

Wireless Audio Link IC

BH1416F

The BH1416F 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.

●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).

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

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

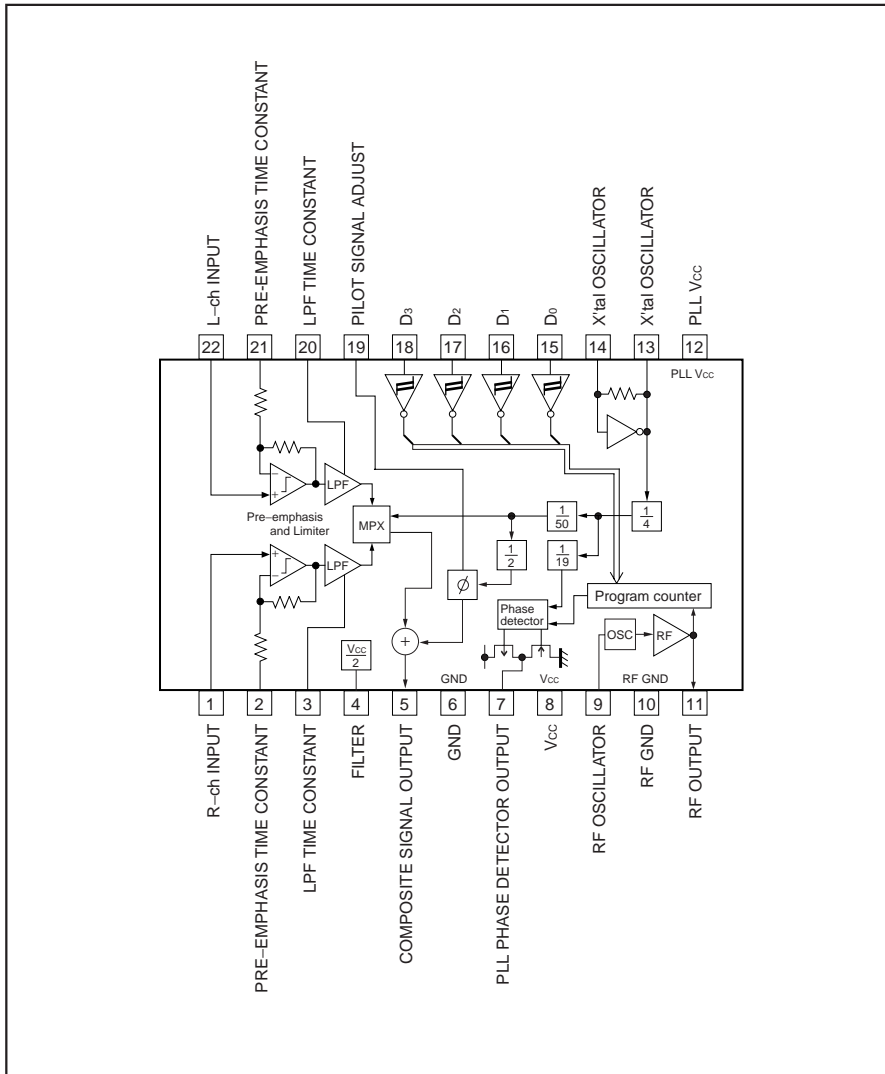
* Derating : 4.5mW/°C for operation above Ta=25°C.

●Recommended operating conditions (Ta = 25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--|-------------------|--------------------|------|--------------------|------|----------------|
| Operating supply voltage | V _{CC} | 4.0 | - | 6.0 | V | Pin8,12 |
| Operating temperature | T _{opr} | -40 | - | +85 | °C | |
| Audio input level | V _{IN-A} | - | - | -10 | dBV | Pin1,22 |
| Audio input frequency band | f _{IN-A} | 20 | - | 15k | Hz | Pin1,22 |
| Pre-emphasis time constant set up range | t _{PRE} | - | - | 155 | μsec | Pin2,21 |
| Transmission frequency(200kHz step) | f _{TX} | 76.8 88.0 | - | 78.0 89.2 | MHz | Pin9,11 |
| Control terminal "H" level input voltage | V _{IH} | 0.8V _{CC} | - | V _{CC} | V | Pin15,16,17,18 |
| Control terminal "L" level input voltage | V _{IL} | GND | - | 0.2V _{CC} | V | Pin15,16,17,18 |

Audio ICs

●Block diagram



●External dimensions (Unit : mm)

