THE **KA2411** IS A BIPOLAR INTEGRATED CIRCUIT DESIGNED FOR TELEPHONE TONE RINGER.THESE DEVICES CONSISTS OF AN OUTPUT AMPLIFIER, TWO OSCILLATORS, AND POWER SUPPLY CONTROL CIRCUIT.

FEATURES

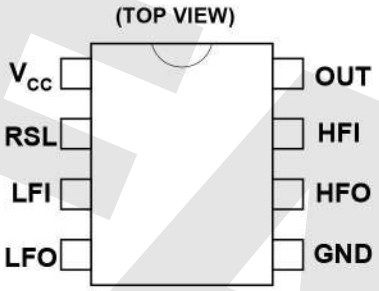
- Low current drain
- Adjustable 2 tone frequency
- Hysteresis circuit prevents false triggering and rotary dial "CHIRPS"
- 8 pin DIP plastic package
- Adjustable for reduced supply initiation current

8-pin DIP

APPLICATIONS

- Telephone bell replacement
- Extension tone ringer modules
- Alarms or other alerting devices

PIN CONFIGURATION



PIN ASSIGNMENT

PIN	NAME	FUNCTION
1	V_{CC}	Power Supply
2	RSL	Resistor Select
3	LFI	Low freq. osc. Input
4	LFO	Low freq. osc. Output
5	GND	Ground
6	HFO	High freq. osc. Output
7	HFI	High freq. osc. Input
8	OUT	Output

ABSOLUTE MAXIMUM RATINGS

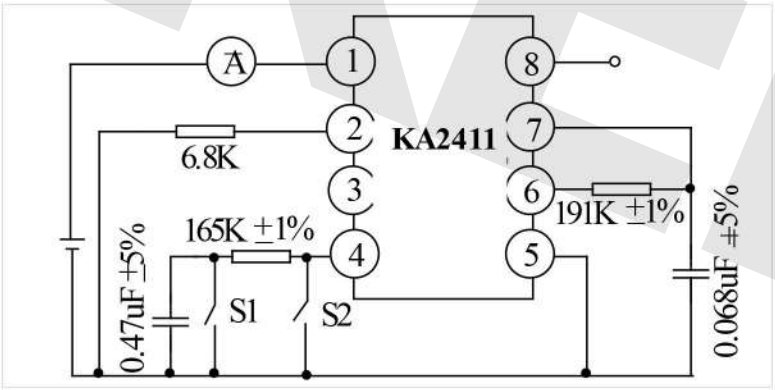
Voltage values are with respect to the anode terminal unless otherwise noted

PARAMETER	SYMBOL	RATING	UNITS
DC Supply Voltage	V_{CC}	30	V
Power Dissipation	P_D	450	mW
Operating Ambient Temperature Range	T_A	-45~+65	℃
Storage Temperature Range	T_{STG}	-65~+150	

ELECTRICAL CHARATERISTICS (V_{CC}=24V, T_A=25℃, UNLESS OTHERWISE NOTED)

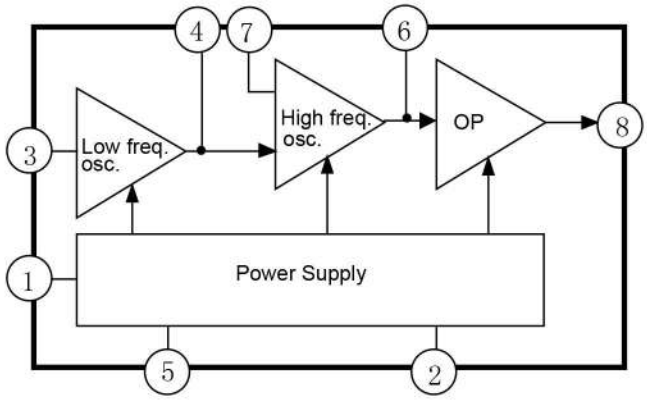
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	V_{CC}				29	V
Supply Initiation Voltage	V_{SI}		17	19	21	
Current	I_{SI}	V_{CC}=V_{SI}, No load	1.4	3.3	4.2	mA
Sustaining Voltage	V_{SUS}		10.5	12	13.5	V
Current	I_{SUS}	V_{CC}=V_{SUS}, No load	0.4	0.9	2.0	mA
Oscillator Freq.	f_L	R1=165kΩ, C1=0.47μf	9	10	11	Hz
Oscillator Freq.	f_{H1}	R2=191kΩ, C2=6800pF	365	410	455	Hz
Oscillator Freq.	f_{H2}	R2=191kΩ, C2=6800pF	460	510	560	Hz
Output High Voltage	V_{OH}	V_{CC}=21V, I_{OH}=-15mA	17	19	21	V
Low Voltage	V_{OL}	I_{OL}=15mA	0.7	1	2	

TEST CIRCUIT

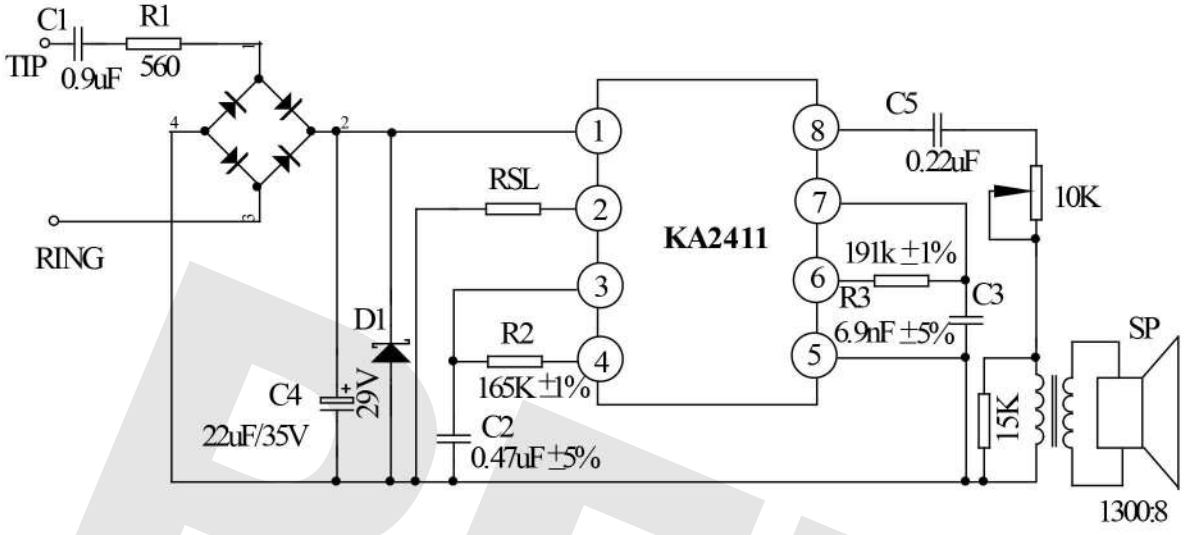


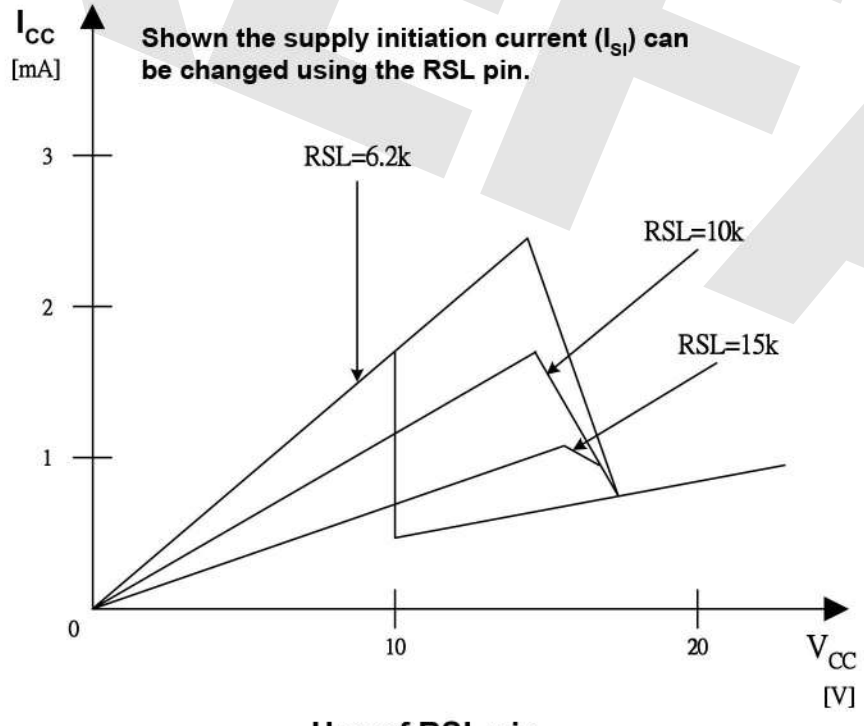
UNIT: Ω

BLOCK DIAGRAM



APPLICATION CIRCUIT





Use of RSL pin