



UTC571N

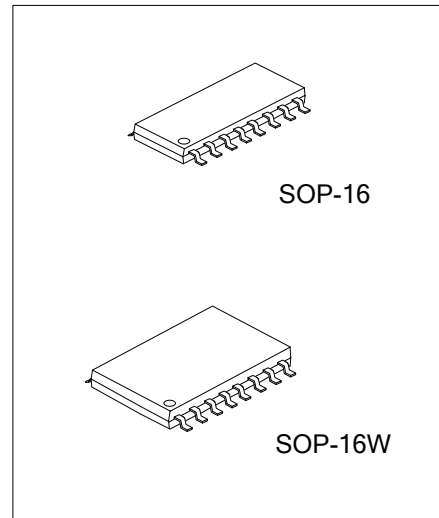
LINEAR INTEGRATED CIRCUIT

COMPANDOR

DESCRIPTION

The **UTC571N** is a versatile low cost dual gain control circuit in which either channel may be used as a dynamic range compressor or expander. Each channel has a full-wave rectifier to detect the average value of the signal, a linerarized temperature-compensated variable gain cell and an operational amplifier.

The **UTC571N** is well suited for use in cellular radio and radio communication systems, modems, telephone, and satellite broadcast/receive audio systems.



FEATURES

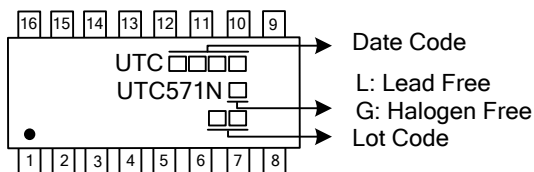
- * Complete compressor and expander in one Chip
- * Temperature compensated
- * Greater than 110dB dynamic range
- * Operates down to 6VDC
- * System levels adjustable with external components
- * Distortion may be trimmed out
- * Dynamic noise reduction systems
- * Voltage-controlled amplifier

ORDERING INFORMATION

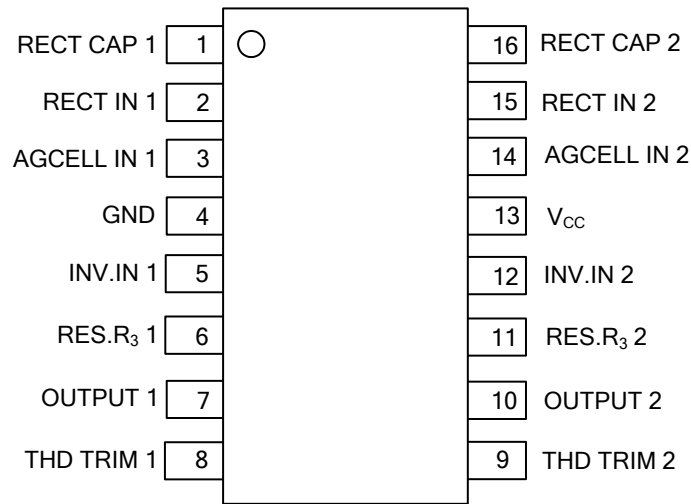
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UTC571NL-S16-T	UTC571NG-S16-T	SOP-16	Tube
UTC571NL-S16-R	UTC571NG-S16-R	SOP-16	Tape Reel
UTC571NL-S16W-T	UTC571NG-S16W-T	SOP-16W	Tube
UTC571NL-S16W-R	UTC571NG-S16W-R	SOP-16W	Tape Reel

<p>UTC571NG-S16-T</p> <p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) T: Tube, R: Tape Reel (2) S16: SOP-16, S16W: SOP-16(W) (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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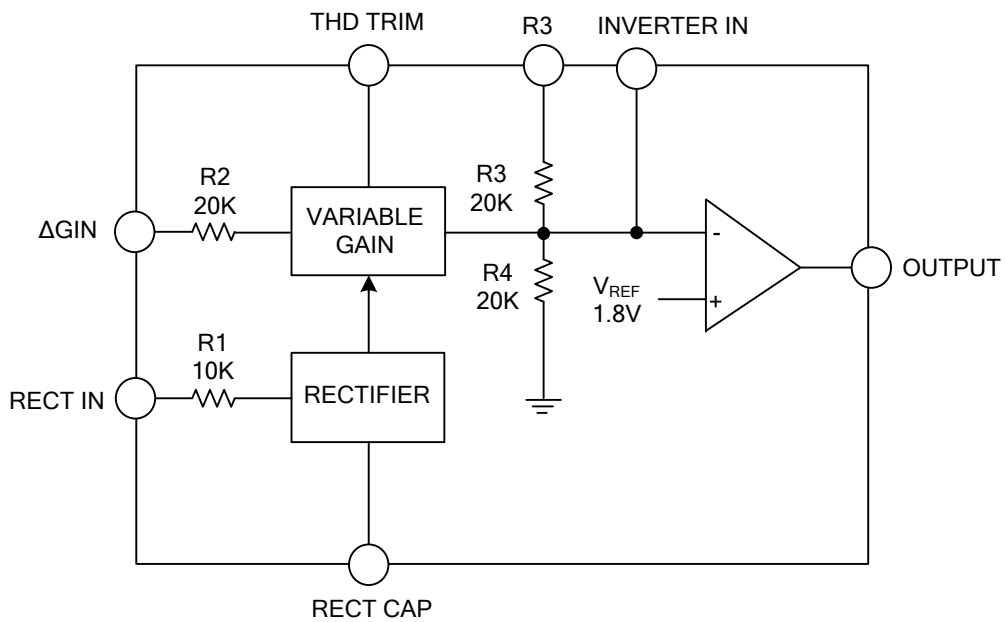
MARKING



■ PIN CONNECTIONS



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNITS
Operating Voltage		V _{CC}	18	V
Power Dissipation	SOP-16	P _D	400	mW
	SOP-16(W)		625	mW
Junction Temperature		T _J	+150	°C
Operating Temperature		T _{OPR}	-20 ~ +85	°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

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOP-16	θ _{JA}	130	°C/W
	SOP-16(W)		105	°C/W

■ AC ELECTRICAL CHARACTERISTICS (T_A=25°C, V_{CC}=+5V, unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS	
Supply Voltage	V _{CC}		6		18	V	
Supply Current	I _{CC}	No signal		3.2	4.8	mA	
Output Current capability	I _{OUT}		20				
Output Slew Rate	SR			0.5		V/μs	
Gsin Cell Distortion		Untrimmed		0.5	2.0	%	
		Trimmed		0.1			
Resister Tolerance				5	15	%	
Internal Reference Voltage			1.7	1.85	2.0	V	
Output DC Shift (Note 3)		Untrimmed		30	150	mV	
Expander Output Noise		No signal, 15Hz-20kHz (Note 1)		20	60	μV	
Unity Gain Level (Note 5)		1kHz	-1.5	0	+1.5	dBm	
Gain Change (Note 2,4)				0.1		dB	
Reference Drift (Note 4)				+2,-25	+20,-50	mV	
Resistor Drift (Note 4)				+8,-0		%	
Tracking Error(measured relative to value at unity gain) Equals [V _{OUT} -V _{OUT} (unity gain)]dB-V2dBm		Rectifier input,		V2=+6dBm, V1=0dB	+0.2	-1,+1.5	dB
				V2=-30dBm, V1=0dB	+0.2		
Channel Separation				60		dB	

Notes: 1. Input to V1 and V2 grounded.

2. Measured at 0dBm, 1kHz.

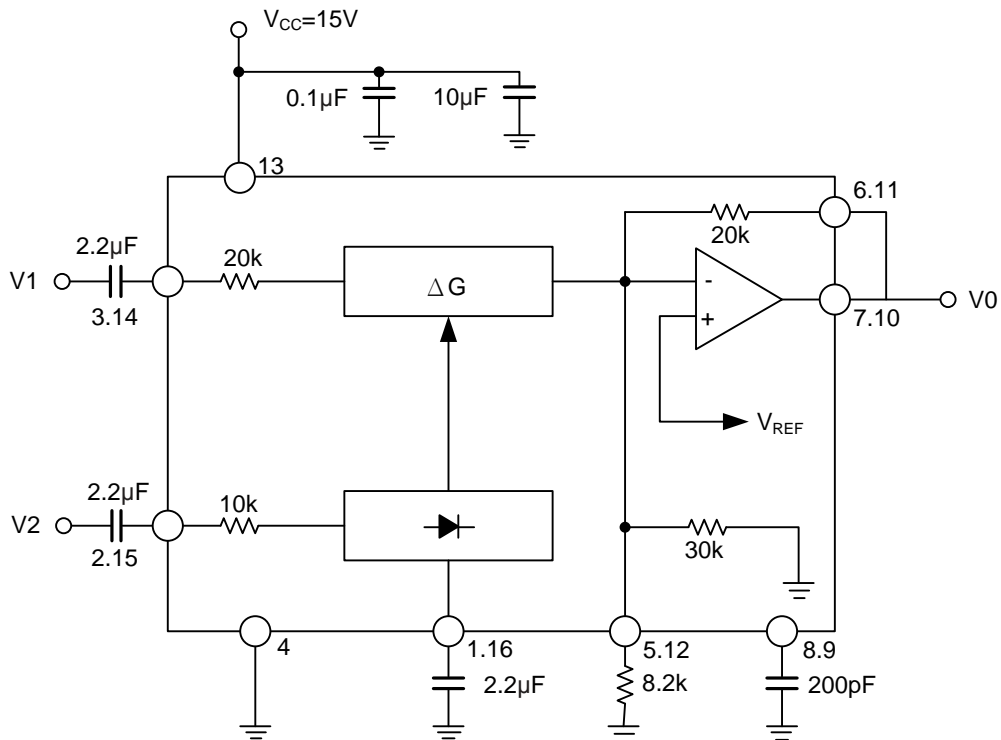
3. Expander AC input change from no signal to 0dBm.

4. Relative to value at T_A = 25°C.

5. 0dBm = 775mV RMS.

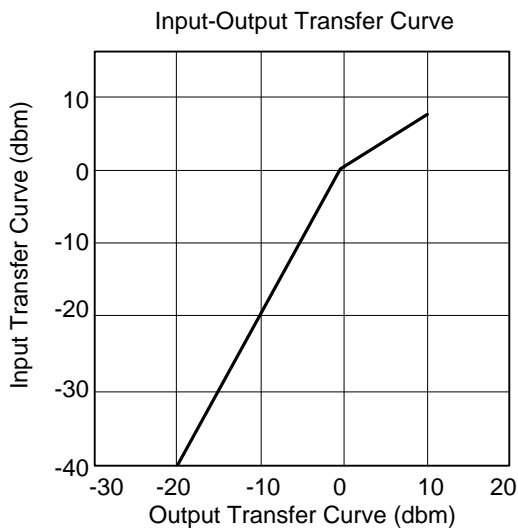
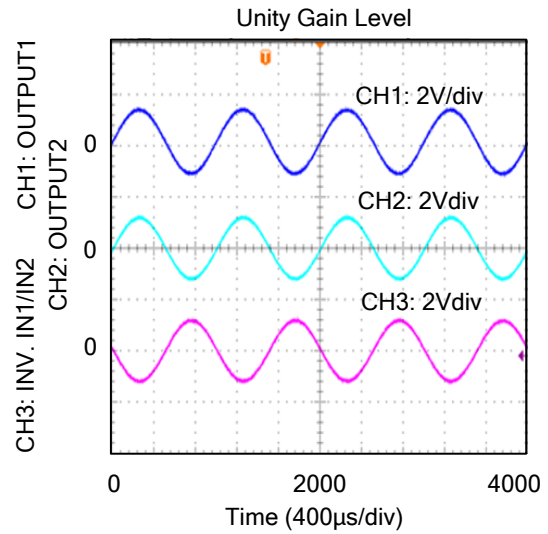
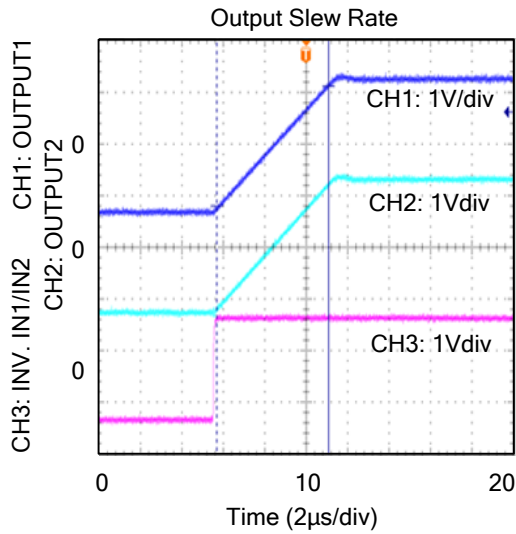
6. Electrical characteristics for the **UTC571N** only are specified over -20 to +85°C temperature range.

■ TYPICAL APPLICATION CIRCUIT



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■ TYPICAL CHARACTERISTICS



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