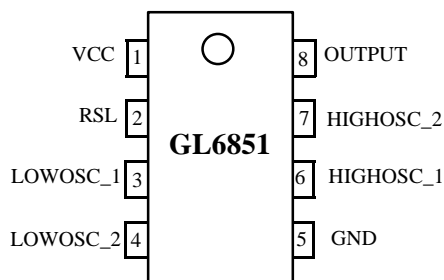
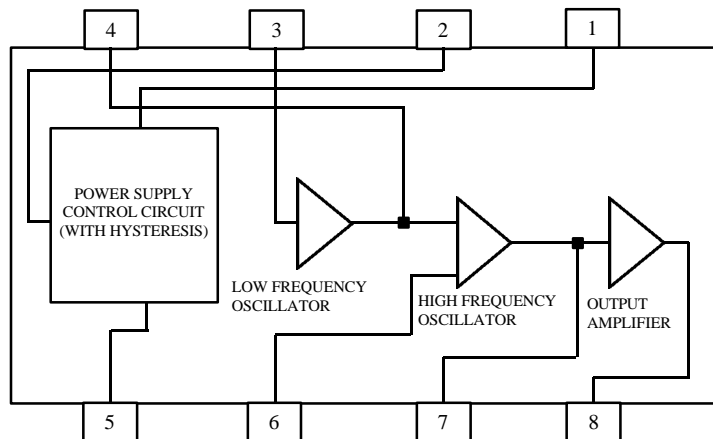


**GL6851****TWO TONE RINGER****Description**

The GL6851 tone ringer is a monolithic device, which incorporates two oscillators, an output amplifier and a power supply control circuit. The oscillator frequencies can be adjusted over a wide range by selection of external components. One oscillator, normally operated at a low frequency, causes the second oscillator to alternate between its nominal frequency, and a related higher frequency. The resulting output is a distinct warbling tone. The output amplifier will drive either a transformer coupled loudspeaker or a piezo-ceramic transducer. The device can be powered from a telephone line or a fixed d.c. supply. The GL6851 has provision for adjustment of the supply initiation current.

**Pin Configuration****Features**

- Low current consumption.
- Designed for telephone bell replacement.
- Small size MINIDIP package.
- Adjustable 2- frequency tone.
- Built-in hysteresis prevents false triggering and rotary dial CHIRPS.
- Alarms or other alerting devices.
- Adjustable for reduced supply initiation current
- Include ESD protection.

**Block Diagram**

**Absolute Maximum Ratings (Ta = 25; Ę**

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Supply Voltage	V <sub>CC</sub>	30	V
Power Dissipation	P <sub>o</sub>	400	mW
Operating Temperature	T <sub>opr</sub>	-25 to 65	Ę
Storage Temperature	T <sub>stg</sub>	-65 to 150	Ę

**Electrical Characteristics (Ta = 25; Ę**

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating Supply Voltage	V <sub>CC</sub>		-	-	29.0	V
Initiation Supply Voltage <sup>1</sup>	V <sub>SI</sub>		17	19	21	V
Initiation Supply Current <sup>1</sup>	I <sub>SI</sub>		0.9	2.0	3.7	mA
Sustaining Voltage <sup>2</sup>	V <sub>SUS</sub>		9.7	11.0	12.0	V
Sustaining Current <sup>2</sup>	I <sub>SUS</sub>		0.4	1.0	2.0	mA
Output Voltage High	V <sub>OH</sub>	V <sub>CC</sub> =21V, I <sub>s</sub> =-10mA Pin6=6V, Pin7=GND	17	19	21	V
Output Voltage Low	V <sub>OL</sub>	V <sub>CC</sub> =21V, I <sub>s</sub> = 10mA Pin6=GND, Pin7=6V	-	-	2	V
High Frequency 1	f <sub>H1</sub>					
High Frequency 2	f <sub>H2</sub>	R3=191K, C3=6800pF	461	512	563	Hz
Low Frequency	f <sub>L</sub>	R3=191K, C3=6800pF R2=165K, C2=0.47μF	576	640	704	Hz
			9.0	10	11.0	Hz

## \* NOTE

1. Initial supply voltage (V<sub>SI</sub>) is the supply voltage required to start the tone ringer oscillation.
2. Sustaining voltage (V<sub>SUS</sub>) is the supply voltage required to maintain oscillation.

**PIN DESCRIPTION**

PIN NUMBER	PIN FUNCTION	DESCRIPTION
PIN 1	VCC	Operating supply D.C. voltage rectified from ringing signal.
PIN2	RSL	Initiation current programming Pin. (Must be connected)
PIN3	LOWOSC_1	Low Frequency Time Constant Adjustment pins $f_L$ is controlled externally by $R_2$ and $C_2$ $f_L = 1/1.289R_2C_2$
PIN 4	LOWOSC_2	
PIN 5	GND	Ground
PIN 6	HIGHOSC_1	High Frequency Time Constant Adjustment Pins $f_{H1}$ and $f_{H2}$ are controlled externally by $R_3$ and $C_3$ . $f_{H1} = 1/1.504R_3C_3$ , $f_{H2} = 1/1.203R_3C_3$
PIN 7	HIGHOSC_2	
PIN 8	OUTPUT	Tone output

**APPLICATON CIRCUIT**

