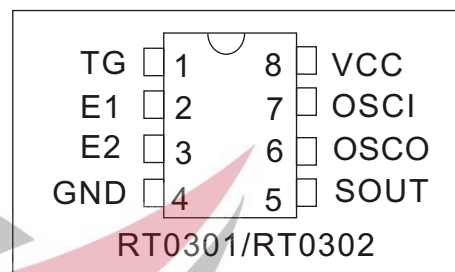


The RT0301/RT0302 is a CMOS Design for Door Bell application

## Features

Low Operator Voltage 3V ~ 4.5V  
Auto Power down function  
CMOS process  
On-Chip RC oscillator  
Low stand by current at 1 uA  
8-Pin DIP or chip form available

## Pin Diagram



## Pin Description

| Symbol | Pin Description      | Pin | I / O |
|--------|----------------------|-----|-------|
| TG     | Trigger Single Input | 1   | I     |
| E1     | "Ding" Freq          | 2   | O     |
| E2     | "Dong" Freq          | 3   | I     |
| GND    | Ground               | 4   | O     |
| SOUT   | Sound output         | 5   | O     |
| OSCO   | Frequency put        | 6   | O     |
| OSC1   | Frequency In         | 7   | I     |
| Vcc    | Power Source Input   | 8   | I     |

## Electrical Characteristics

Vcc = 3V , Temp. = 25°C

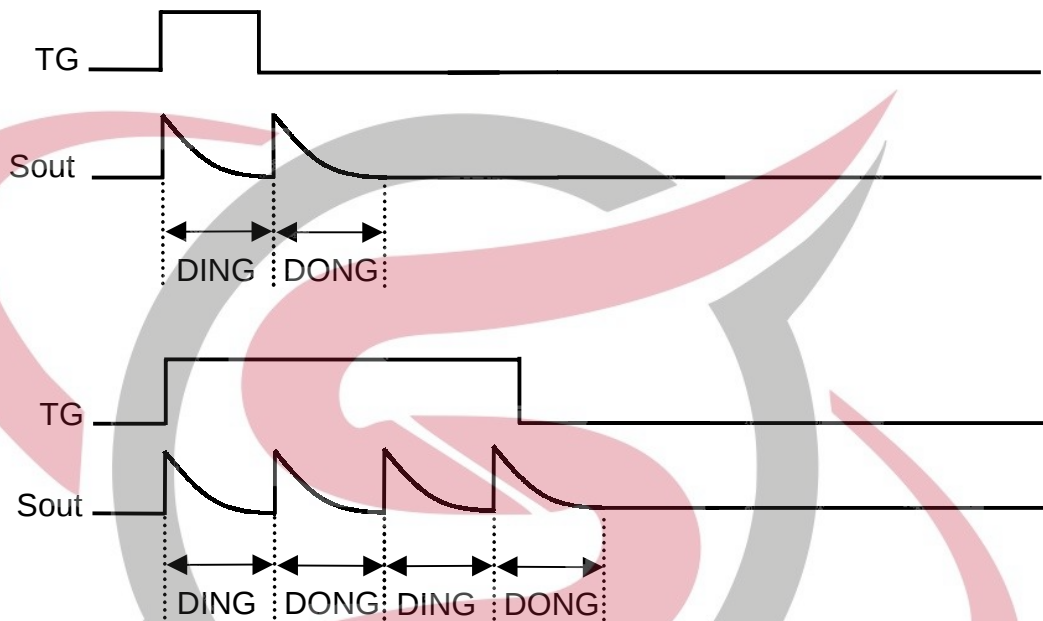
| Characteristics      | Symbol          | Min. | Typ. | Max. | Unit | Remarks                                |
|----------------------|-----------------|------|------|------|------|----------------------------------------|
| Operating Voltage    | Vcc             | -    | 3    | 4.5  | V    |                                        |
| Operating Current    | Iop             | -    | 0.1  | 0.5  | mA   | No Load                                |
| Quiescent Current    | I <sub>sb</sub> | -    | 1    | 5    | uA   |                                        |
| SOUT Driving Current | I <sub>oc</sub> | 1    | -    | -    | mA   | @V <sub>DS</sub> = 1V                  |
| Oscillator Freq      | F <sub>op</sub> | -    | 50   | -    | KHz  | External ±30%, R <sub>osc</sub> = 430K |
| Operating Temp       | Temp            | 0    | 25   | 70   | °C   |                                        |

| P/N    | TIMES |
|--------|-------|
| RT0301 | 1     |
| RT0302 | 2     |

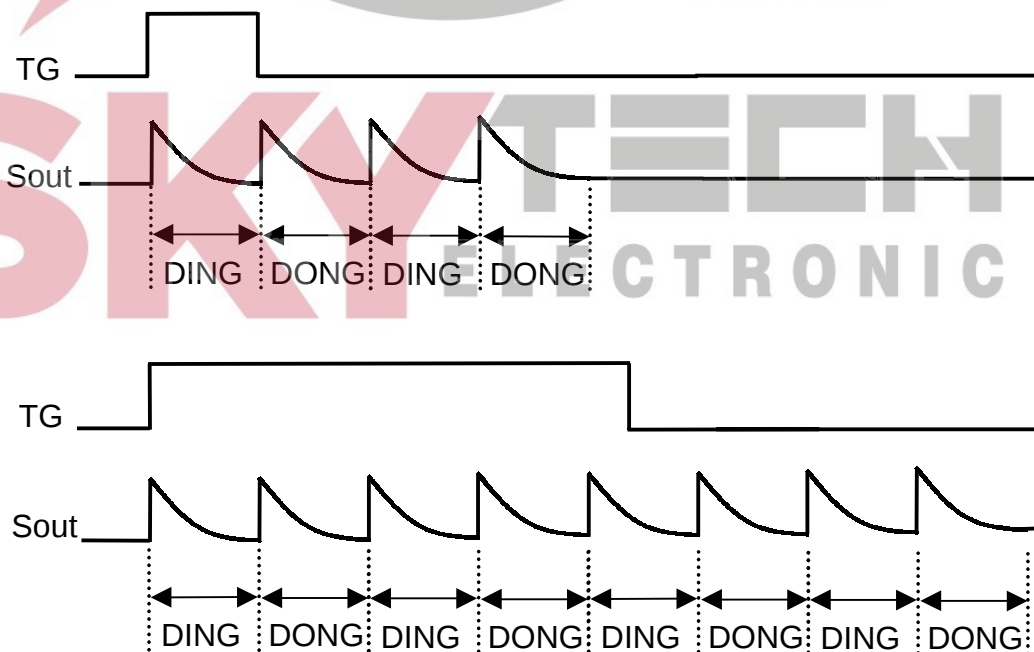
## **\*\* Function Description:**

When TG PIN's signal changed from low to high, the RT0301/RT0302 will present Ding-Dong sound from Sout PIN. The waveform will be listed below :

- RT0301:



- RT0302:

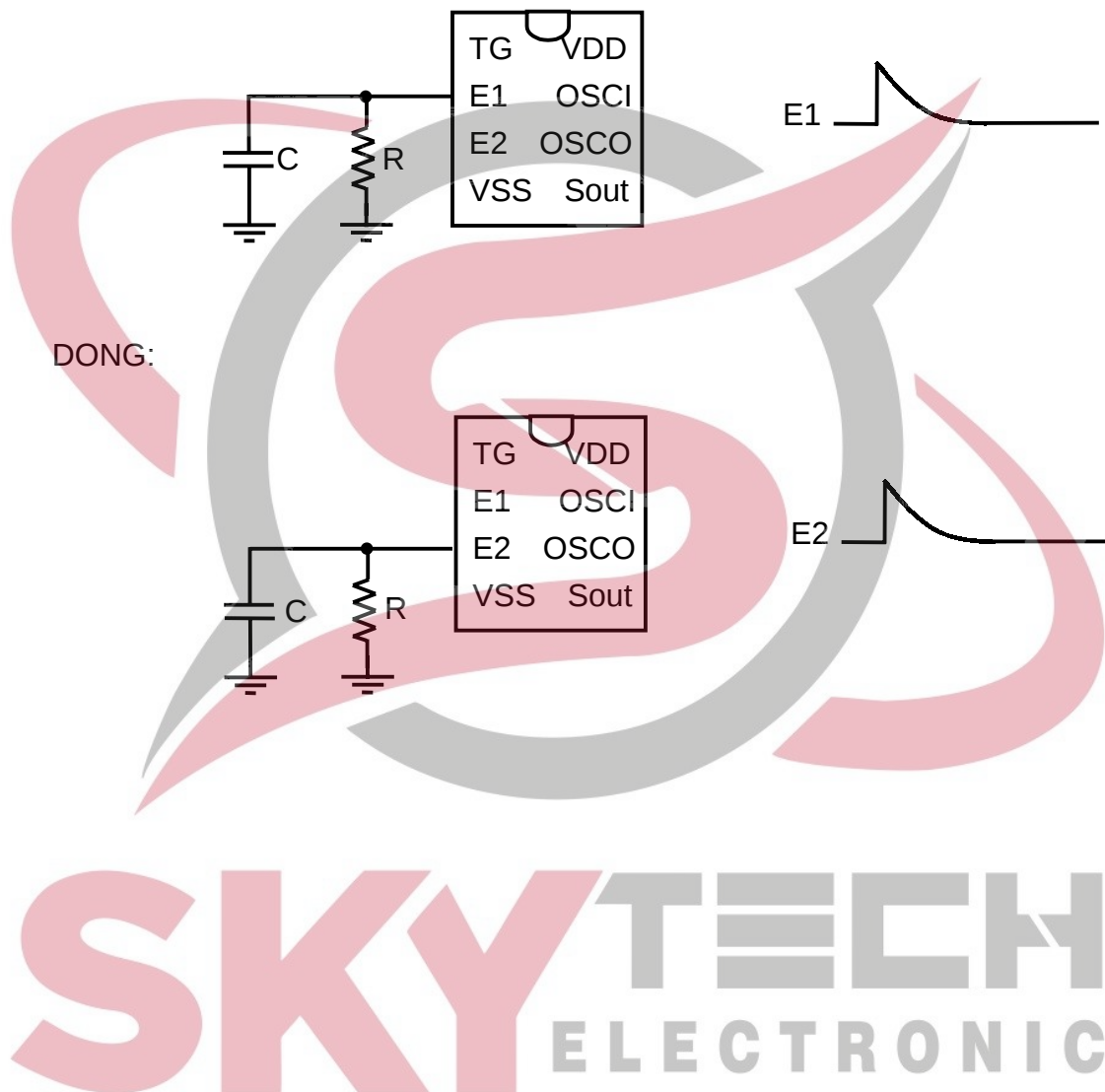


## **\*\* Envelope waveform:**

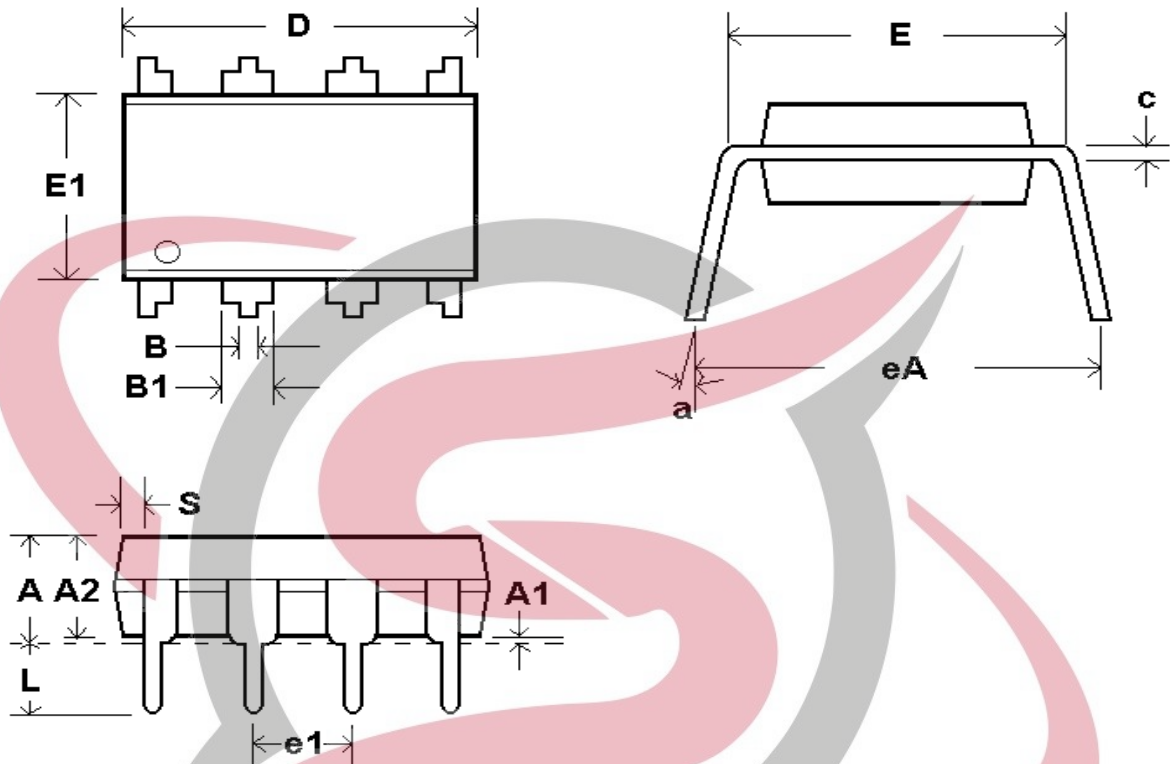
The envelope waveform of DING is controlled by E1's R.C. circuit.

The envelope waveform of DING is controlled by E2's R.C. circuit.

DING:



## 8L P-DIP (300 mil ) Dimension:



| Symbol | Dimension in inch |       |       | Dimension in mm |      |      |
|--------|-------------------|-------|-------|-----------------|------|------|
|        | Min               | Typ   | Max   | Min             | Typ  | Max  |
| A      | -                 | -     | 0.210 | -               | -    | 5.33 |
| A1     | 0.010             | -     | -     | 0.25            | -    | -    |
| A2     | 0.124             | 0.130 | 0.136 | 3.15            | 3.30 | 3.45 |
| B      | 0.013             | 0.018 | 0.023 | 0.33            | 0.46 | 0.58 |
| B1     | 0.045             | 0.060 | 0.075 | 1.14            | 1.52 | 1.91 |
| c      | 0.005             | 0.010 | 0.015 | 0.13            | 0.25 | 0.38 |
| D      | 0.340             | 0.360 | 0.380 | 8.64            | 9.14 | 9.65 |
| E      | 0.275             | 0.300 | 0.325 | 6.99            | 7.62 | 8.26 |
| E1     | 0.240             | 0.250 | 0.260 | 6.10            | 6.35 | 6.60 |
| e1     | 0.090             | 0.100 | 0.110 | 2.29            | 2.54 | 2.79 |
| L      | 0.120             | 0.130 | 0.140 | 3.05            | 3.30 | 3.56 |
| a      | 0                 | -     | 15    | 0               | -    | 15   |
| eA     | 0.330             | 0.355 | 0.380 | 8.38            | 9.02 | 9.65 |
| S      | 0.015             | 0.030 | 0.045 | 0.38            | 0.76 | 1.44 |

NOTE: 1. Controlling dimension : Inch

2. General appearance spec. should be based on final visual inspection spec.