# Wireless Audio Link IC BH1415F

The BH1415F 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

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

### 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 data input (CE, CK, DA) by serial input.

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

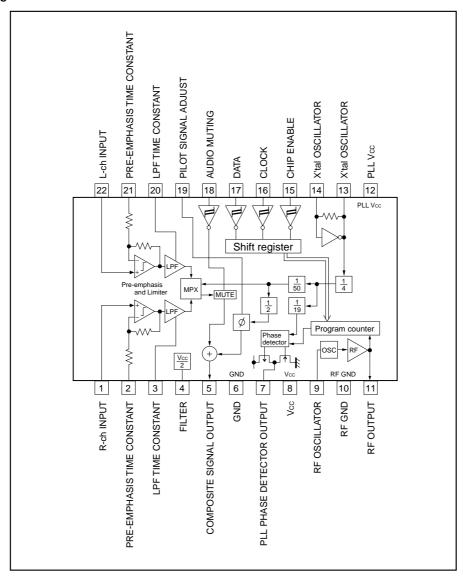
Parameter	Symbol	Symbol Limits		Conditions
Supply voltage	Vcc	+7.0	V	Pin8,12
Data input voltage	V <sub>IN-D</sub>	-0.3 to Vcc+0.3	V	Pin15,16,17,18
Phase comparator output voltage	Vout-p	-0.3 to Vcc+0.3	V	Pin7
Power dissipation	Pd	450 <sup>*</sup>	mW	
Storage temperature	Tstg	-55 to +125	°C	

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

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

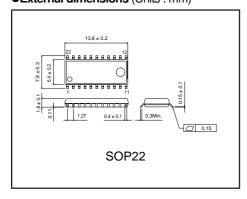
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Operating supply voltage	Vcc	4.0	_	6.0	V	Pin8,12
Operating temperature	Topr	-40	_	+85	°C	
Audio input level	VIN-A	_	_	-10	dBV	Pin1,22
Audio input frequency band	fin-a	20	-	15k	Hz	Pin1,22
Pre-emphasis time constant set up range	t pre	-	-	155	μsec	Pin2,21
Transmission frequency	fтх	70	_	120	MHz	Pin9,11
Control terminal "H" level input voltage	ViH	0.8Vcc	_	Vcc	V	Pin15,16,17,18
Control terminal "L" level input voltage	VIL	GND	-	0.2Vcc	V	Pin15,16,17,18

# ●Block diagram



No.	Control unit / Data	Contents					
(2)	MULTIPLEXER	It changes a stereo and monaural operation.					
	MONO		MONO	ONO Condition of the composite signal			
			0 Monaural operation L+R , Pilot OFF				
			1	Stereo o	peration L+R+(L-R),sinωst+Psin	$\frac{\omega_s}{2}$ t	
(2)	PHASE DETECTOR	It controls charge pump output by the phase comparator compulsorily.					
	PD <sub>0</sub> , PD <sub>1</sub>		PD <sub>0</sub>	PD <sub>1</sub>	Charge pump output		
	1 50, 1 51		0	0	Usual operation		
			0	1	Compulsion by Low		
			1	0	Compulsion by High		
			1	1	High impedance		
(3)	TEST MODE	It is data for the LSI test.					
		<ul> <li>Always in To Input "1".</li> <li>Always in T<sub>1</sub> Input "0".</li> </ul>					
	T <sub>0</sub> , T <sub>1</sub>						

# ●External dimensions (Units : mm)



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