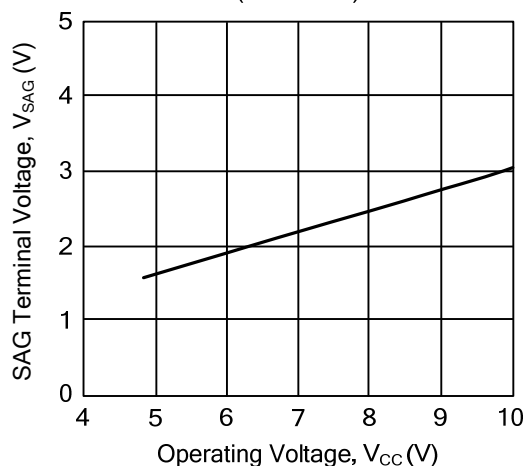
Input DC Level vs. Operating Voltage
($T_a = 25^\circ\text{C}$)



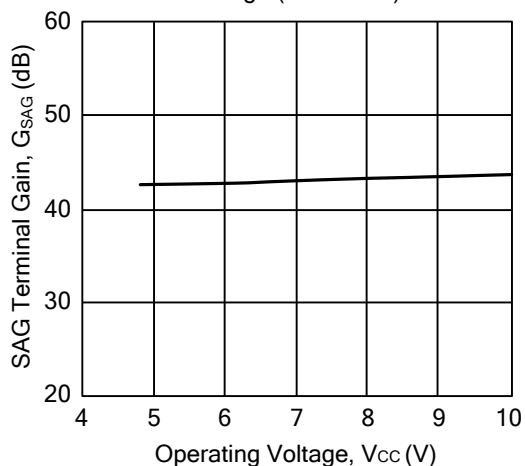
Output DC Level vs. Operating Voltage
($T_a = 25^\circ\text{C}$)



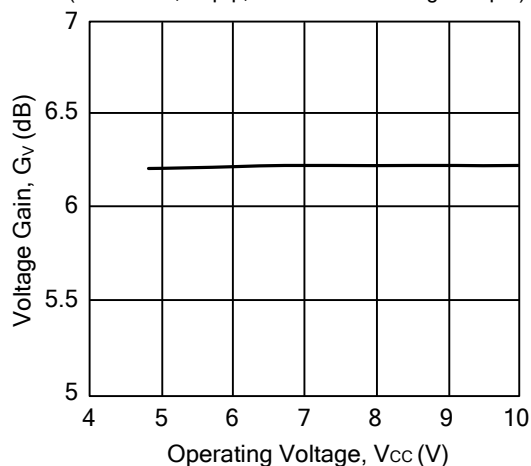
SAG Terminal Voltage vs. Operating Voltage
($T_a = 25^\circ\text{C}$)



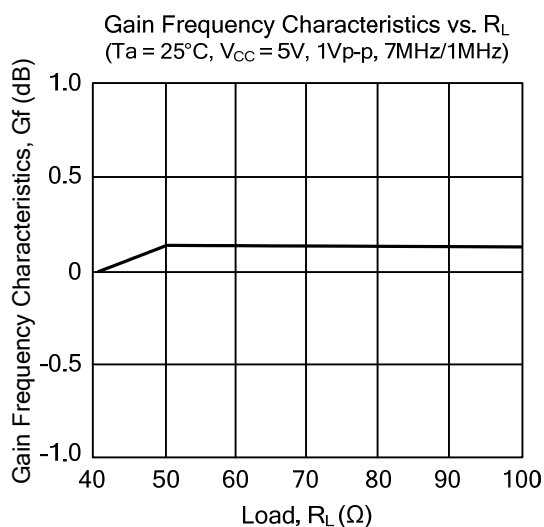
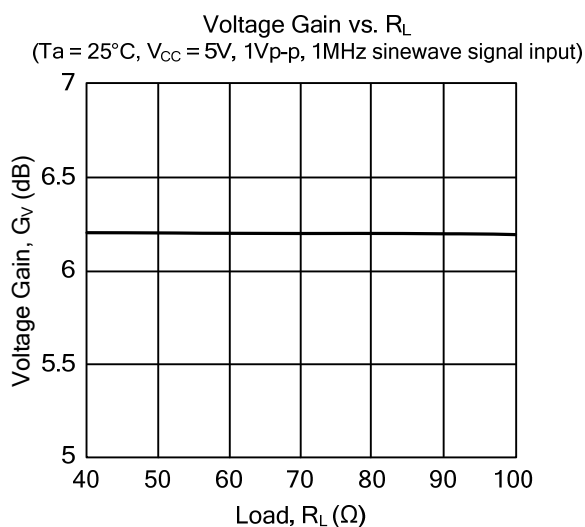
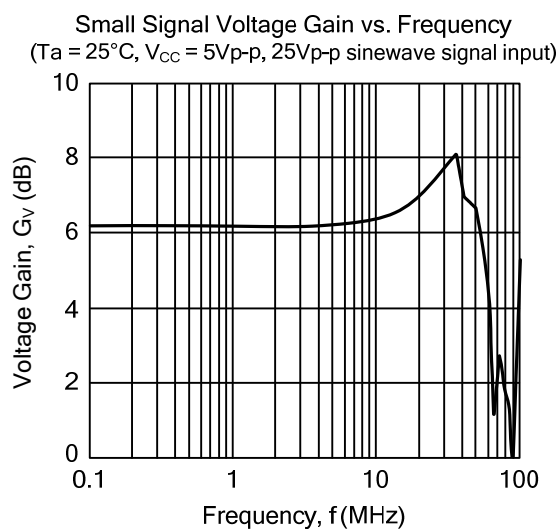
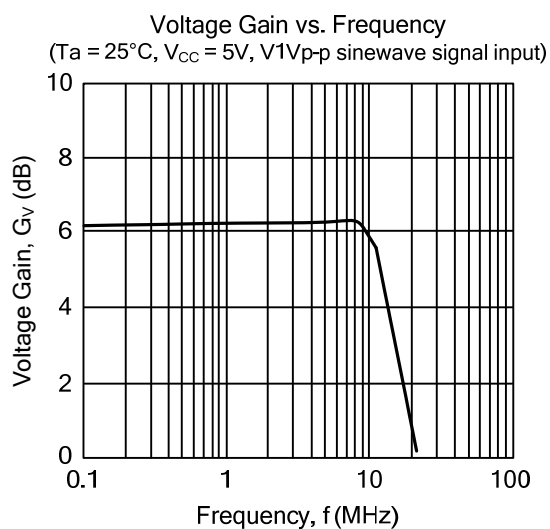
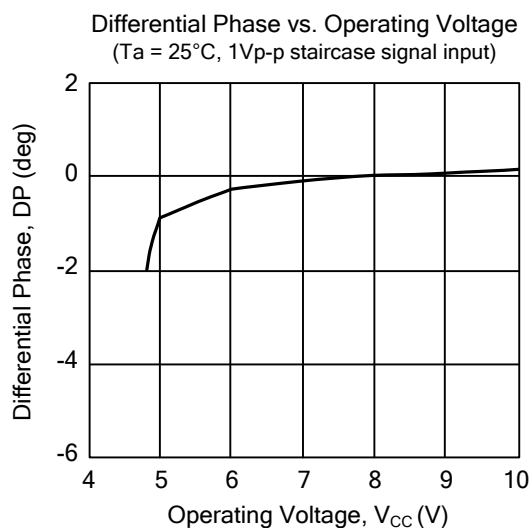
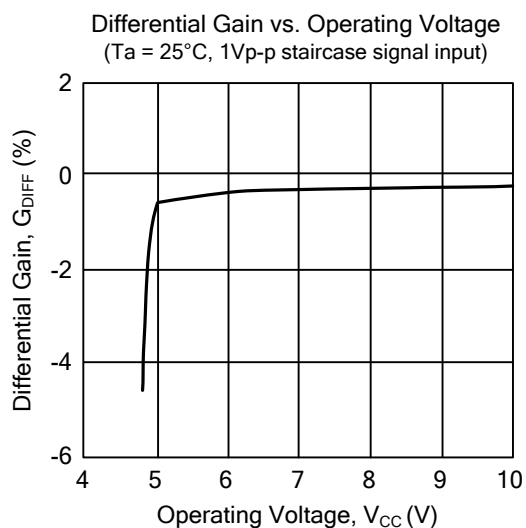
SAG Terminal Gain vs. Operating Voltage
($T_a = 25^\circ\text{C}$)



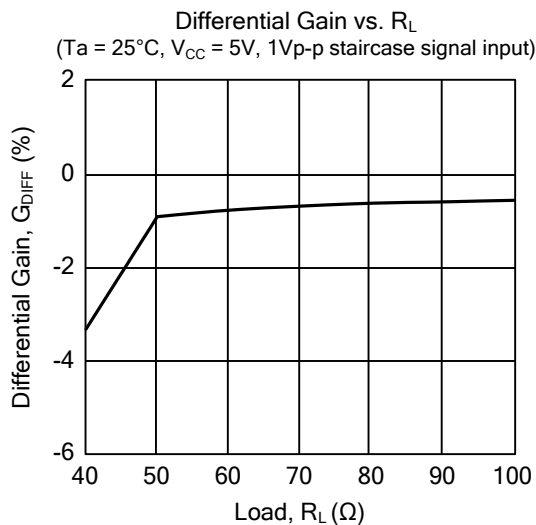
Voltage Gain vs. Operating Voltage
($T_a = 25^\circ\text{C}$, 1Vp-p, 1MHz sinewave signal input)



■ TYPICAL CHARACTERISTICS(Cont.)



■ TYPICAL CHARACTERISTICS(Cont.)



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.