

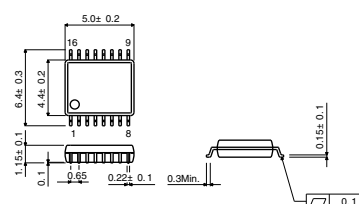
Tone generator LSI for cellular phones

BU8766FV

● Description

The BU8766FV is a tone generator IC for producing a triple chord that has both a RAM and sequencer to reduce the load of CPU soft. Cellular phones can give a musical performance by down-loading melody data from the C-MIDI format. This IC corresponds to three master clocks and has an adjustment function for a parameter needed to generate a chord. Waveform parameter can be selected from sine wave and special square wave.

● Dimension (Units : mm)



SSOP-B16

● Features

- 1) Triple chord can be generated by control from CPU.
- 2) CPU soft load can be decreased by incorporating RAM and sequencer.
- 3) RAM 1kByte as a buffer for download data.
- 4) Can adjust parameter needed to generate a chord.
- 5) DTMF generating function
- 6) Can select a wave parameter for generating sound. (sine wave/special square wave)
- 7) Control from CPU by serial data

● Applications

Cellular phones with a function to register melody at receiving the call

● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	VDD	- 0.3 ~ + 4.5	V
Power dissipation	Pd	450 *	mW
Operating temperature range	Topr	- 40 ~ + 85	°C
Storage temperature range	Tstg	- 50 ~ + 125	°C

* Derating : 4.5mW / °C for operation above Ta=25°C

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	VDD	2.2	2.5	3.6	V

• Electrical characteristics (Unless otherwise noted: Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions		
< Digital DC characteristics >								
High level input voltage	V _{IH}	0.7V _{DD}	-	-	V			
Low level input voltage	V _{IL}	-	-	0.3V _{DD}	V			
High level input current	I _{IH}	-	-	10	μA	V _{IH} =V _{DD}		
Low level input current	I _{IL}	-10	-	-	μA	V _{IH} =GND		
High level output voltage	V _{OH}	V _{DD} -0.3	-	-	V	I _{OH} =-0.8mA		
Low level output voltage	V _{OL}	-	-	GND+0.3	V	I _{OL} =0.8mA		
< Analog DC characteristics >								
VREF pin voltage	V _{AGND}	0.475V _{DD}	0.5V _{DD}	0.525V _{DD}	V	I _{OUT} =0A (No load)		
ANOUT pin voltage	V _{OUT}	0.47V _{DD}	0.5V _{DD}	0.53V _{DD}	V	I _{OUT} =0A (No load)		
< Whole characteristics (V _{DD} =2.5V) >								
Circuit current	I _{DD1}	-	-	1	μA	RESET=L	Other inputs=L	No load
	I _{DD2}	-	1500	2200	μA	RESET=H	MCLK=2.688MHz	
	I _{DD3}	-	1700	2500	μA	Other	MCLK=3.25MHz	
	I _{DD4}	-	2500	3400	μA	inputs=L	MCLK=4.92MHz	
VREF pin rise time	t _{RVR}	-	25	40	nS	At C _{VREF} =1μF, RESET=L→H		

• Block Diagram

