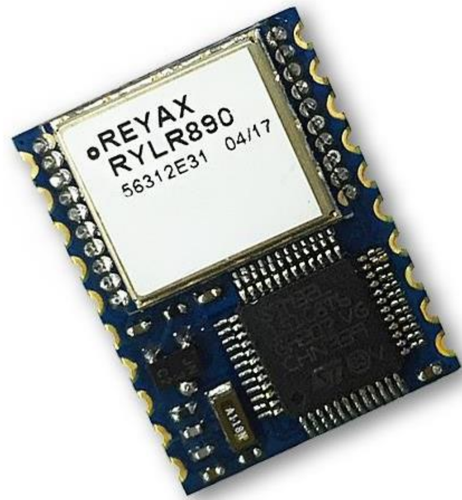
REYAX
TECHNOLOGY CORPORATION, LTD

29-JAN-2018 56312E33

RYLR895

UART Interface
868/915 MHz Lora
Transceiver Module

Datasheet



产品介绍

RYLR895 收发模块的特点在于采用 LoRa 长距离调制解调器,提供超长距离扩频通信和高抗干扰性,并同时最大限度地降低其电流消耗。

功能与特色

- Semtech SX1276 核心
- 优异的隔绝干扰抑制
- 低接收电流
- 高灵敏度
- 利用 AT Commands 控制,易于操作
- 127 dB RSSI 动态范围
- AES128 数据加密

应用范围

- 物联网应用
- 移动设备
- 家庭保全
- 工业监控和控制设备
- 汽车警报

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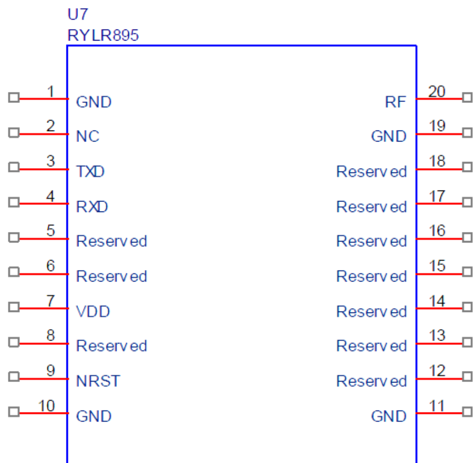
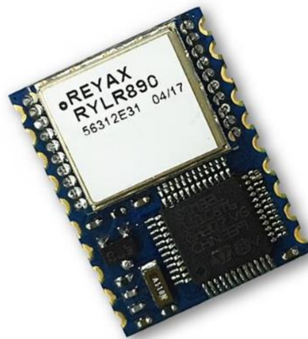
PIN DESCRIPTION





Pin	Name	I/O	Condition
1	GND	-	Ground
2	Reserved	-	Reserved I/O
3	TXD	O	UART Data Output
4	RXD	I	UART Data Input
5	Reserved	-	Reserved I/O
6	Reserved	-	Reserved I/O
7	VDD	I	Power Supply
8	Reserved	-	Reserved I/O
9	NRST	I	RESET(Active Low)
10	GND	-	Ground
11	GND	-	Ground
12	Reserved	-	Reserved I/O
13	Reserved	-	Reserved I/O
14	Reserved	-	Reserved I/O
15	Reserved	-	Reserved I/O
16	Reserved	-	Reserved I/O
17	Reserved	-	Reserved I/O
18	Reserved	-	Reserved I/O
19	GND	-	Ground
20	RF	I/O	RF Input/Output

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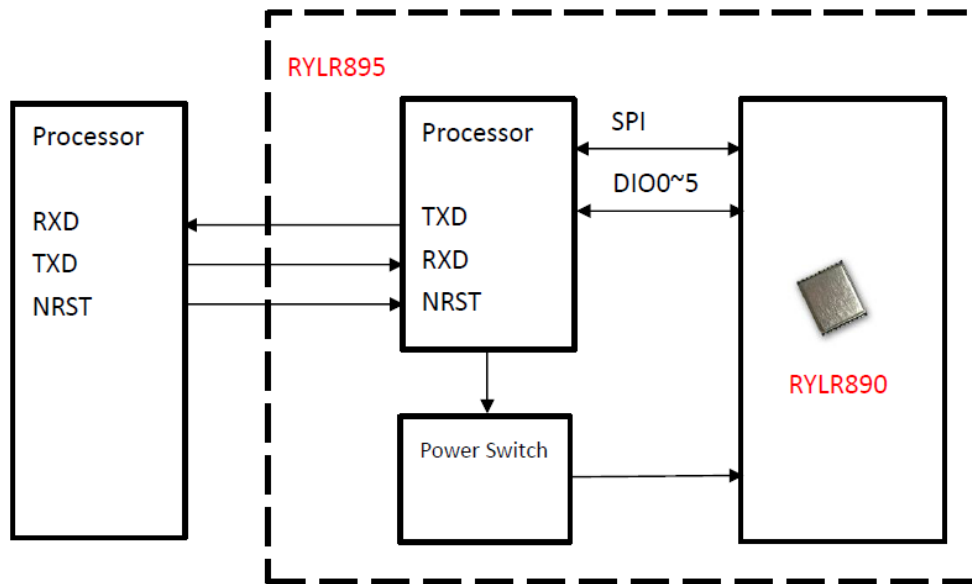
BLOCK DIAGRAM



SPECIFICATION

Item	Min.	Typical	Max.	Unit	Condition
VDD Power Supply	2.8	3.3	3.6	V	VDD
RF Output Power Range	-4		15	dBm	
Filter insertion loss	1	2	3	dB	
RF Sensitivity	-148			dBm	
RF Input Level			10	dBm	
Frequency Range	820	868/915	1020	MHz	
Frequency Accuracy		±2		ppm	
Communication Range		4.5	15	KM	Depend on RF parameter
Transmit Current		43		mA	RFOP = +15 dBm
Receive Current		16.5		mA	AT+MODE=0
Sleep Current		0.5		uA	AT+MODE=1
Digital Input Level High	0.7*VDD		VDD	V	VIH
Digital Input Level Low	0		0.3*VDD	V	VIL
Digital Output Level High	0.9		VDD	V	VOH
Digital Output Level Low			0.1	V	VOL
Cycling (erase / write) EEPROM data memory		300		K	Cycles
Weight		4		g	
Operating Temperature	-40	25	+85	˚C	

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REFLOW SOLDERING

Consider the "IPC-7530 Guidelines for temperature profiling for mass soldering (reflow and wave) processes, published 2001.

Preheat phase

Initial heating of component leads and balls. Residual humidity will be dried out. Please note that this preheat phase will not replace prior baking procedures.

- Temperature rise rate: max. 3 °C/s If the temperature rise is too rapid in the preheat phase it may cause excessive slumping.
- Time: 60 - 120 s If the preheat is insufficient, rather large solder balls tend to be generated. Conversely, if performed excessively, fine balls and large balls will be generated in clusters.
- End Temperature: 150 - 200 °C If the temperature is too low, non-melting tends to be caused in areas containing large heat capacity.

Heating/ Reflow phase

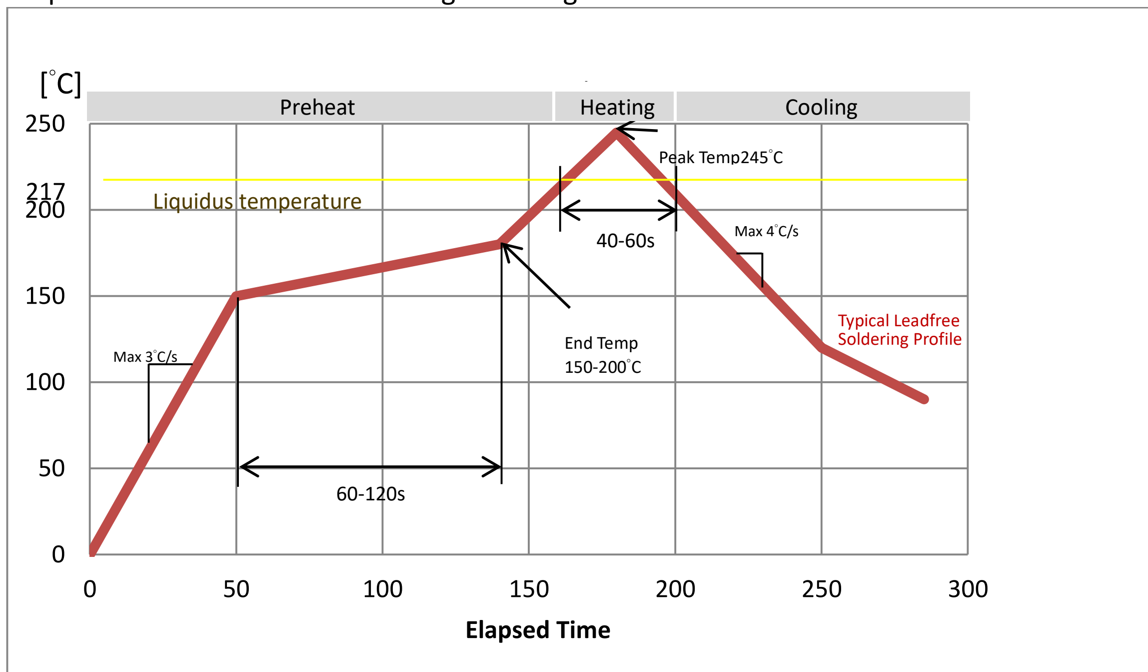
The temperature rises above the liquidus temperature of 217°C. Avoid a sudden rise in temperature as the slump of the paste could become worse.

- Limit time above 217 °C liquidus temperature: 40 - 60 s
- Peak reflow temperature: 245 °C

Cooling phase

A controlled cooling avoids negative metallurgical effects (solder becomes more brittle) of the solder and possible mechanical tensions in the products. Controlled cooling helps to achieve bright solder fillets with a good shape and low contact angle.

- Temperature fall rate: max 4 °C/s To avoid falling off, the REYAX RYB070I module should be placed on the topside of the motherboard during soldering.



Recommended soldering profile

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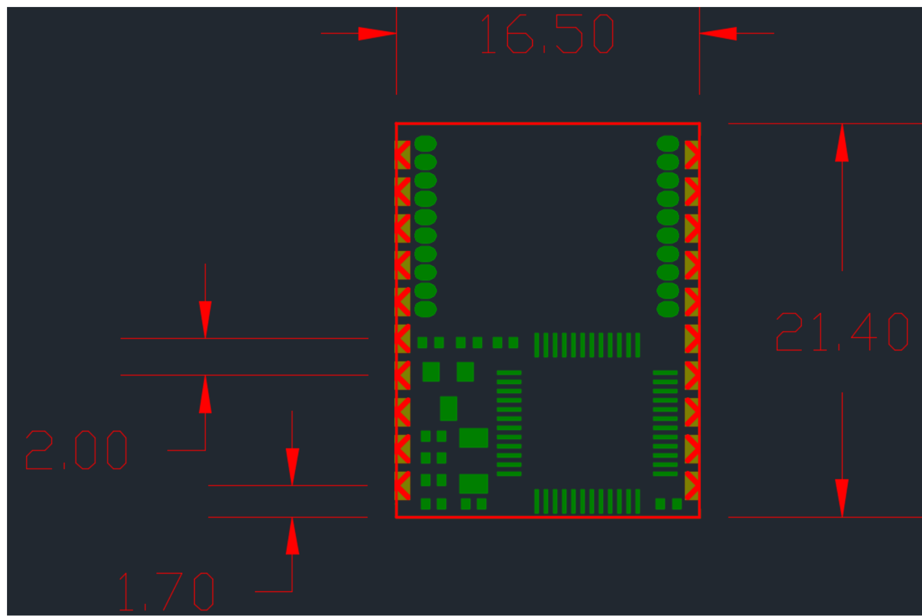
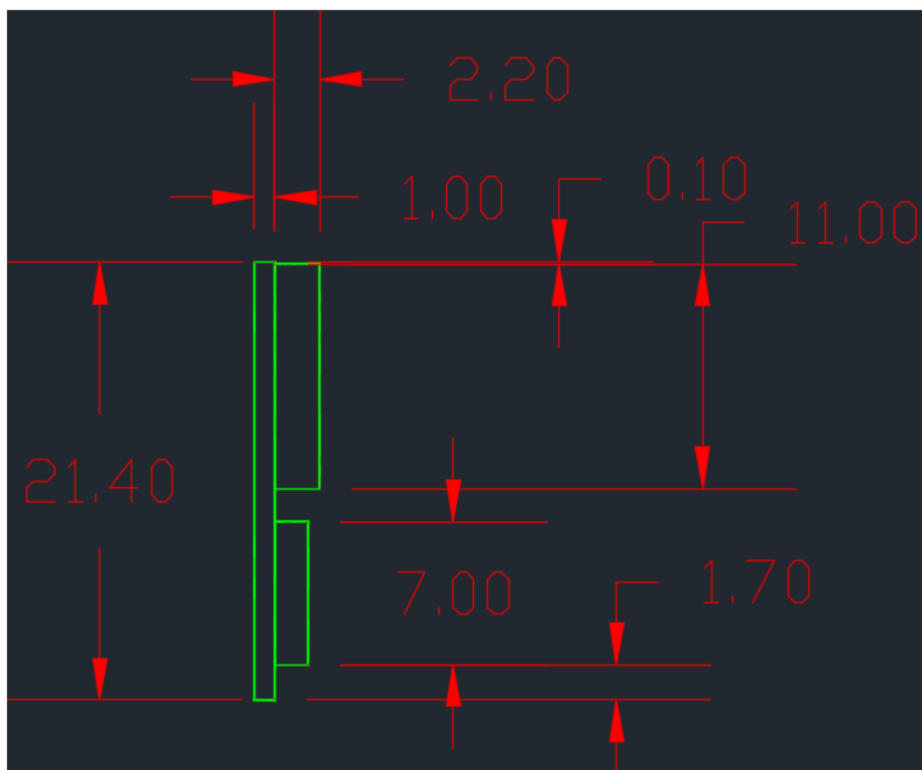
DIMENSIONS





Unit : mm

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