

UTC31001 LINEAR INTEGRATED CIRCUIT

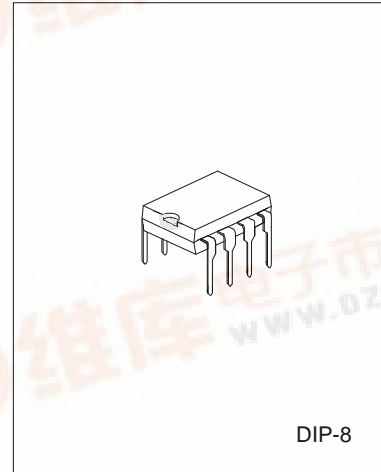
TELEPHONE TONE RINGER

GENERAL DESCRIPTION

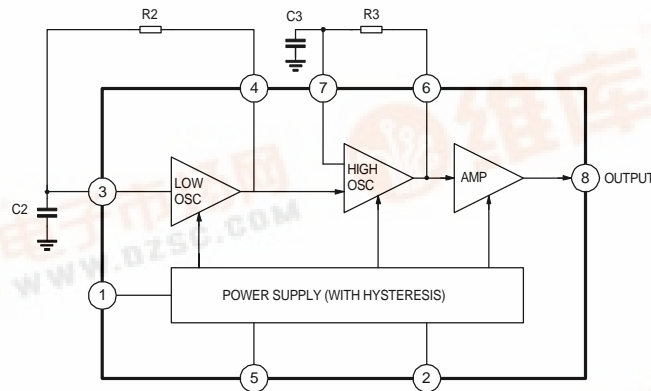
The UTC 31001 is a bipolar integrated circuit designed for telephone bell replacement. It can also be used as alarms or other alerting devices.

FEATURES

- *Designed for telephone bell replacement.
- *Low current drain for multiple extension of lines.
- *Adjustable 2-frequency tone.
- *Adjustable warbling rate.
- *BUILT-in hysteresis prevents false triggering and rotary dial 'CHIRPS'.
- *Programmable for initiation voltage by simple external resistor



BLOCK DIAGRAM



Note: R2, R3, C2 and C3 are parts externally mounted

ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Supply Voltage	Vcc	30	V
Power Dissipation	Pd	400	mW
Operating Temperature	Topr	-45 to 85	°C
Storage Temperature	Tstg	-65 to 150	°C

UTC UNISONIC TECHNOLOGIES CO. LTD



UTC31001 CIRCUIT

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ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$)

(All voltage referenced to GND unless otherwise specified)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Operating Supply Voltage	Vcc				29.0	V
Initiation Supply Voltage (note 1)	Vsi	See Fig.2	17	19	21	V
Initiation Supply Current (note 1)	I _{si}	6.8K-Pin 2 to GND	1.4	3.5	4.2	mA
Sustaining Voltage (note 2)	V _{sus}	See Fig.2	9.7	11.0	12.0	V
Sustaining Current (note 2)	I _{sus}	No Load Vcc=V _{sus} , See Fig.2	0.7	1.4	2.5	mA
Output Voltage High	VOH	Vcc=21V, I ₈ =-15mA Pin6=6V, Pin7=GND	17.0	19.0	21.0	V
Output Voltage Low	VOL	Vcc=21V, I ₈ =15mA Pin6=GND, Pin7=6V			1.6	V
I _{IN} (Pin3)		Pin3=6V, Pin4=GND			500	nA
I _{IN} (pin7)		Pin7=6V, Pin6=GND			500	nA
High Frequency 1	FH1	R3=191K, C3=6800pF	461	512	563	Hz
High Frequency 2	FH2	R3=191K, C3=6800pF	576	640	704	Hz
Low Frequency	FL	R2=165K, C2=0.47μF	9.0	10	11.0	Hz

*NOTE (See electrical characteristics sheet)

1. Initiation supply voltage (V_{si}) is the supply voltage required to start the tone ringer oscillating.
2. Sustaining voltage (V_{sus}) is the supply voltage required to maintain oscillation.

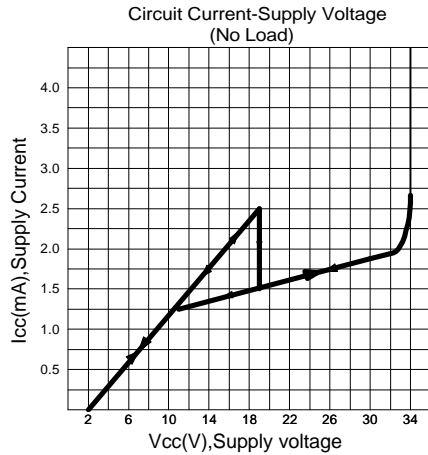


Fig.2

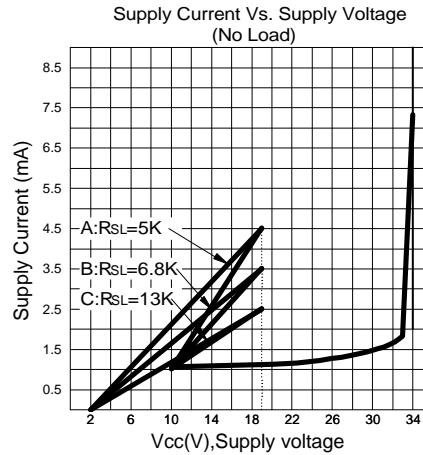


Fig. 3

UTC31001 CIRCUIT

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APPLICATION CIRCUIT

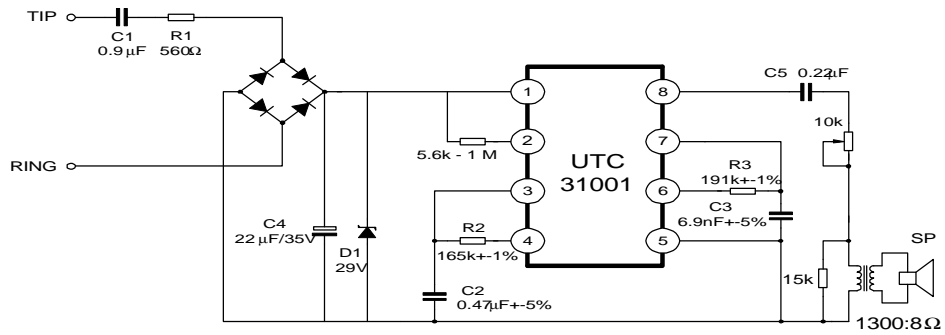


Fig.4