

UTC UNISONIC TECHNOLOGIES CO., LTD

UTC571N

LINEAR INTEGRATED CIRCUIT

COMPANDER

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.

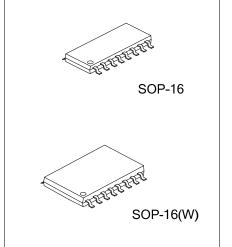
FEATURES

- * 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

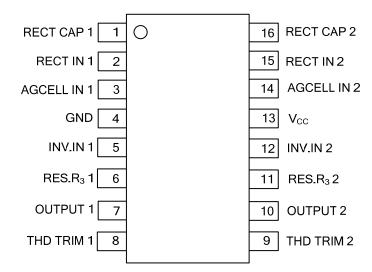
Ordering Number		Daakaga	Deaking	
Lead Free	Halogen Free	Package	Packing	
UTC571NL-S16-R	UTC571NG-S16-R	SOP-16	Tape Reel	
UTC571NL-S16-T	UTC571NG-S16-T	SOP-16	Tube	
UTC571NL-S16W-R	UTC571NG-S16W-R	SOP-16(W)	Tape Reel	
UTC571NL-S16W-T	UTC571NG-S16W-T	SOP-16(W)	Tube	

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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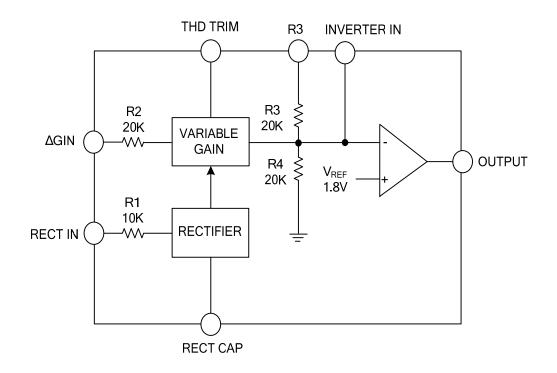


UTC571N

PIN CONNECTIONS



BLOCK DIAGRAM





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

PARAMETER		SYMBOL	RATINGS	UNITS
Operating Voltage		V _{cc}	V _{CC} 18	
Power Dissipation	SOP-16		400	
	SOP-16(W)	P _D	625	mW
Junction Temperature		TJ	+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	0	130	°C 14/	
	SOP-16(W)	θ _{JA}	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	Icc	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			V2=+6dBm,V1=0dB	-	+0.2	-1,+1.5	dB
to value at unity gain) Equals		Rectifier input,					
[V _{OUT} -V _{OUT} (unity gain)]dB-V2dBm			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.

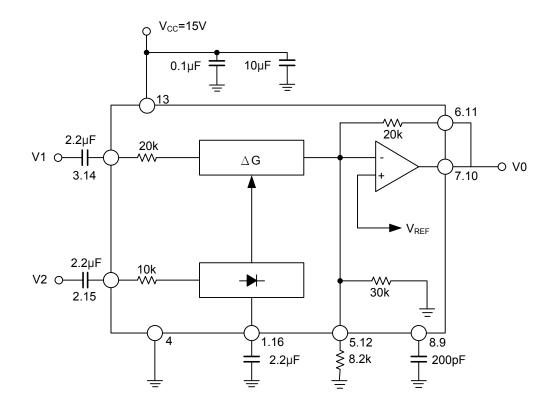
5. 0dBm = 775mV RMS.

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



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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.

