

**FEATURES**

- 127-note ROM memory
- 2.0V to 5.0V power supply and low power consumption
- RC oscillator on chip
- One shot or level hold mode (mask option)
- Sound range: 2.5 octaves, 2 series
- Tempo: 16 kinds (presto-largo)
- Double sound sources
- Digital Envelope Effect
- Operation Temperature Range : -10 to 70 °C

**FUNCTIONS**

- Dynamic speaker can be driven with external NPN transistor
- Power on reset; melody begins from the first note
- Start from the head of melody
- Bare chip or TO-92 are available

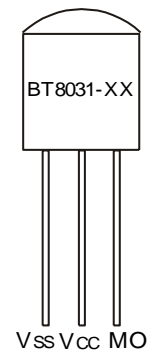
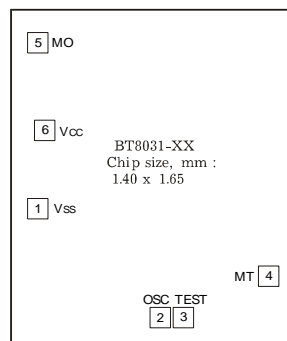
**DESCRIPTION**

The BT8031-XX is a CMOS LSI chip, which plays a prearranged melodies. The ROM has a 127 words and can store up to two melodies with double sound sources, and it uses the built-in digital envelope circuit.

**SONG LIST**

01	For Elise
02	Ding - Dong
03	Westminster
04	One Ding - Dong
05	It's Small World

**PIN CONFIGURATION**



CHIP

TO-92

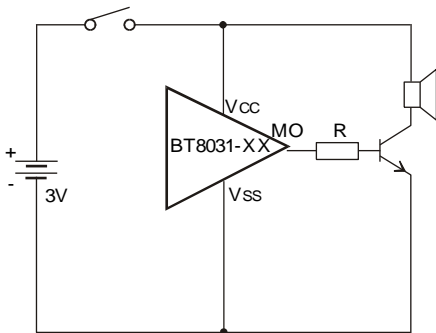
**ELECTRICAL CHARACTERISTICS** ( $V_{CC} = 3V$ ,  $V_{SS} = 0V$ ,  $T_a = 25^\circ C$ ; unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Operating Voltage	$V_{CC}$		2.0	3.0	5.0	V
Supply Current	Stand-by*	$I_S$		-	5	uA
Output Drive Current	$I_{OH}$	$V_{CC} = 3V$ , $V_O = 0.8V$	0.5	0.5		mA
Output Sink Current	$I_{OL}$	$V_{CC} = 3V$ , $V_O = 0.5V$	0.5	0.5		mA
Input Current MT	$I_I$	$V_{IN} = V_{CC}$	0.5		3.0	uA
Frequency Stability	$\Delta F/F$	$F_{osc(3V)} - F_{osc(2V)}$		-	15	%
		$F_{osc(3V)}$				

\* Only for version "ONE SHOT MODE"

**APPLICATION CIRCUITS**

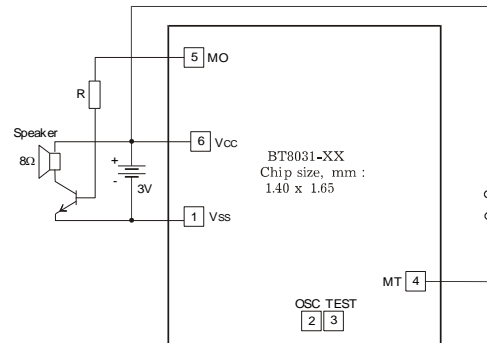
**LEVEL HOLD MODE (TO-92)**



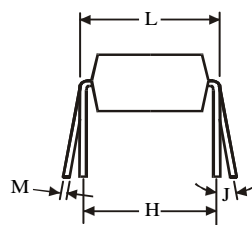
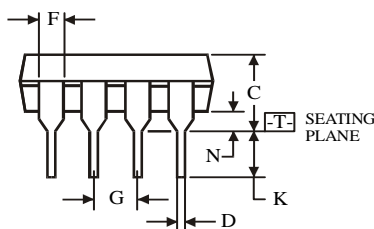
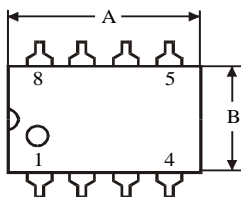
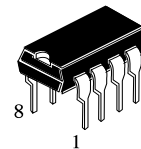
R = 5 ÷ 10kΩ

**NOTE:** The chip substrate is connected to VSS.

**ONE SHOT MODE (BARE CHIP)**



**N SUFFIX PLASTIC DIP  
(MS – 001BA)**



⊕ 0.25 (0.010) M T

Symbol	Dimension, mm	
	MIN	MAX
A	8.51	10.16
B	6.1	7.11
C		5.33
D	0.36	0.56
F	1.14	1.78
G	2.54	
H	7.62	
J	0°	10°
K	2.92	3.81
L	7.62	8.26
M	0.2	0.36
N	0.38	

**NOTES:**

- Dimensions “A”, “B” do not include mold flash or protrusions.  
Maximum mold flash or protrusions 0.25 mm (0.010) per side.

• TO-92

