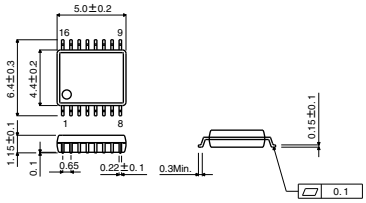
Tone generator LSI for cellular phones
BU8766FV

●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℃)

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

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

●Recommended Operating Conditions (Ta=25℃)

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

●Electrical characteristics (**Unless otherwise noted:** Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions		
＜Digital DC characteristics＞								
High level input voltage	**VIH**	**0.7VDD**	**—**	**—**	**V**			
Low level input voltage	**VIL**	**—**	**—**	**0.3VDD**	**V**			
High level input current	**IIH**	**—**	**—**	**10**	**μA**	**VIH=VDD**		
Low level input current	**IIL**	**−10**	**—**	**—**	**μA**	**VIH=GND**		
High level output voltage	**VOH**	**VDD−0.3**	**—**	**—**	**V**	**IOH=−0.8mA**		
Low level output voltage	**VOL**	**—**	**—**	**GND+0.3**	**V**	**IOL=0.8mA**		
＜Analog DC characteristics＞								
VREF pin voltage	**VAGND**	**0.475VDD**	**0.5VDD**	**0.525VDD**	**V**	**IOUT=0A (No load)**		
ANOUT pin voltage	**VOUT**	**0.47VDD**	**0.5VDD**	**0.53VDD**	**V**	**IOUT=0A (No load)**		
＜Whole characteristics (VDD=2.5V) ＞								
Circuit current	**IDD1**	**—**	**—**	**1**	**μA**	**RESET=L**	**Other inputs=L**	**No load**
	IDD2	**—**	**1500**	**2200**	**μA**	**RESET=H**	**MCLK=2.688MHz**	
	IDD3	**—**	**1700**	**2500**	**μA**	**Other**	**MCLK=3.25MHz**	
	IDD4	**—**	**2500**	**3400**	**μA**	**inputs=L**	**MCLK=4.92MHz**	
VREF pin rise time	**tRVR**	**—**	**25**	**40**	**mS**	**At CVREF=1μF, RESET=L→H**		

●Block Diagram