

# Wireless Audio Link IC

## BH1417F

The BH1417F is a FM stereo transmitter IC that transmits simple configuration. The IC consists of a stereo modulator for generating stereo composite signals and a FM transmitter for broadcasting a FM signal on the air. The stereo modulator generates a composite signal which consists of the MAIN, SUB, and pilot signal from a 38kHz oscillator. The FM transmitter radiates FM wave on the air by modulating the carrier signal with a composite signal. Frequency is set for North America.

### ●Applications

Wireless speakers, Personal computer(sound board), Game machine, CD changer, Car TV, Car navigation

### ●Features

- 1) It is possible to improve the timbre because it has the pre-emphasis circuit, limiter circuit, and the low-pass filter circuit.
- 2) Built-in pilot-tone system FM stereo modulator circuit.
- 3) The transmission frequency is stable because it has a PLL system FM transmitter circuit.
- 4) PLL controls data input in parallel (4bits, 14ch for North America).

### ●Absolute maximum ratings (Ta = 25°C, In measurement circuit.)

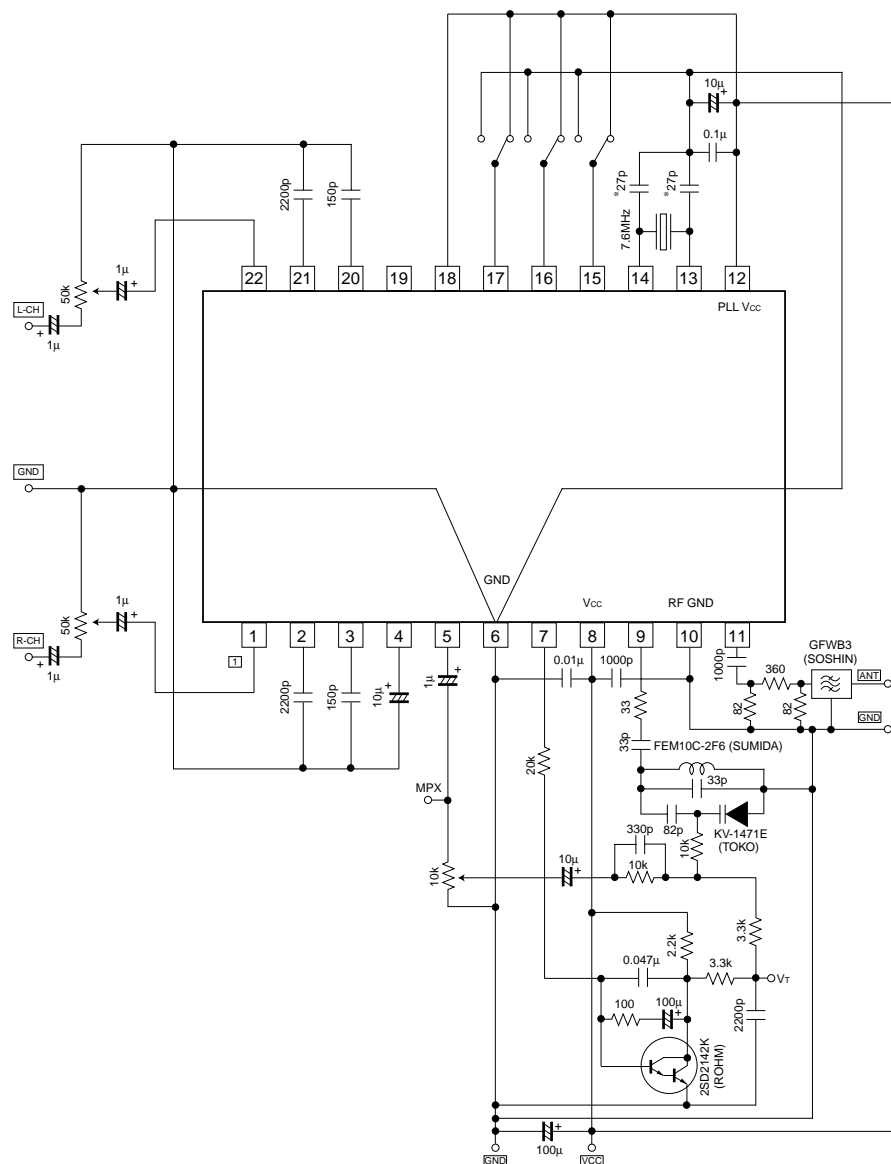
Parameter	Symbol	Limits	Unit	Conditions
Supply voltage	V <sub>CC</sub>	+7.0	V	Pin8,12
Data input voltage	V <sub>IN-D</sub>	-0.3 to V <sub>CC</sub> +0.3	V	Pin15,16,17,18
Phase comparator output voltage	V <sub>OUT-P</sub>	-0.3 to V <sub>CC</sub> +0.3	V	Pin7
Power dissipation	P <sub>d</sub>	450*	mW	
Storage temperature	T <sub>stg</sub>	-55 to +125	°C	

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

### ●Recommended operating conditions (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating supply voltage	V <sub>CC</sub>	4.0	—	6.0	V	Pin8,12
Operating temperature	T <sub>opr</sub>	-40	—	+85	°C	
Audio input level	V <sub>IN-A</sub>	—	—	-10	dBV	Pin1,22
Audio input frequency band	f <sub>IN-A</sub>	20	—	15k	Hz	Pin1,22
Pre-emphasis time constant set up range	τ <sub>PRE</sub>	—	—	155	μs	Pin2,21
Transmission frequency(200kHz step)	f <sub>TX</sub>	87.7 106.7	—	88.9 107.9	MHz	Pin9,11
Control terminal "H" level input voltage	V <sub>IH</sub>	0.8V <sub>CC</sub>	—	V <sub>CC</sub>	V	Pin15,16,17,18
Control terminal "L" level input voltage	V <sub>IL</sub>	GND	—	0.2V <sub>CC</sub>	V	Pin15,16,17,18

## US BAND (88.0MHz~89.2MHz)



The drawing shows the mechanical specifications for the SOP22 package. The top view indicates a total length of  $13.6 \pm 0.2$  mm and a width of  $7.8 \pm 0.3$  mm. The pin pitch is  $0.4 \pm 0.1$  mm, and the pin width is  $0.15 \pm 0.1$  mm. The side view shows a maximum height of  $0.3$  mm. A detail view of the pin shows a thickness of  $0.1$  mm. Other dimensions include a mounting hole diameter of  $1.8 \pm 0.1$  mm, a hole offset of  $0.11$  mm, and a lead length of  $1.27$  mm.

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