Advance Information

Advanced Communications JST-AWICS09325

300 – 928 MHz Frequency Agile with SPI Bus Interface

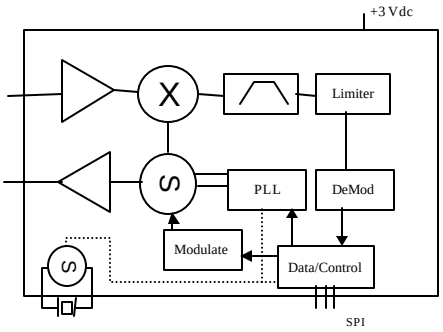
Features

- High integration to minimize total system costs
- Contains LNA, Mixers, Filters, Limiters, Demod, Mod., PA, PLL, VCO, Ref. Osc. Data Retiming and SPI port
- Data rates to 28.8 Kbits/sec (with full Manchester Encoding on chip)
- Direct connection to microprocessor
- Single Rail Operation
- Programmable power levels, frequency, Tx/Rx/Stdby
- Wide Supply rail 2.4V to 3.3V @ 22mA during operation

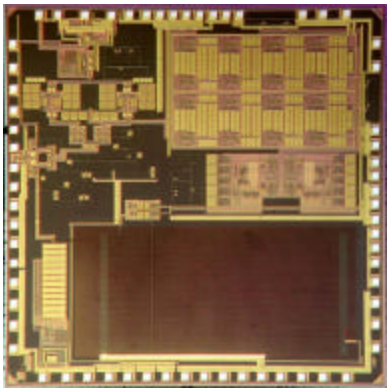
Description

The JS Technologies JST-AWICS09325 is a single ASIC transceiver for use in digital data and time division full-duplex voice applications. Direct microprocessor connections for control and data transfer eliminate the need for costly off chip components. The JST-AWICS09325 is ideally suited for use in battery powered wireless applications in conjunction with microprocessors for data communication and a Codec for voice.

Functional Schematic



Package Option – inquire for options



RF Electrical Specification @ + 25ºC Ambient

Parameter	Test Condition	Frequency	Units	Min	Typical	Max
Rx Sensitivity		300– 928 MHz	dBm		-95	
1dB Compression	Vdd= 3V	300– 928 MHz	dBm		-20	
Input IP3	Vdd = 3V	300– 928 MHz	dBm		-5	
Tx Output power	Vdd = 3V	300– 928 MHz	dBm dBm		+3	
Data Rate, Tx / Rx	Continuous data w/Manchester Encoder		Kbps		28.8	
Adj. Channel rejection		Fc +/- 200KHz	dB		75	
Detection Bandwidth	IQ baseband filter passband		KHz		100	
Control/Data I/O	Serial peripheral interface (SPI). Direct connection to microcontroller/microprocessor		MHz		10	

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DC Electrical Specifications @ + 25°C Ambient

Parameter	Units	Minimum	Typical	Max
V_{DD}	V	2.4	3.0	3.3
Power Supply Current During Tx, Output Power Dependant (915MHz)	mA	16	26	
Power Supply Current (I_{DD}) during Rx (915MHz)	mA	22	28	
Standby Power Consumption	uA		TBD	
Logic level (0) CMOS	V	0		0.7
Logic level (1) CMOS	VOH	1.7		V_{DD}
Input Leakage Current	µA			2

Absolute Maximum Ratings[1]

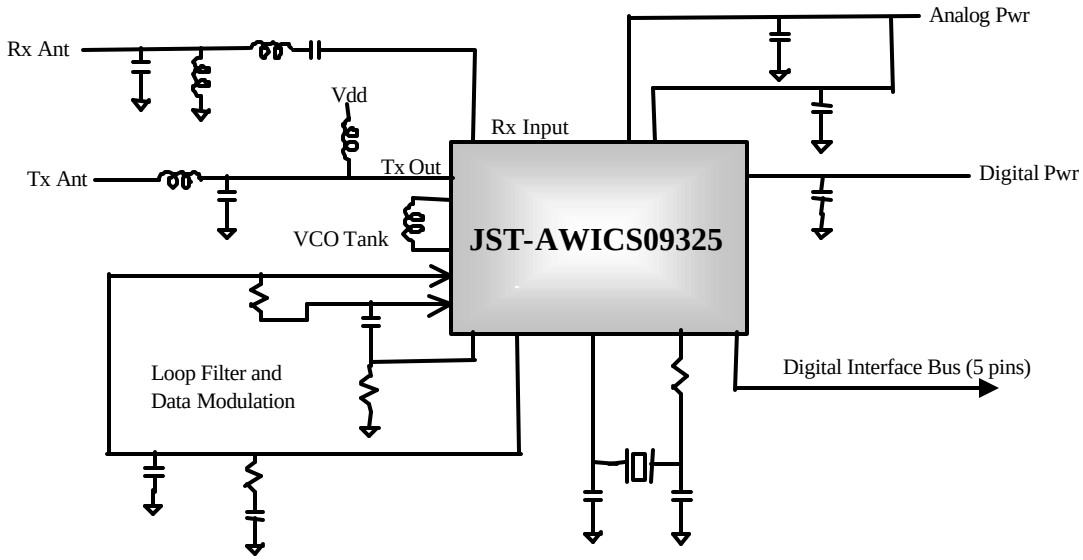
Parameter	Absolute Maximum
Maximum Input Power	-
+ V_{DD}	+ 3.6 V
ESD Voltage (Human Body Model)	TBD
Operating Temperature	- 40°C to + 85°C
Storage Temperature	- 40°C to + 150°C

[1] Operation of this Device beyond any of these parameters may cause permanent damage

Latch-Up: This chip uses Honeywell's RF-SOI process which is immune to latch-up.

ESD Protection: Although this device contains ESD protection circuitry, conventional precautions should be taken to ensure that the Absolute Maximum Ratings are not exceeded.

Typical Application Schematic



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