BT8031-XX

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℃

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

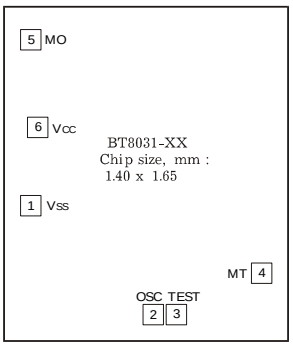
DESCRIPTION

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.

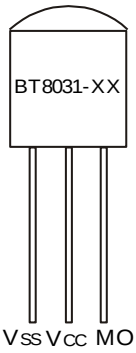
SONG LIST

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

PIN CONFIGURATION



CHIP



TO-92

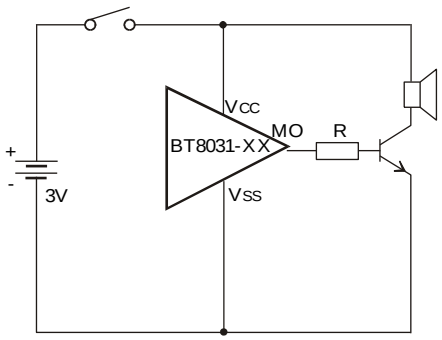
ELECTRICAL CHARACTERISTICS (V_{CC} = 3V, V_{SS} = 0V, T_a = 25°C; unless otherwise specified)

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
	Operating	I_{CC}	Output open		0.6	1	mA
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		ΔF/F	F_{OSC}(3V) - F_{OSC}(2V)		-	15	%
			F_{OSC}(3V)				

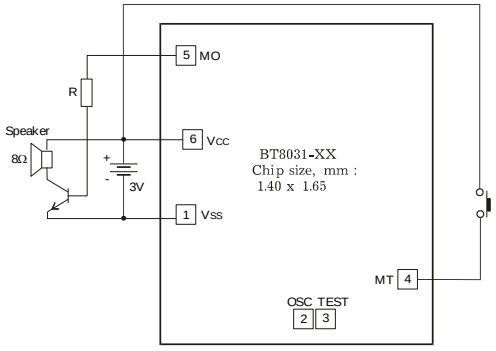
* Only for version "ONE SHOT MODE"

APPLICATION CIRCUITS

LEVEL HOLD MODE (TO-92)



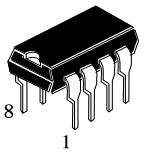
ONE SHOT MODE (BARE CHIP)

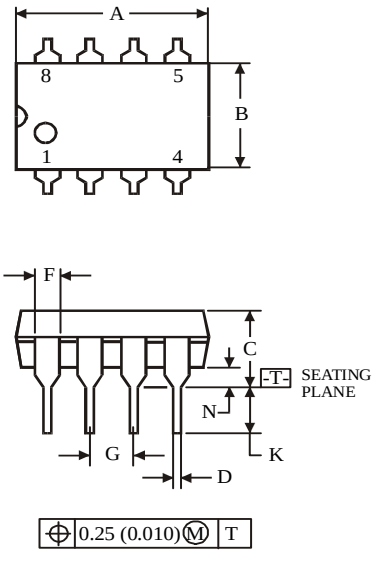


R = 5 ÷ 10kΩ

NOTE: The chip substrate is connected to V_{SS}.

N SUFFIX PLASTIC DIP
(MS – 001BA)



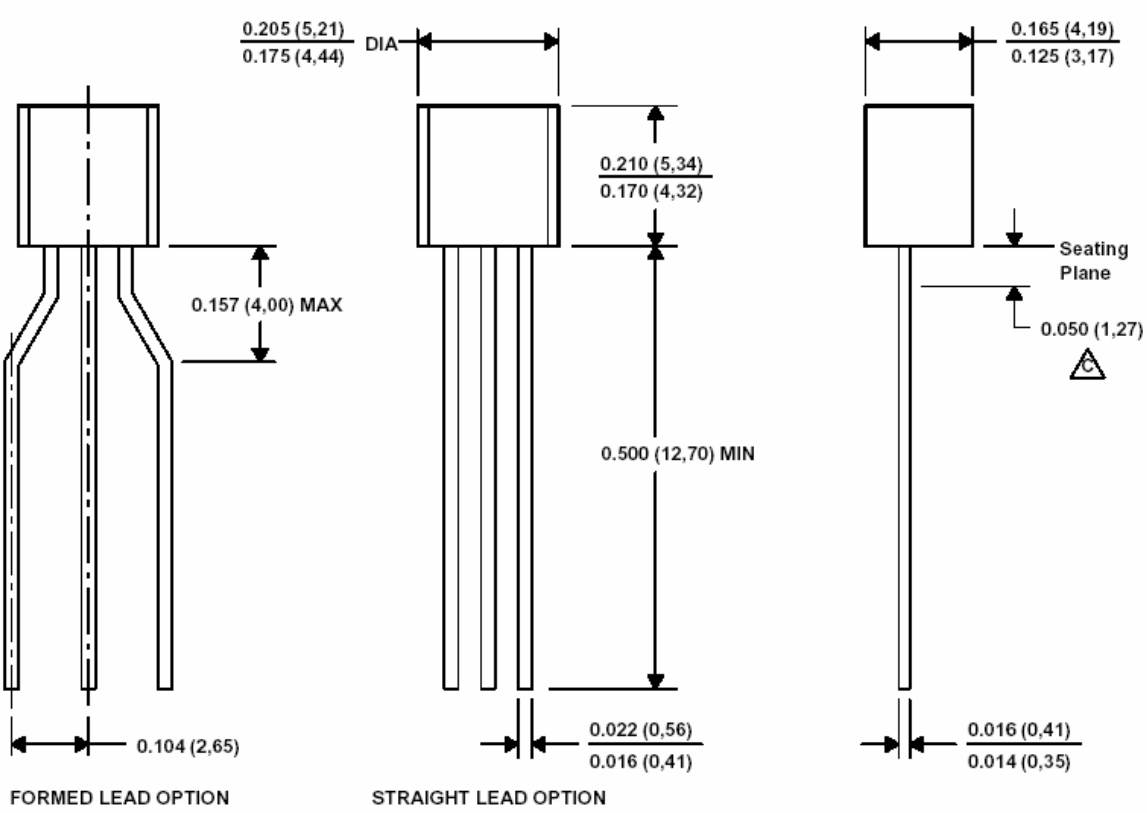


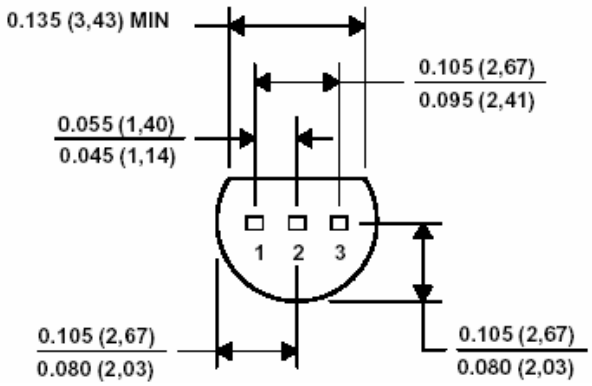
	Dimension, mm	
Symbol	**MIN**	**MAX**
A	8.51	10.16
B	6.1	7.11
C		5.33
D	0.36	0.56
F	1.14	1.78
G	2.54	
H	7.62	
J	0°	10°
K	2.92	3.81
L	7.62	8.26
M	0.2	0.36
N	0.38	

NOTES:

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

- **TO-92**


0.205 (5,21)
0.175 (4,44)
DIA
0.210 (5,34)
0.170 (4,32)
0.165 (4,19)
0.125 (3,17)
Seating
Plane
0.050 (1,27)
0.157 (4,00) MAX
0.500 (12,70) MIN
0.104 (2,65)
0.022 (0,56)
0.016 (0,41)
0.016 (0,41)
0.014 (0,35)
FORMED LEAD OPTION
STRAIGHT LEAD OPTION


0.135 (3,43) MIN
0.105 (2,67)
0.095 (2,41)
0.055 (1,40)
0.045 (1,14)
1
2
3
0.105 (2,67)
0.080 (2,03)
0.105 (2,67)
0.080 (2,03)