

**KA2418B APPLICATION NOTE**

**98. 10. 1**

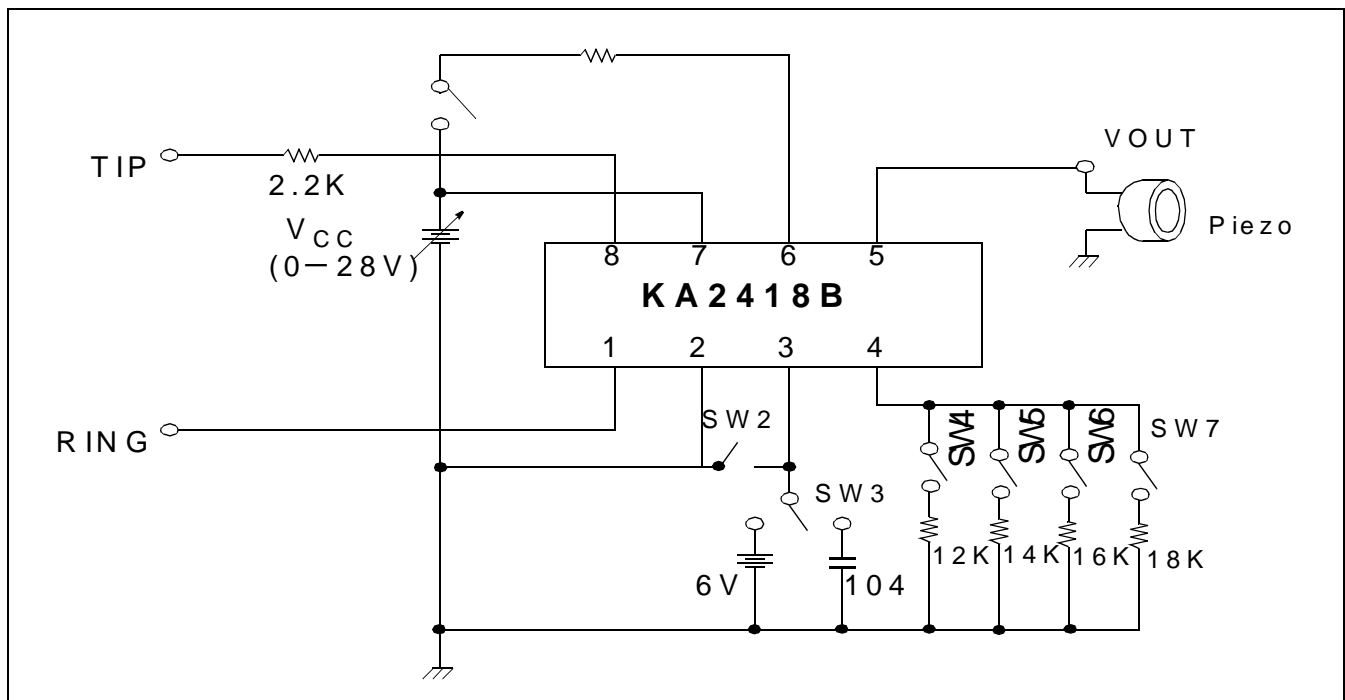
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**ANALOG**  

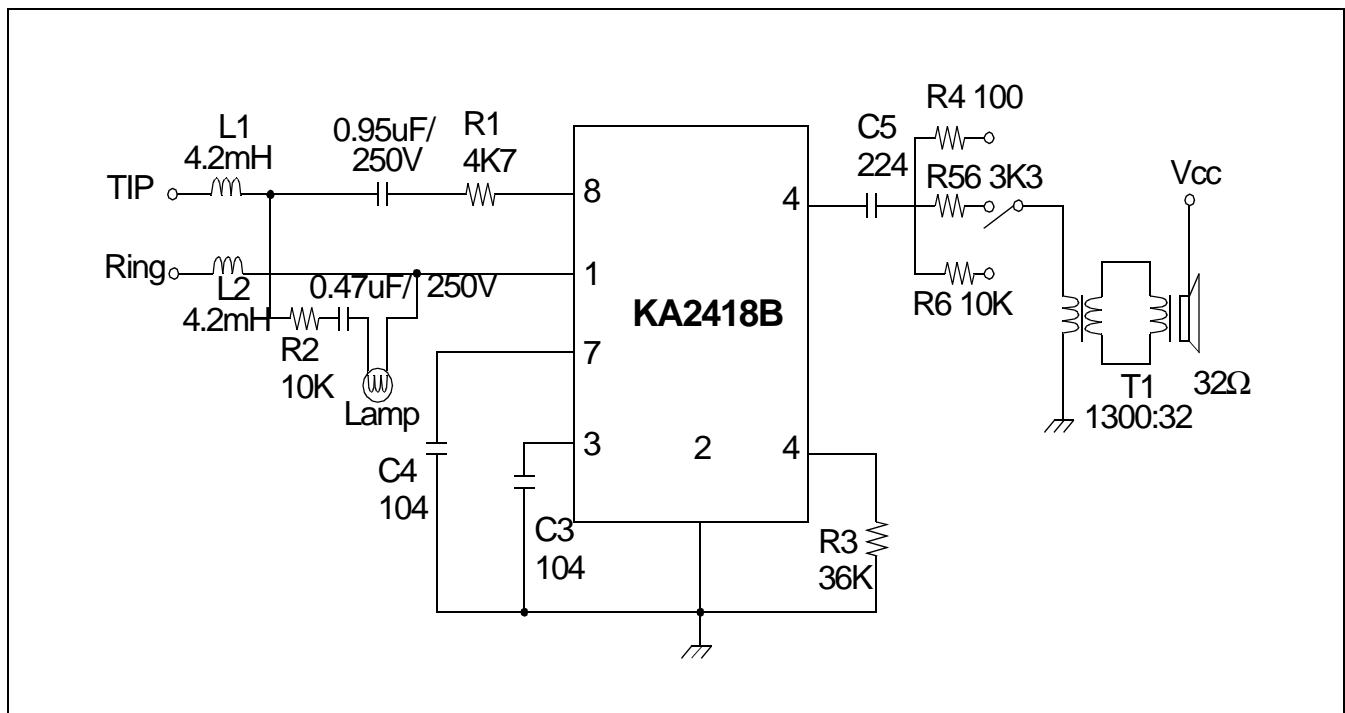
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**LSI DIVISION**

< KB2418B TEST CIRCUIT >



< KB2418B APPLICATION CIRCUIT >



## 1. TEST CONDITION DESCRIPTION

Characteristics	Signal Source Seleccion	SW1	SW2~SW3	SW4~SW7	Remark
Activation voltage	Vcc (DC)	OFF	SW3-104	SW5	- Increase Vcc - Check out the oscillation starting voltage
Activation voltage range	Vcc (DC)	ON	SW3-104	SW5	- Increase Vcc - Check out the oscillation starting voltage

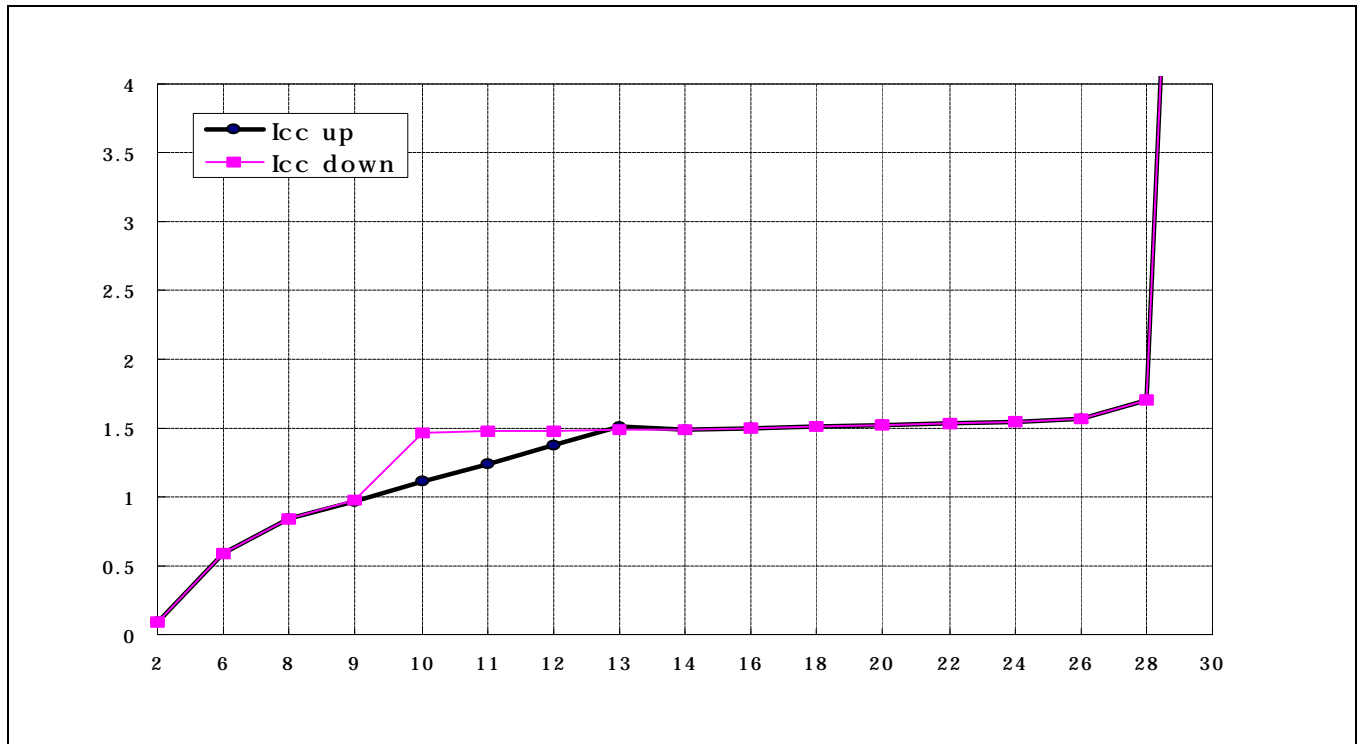
## 2. TEST CIRCUIT DESCRIPTION

Components	Symbol Name	Description
SW1	1K	Oscillation starting voltage control using activation resistor
SW2	GND	fH1 - Single tone mode
SW3	6V	fH2 - Single tone mode
	104	fH1+fH2 - Dual tone mode
SW4~SW7	-	fout selection
TIP - RING	-	AC signal input. - DC coupling capacitor does not care in case of suppling AC signal
Vcc	-	DC signal input.

## 3. MIN. AC RINGING VOLTAGE IN APPLICATION CIRCUIT

Characteristics	Test Condition	Typical Performance	Unit
Ringing Start AC Input Voltage	15Hz	38	Vrms
	20Hz	32	
	25Hz	28	
	60Hz	22	

4. HYSTERESIS CHARACTERISTIC IN KA2418B



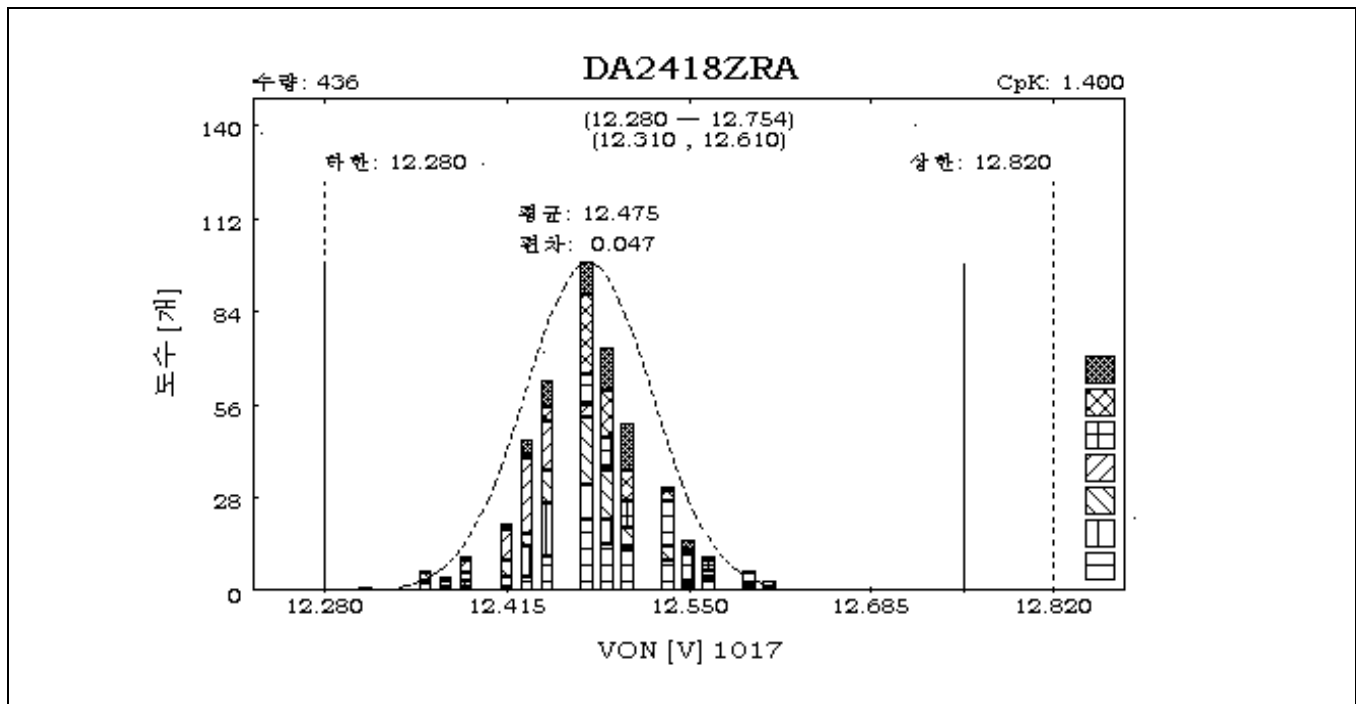
< Supply current VS. Supply voltage >

Operating voltage	Operating current		Unit
	Vcc up	Vcc down	

2.0	0.09	0.09	mA
6.0	0.59	0.59	
8.0	0.84	0.84	
9.0	0.97	0.98	
10.0	1.11	1.47	
11.0	1.24	1.48	
12.0	1.37	1.48	
13.0	1.51	1.49	
14.0	1.49	1.49	
16.0	1.50	1.50	
18.0	1.51	1.51	
20.0	1.52	1.52	
22.0	1.53	1.53	
24.0	1.54	1.54	
26.0	1.57	1.57	
28.0	1.71	1.71	
30.0	12.6	12.6	

## 5. ACTIVATION VOLTAGE TOLERANCE

Characteristic	Symbol	Test condition	Min.	Typ.	Max.	Unit
Activation voltage	Von	–	12.2	–	13	V
Activation voltage range	VONR	Ra = 1β/	8	–	10	



- SAMPLE SIZE: 436 EA
- SPEC LIMIT: 12.28 ~12.82
- REAL DISTRIBUTION: 12.31~12.61  
(AVG: 12.475, STD DEV:0.047)
- $3\sigma$  RANGE: 12.28 ~ 12.75

## 6. ACTIVATION VOLTAGE VS. TEMPERATURE

Ta = 25°C

Characteristic	Symbol	Test condition	SPEC			#1	#2	@3	#4	#5	Aver.	Unit
			Min.	Typ.	Max.							
Activation voltage	Von	Vcc = 0 to 15V	12.2		13	12.51	12.34	12.37	12.64	12.65	12.5	V
Activation voltage range	Vonr	Vcc = 0 to 15V, Ra=1kΩ	8		10	9.06	8.92	8.97	8.97	9.0	8.98	

Ta = -25°C

Characteristic	Symbol	Test condition	SPEC			#1	#2	@3	#4	#5	Aver.	Unit
			Min.	Typ.	Max.							
Activation voltage	Von	Vcc = 0 to 15V	–		–	12.41	12.25	12.35	12.53	12.42	12.39	V
Activation voltage range	Vonr	Vcc = 0 to 15V, Ra=1kΩ	–		–	9.01	8.94	8.94	8.96	8.98	8.96	

Ta = 75°C

Characteristic	Symbol	Test condition	SPEC			#1	#2	@3	#4	#5	Aver.	Unit
			Min.	Typ.	Max.							
Activation voltage	Von	Vcc = 0 to 15V	–		–	12.81	12.74	12.67	12.89	12.8	12.78	V
Activation voltage range	Vonr	Vcc = 0 to 15V, Ra=1kΩ	–		–	9.15	9.18	9.16	9.16	9.13	9.16	

NOTES