

# BT66T

SIMPLE MELODY GENERATOR

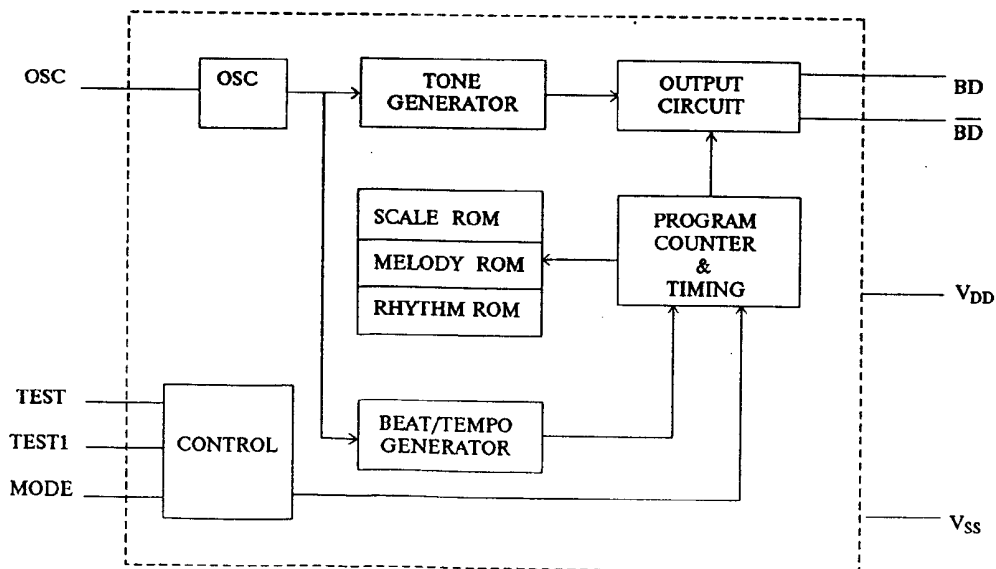
## FEATURES

- \* One shot or level hold mode
- \* Plays a melody consisting of 64 note
- \* RC oscillator on chip
- \* 64-note ROM memory
- \* Sound range : 2 octaves
- \* Tempo : 15 kinds (presto-largo)
- \* Direct piezo drive
- \* Solution of automatic stop or repeat of the melody
- \* Dynamic speaker can be driven with external NPN transistor
- \* Power on reset : melody begins from the first note
- \* TO-92 or bare chip available
- \* Changing the contents of melody is possible ROM
- \* Start from the head of melody

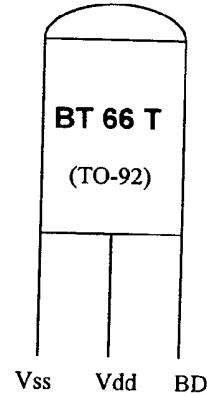
## DESCRIPTION

The BT 8027 series is a CMOS LSI chip which electronically plays 2 prearranged melody.

## BLOCK DIAGRAM



## PIN CONFIGURATION



## AVAILABLE SONG LIST

- BT66T-19L : For Elise
- BT66T-02L : Jingle Bell
- BT66T-08L : Happy Birthday
- BT66T-12L : Love Story
- BT66T-68L : It's a Small World

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## ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	VALUE	UNIT
DC SUPPLY VOLTAGE	V <sub>DD</sub> - V <sub>SS</sub>	-0.3 ~ 3.5	V
INPUT VOLTAGE	V <sub>IN</sub>	V <sub>SS</sub> - 0.3 - V <sub>DD</sub> -0.3	V
OPERATING TEMPERATURE	T <sub>opr</sub>	- 20 ~ + 65	°C
STORAGE TEMPERATURE	T <sub>stg</sub>	- 55 ~ + 125	°C

## ELECTRICAL CHARACTERISTIC (Ta = 25°C, V<sub>DD</sub> = 1.5V, unless otherwise specified)

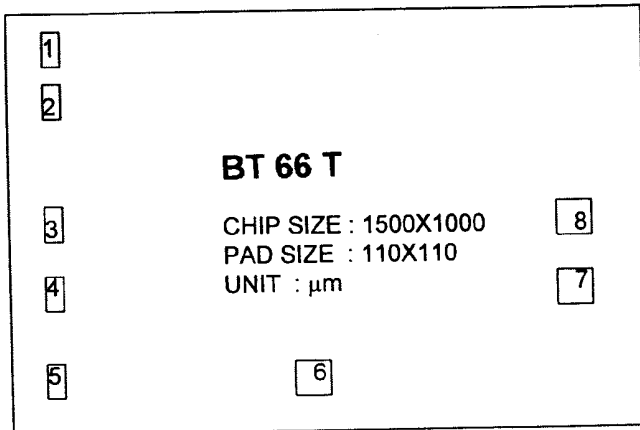
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
OPERATING VOLTAGE	V <sub>DD</sub>		1.3	1.3	3.3	V
SUPPLY CURRENT STAND-BY	I <sub>S</sub>				1	μA
OPERATING	I <sub>D</sub>	BD, BD OPEN			60	V
INPUT VOLTAGE HIGH	V <sub>IH</sub>		V <sub>DD</sub> -0.2V		V <sub>DD</sub>	V
INPUT VOLTAGE LOW	V <sub>IL</sub>		V <sub>SS</sub>		V <sub>SS</sub> +0.2V	mA
INPUT CURRENT MODE	I <sub>I</sub>	V <sub>DD</sub> =3.3V, V <sub>MODE</sub> =0-3.3V	-30		50	mA
BD (BD) DRIVE CURRENT	I <sub>BD</sub> (I <sub>BD</sub> )	V <sub>DD</sub> =1.3V, V <sub>BD</sub> =0.3V	0.6	1.5		mA
BD (BD) SINK CURRENT	I <sub>BS</sub> (I <sub>BS</sub> )	V <sub>DD</sub> =1.3V, V <sub>BD</sub> =0.3V	0.6	1.5		mA
FREQUENCY OPERATING	F <sub>osc</sub>	V <sub>DD</sub> = 1.5V	57	65	82	KHZ
FREQUENCY STABILITY	ΔF/F	F <sub>osc</sub> (1.6V) - F <sub>osc</sub> (1.3V) F <sub>osc</sub> (1.3V)			+12	%

## PAD LOCATION

Pad No	Pad Name	X	Y
1	MODE	145	1455
2	BD	145	1285
3	BD	145	785
4	TEST	145	535
5	TEST1	145	145
6	VSS	1005	145
7	OSC	1455	510
8	VDD	1455	680

## PAD LAYOUT

(1500,1500)



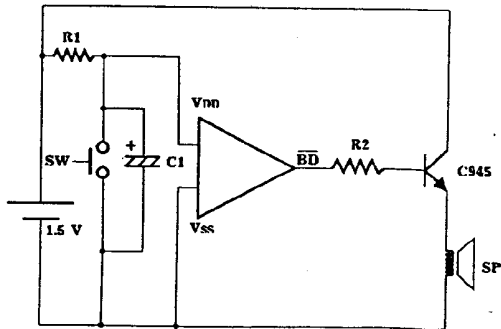
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## APPLICATION CIRCUIT

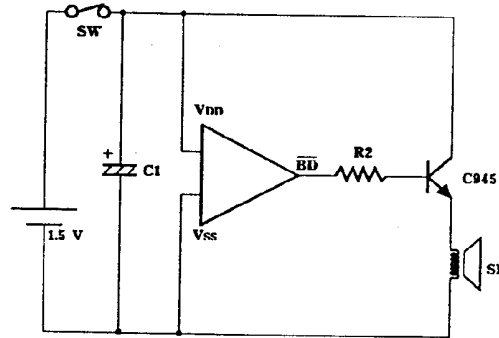
### For Speaker Type

#### 1) One Shot Mode



R1: 220 $\Omega$   
R2: 2.7 - 4.7K $\Omega$   
C1: 1 $\mu$ F

#### 2) Level Hold Mode



R2: 2.7 - 4.7K $\Omega$   
C1: 1 $\mu$ F