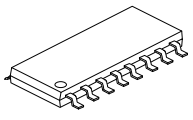
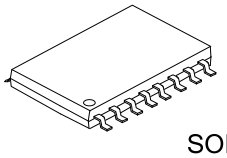
UTC571N

LINEAR INTEGRATED CIRCUIT

COMPANDER



SOP-16



SOP-16(W)

■ 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 expandor. 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 expandor 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

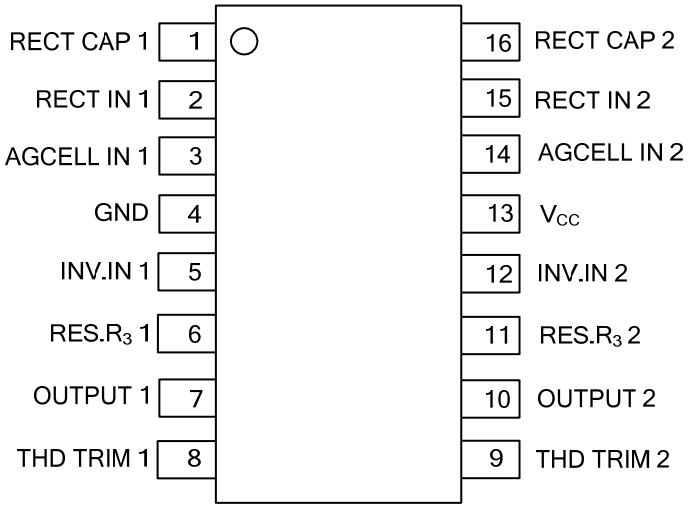
■ ORDERING INFORMATION

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

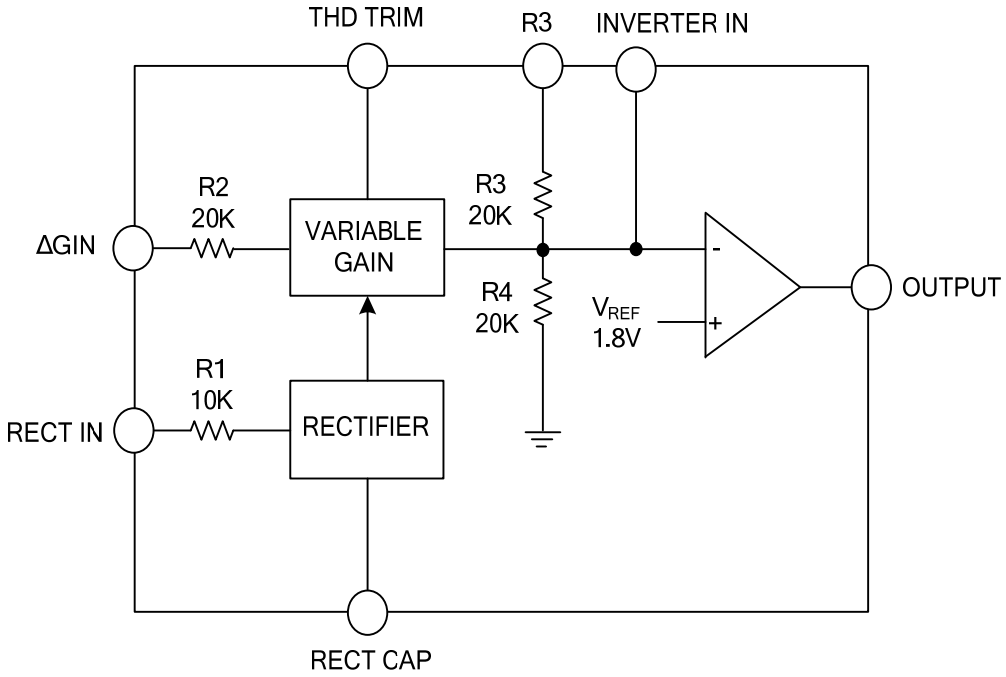
UTC571NL-S16-T (1)Packing Type (2)Package Type (3)Lead Free	(1) T: Tube, R: Tape Reel (2) S16: SOP-16, S16W: SOP-16(W) (3) G: Halogen Free, L: Lead Free

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■ 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	
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

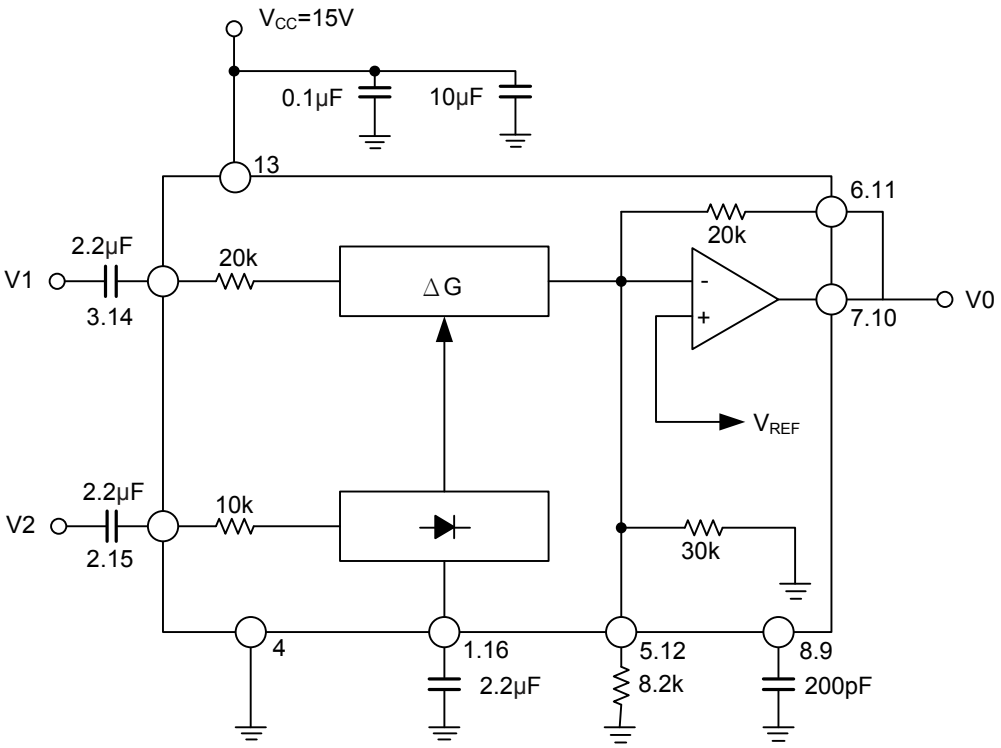
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOP-16	θ_{JA}	130	°C/W
	SOP-16(W)		105	

■ 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
Expandor Output Noise		No signal, 15Hz-20kHz (Note 1)			20	60	V
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

Note: 1. Input to V1 and V2 grounded.
2. Measured at 0dBm, 1kHz.
3. Expandor 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



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.