SPI/USB Interface board Data sheet for HF RFID Reader/Writer module LXRFZZHBBA-044-EVAL

Scope

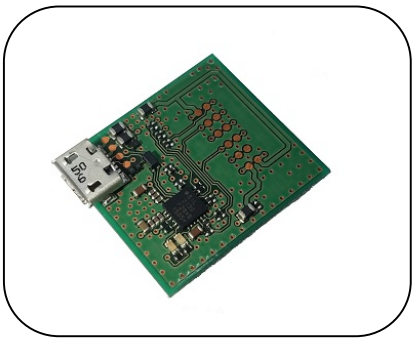
This data sheet, is applied to an interface board for HF RFID Reader/Writer module, LXRFZZHAAA-028-KIT.

-Specific applications: To evaluate Murata's HF RFID tag products as a part of LXRFZZHAAA-028-KIT.

-Unsuitable Application: It is not allowed to install on/in any products which are released to the market.

1. General Descriptions

LXRFZZHBBA-044-EVAL is an interface board for HF RFID Reader/Writer module, LXRFZZHAAA-028-KIT.



[Features]

-Signal conversion : SPI – USB

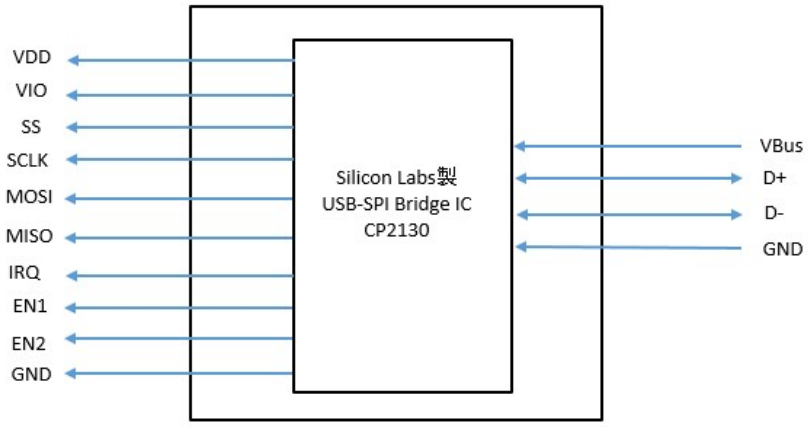
-100% green material for RoHS compliance

-Related product name

	Part number
Evaluation Kit*	LXRFZZHAAA-028-KIT
Reader writer	LXRFZZHAAA-026-EVAL
Interface Board	LXRFZZHBBA-044-EVAL

*A reader writer, an interface board are included in Evaluation Kit.

2. Block Diagram



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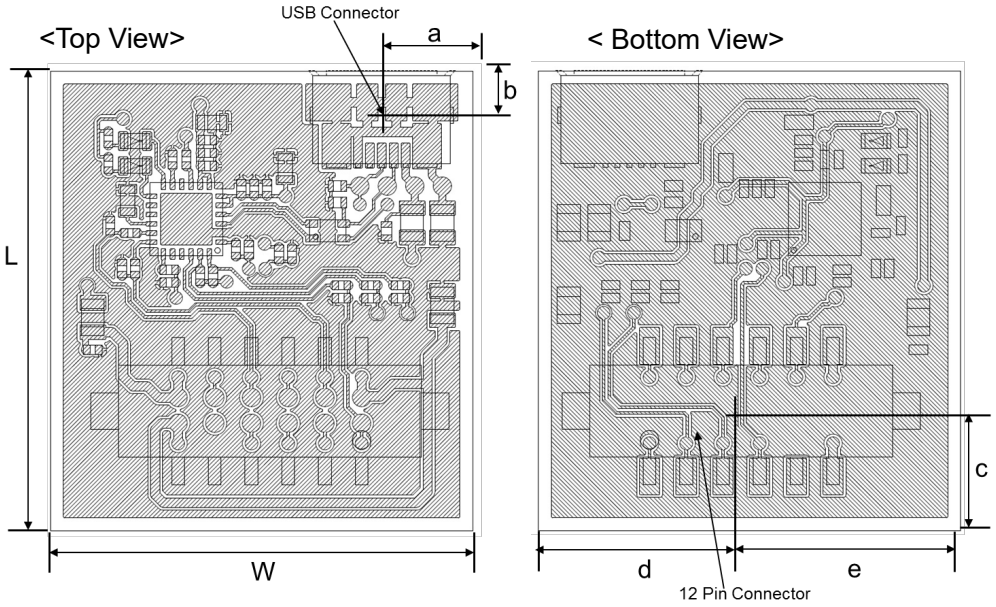
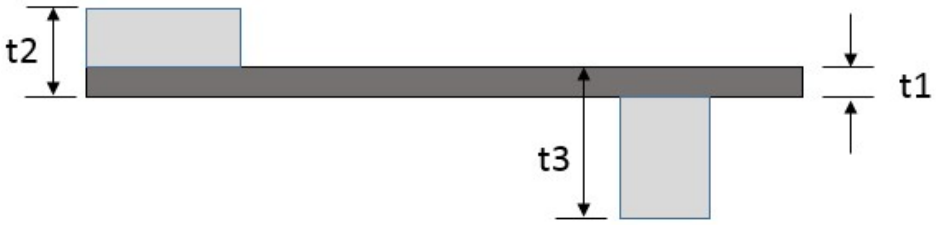
3. Mechanical Information

3-1. Dimensions



<Side View>



Unit:mm

Mark	Size	Mark	Size	Mark	Size
L	25.0 +/- 0.3	c	6.50 +0.15 / -0.10	t1	1.00 +0.20 / -0.10
W	23.0 +/- 0.3	d	11.05 +0.15 / -0.10	t2	3.94 +0.3 / -0.2
a	4.95 +0.15 / -0.10	e	11.95 +0.15 / -0.10	t3	6.95 +0.3 / -0.2
b	2.65 +0.15 / -0.10				

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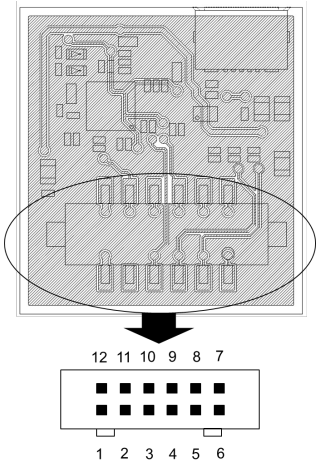
3-2. Pin description

No	Pin Name	Type	Description
1	VSS	Supply pad	GND reference
2	CLK_OUT	Digital Output	Clock output for External MCU
3	SCLK	Digital Input	SPI clock input
4	MOSI	Digital Input	SPI data input
5	MISO	Digital Output	SPI data output
6	SS	Digital Input	SPI chip select
7	VSS	Supply pad	GND reference
8	IRQ	Digital Output	Interrupt request
9	VIO	Supply pad	I/O voltage
10	EN2	Digital input	Enable input 2
11	EN1	Digital input	Enable input 1
12	VIN	Supply pad	Input Voltage

<Top View>



※ Connector : Hirose DF11CZ012DP-2V(27).

Counterpart connector : Hirose DF11 Series Receptacle 12pin.
DF11CZ-12DS-2V, Hirose DF11-12DS-2C, etc.

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4. Characteristics

4-1. Basic configuration

LXRFZZHBBA-044-EVAL uses CP2130 (Silicon Labs).

Please refer the CP2130 data sheet for a functional description.

4-2. Ratings

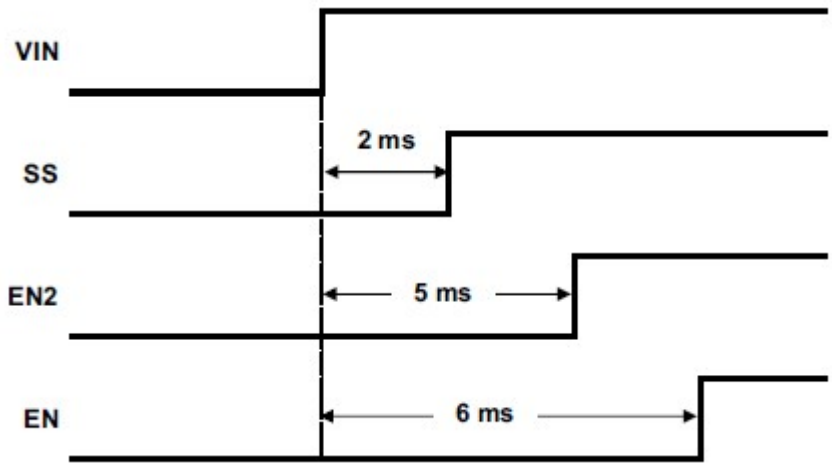
4-2-1. Limiting values

Parameter	Symbol	Limiting values		Unit
		Min	Max	
Power Supply Voltage	V_{IN}	-0.3	5.8	V
Storage temperature	T_{STG}	-25	+85	ºC

4-2-2. Operation condition

Parameter	Symbol	Min	Typ	Max	Unit
Power Supply Voltage	V_{IN}	4.75	5	5.25	V
Ambient Temperature	T_{amb}	-25	25	+65	ºC

4-3. Start-up sequence



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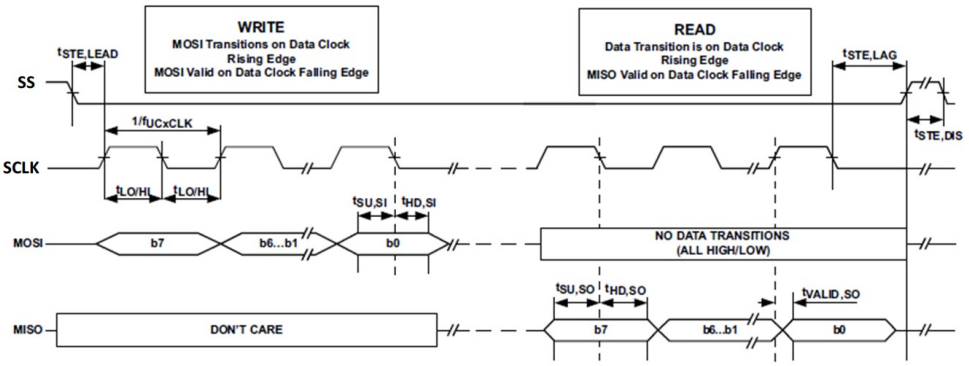
4-4. SPI Specification

SPI Mode1 (CPOL = 0, CPHA = 1).

Recommended SCLK speed is less than 2MHz.



Parameter	Min	Typ	Max	Unit
$t_{LO/HI}$ (SCKL 50% duty)	250	62.5	50	ns
$t_{STE,LEAD}$ (SS low to clock)		200		ns
$t_{STE,LAG}$ (Last clock to SS high)		200		ns
$t_{STE,DIS}$ (SS rising edge to next SS falling edge)	300			ns
$t_{SU,SI}$ (MOSI input data setup time)	15			ns
$t_{HD,SI}$ (MOSI input data hold time)	15			ns
$t_{SU,SO}$ (MISO input data setup time)	15			ns
$t_{HD,SO}$ (MISO input data hold time)	15			ns
$t_{VALID,SO}$ (MISO input data valid time)	30	50	75	ns

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5. Contact window

URL: http://www.murata.com/en-global/products/rfid

Email: magicstrap@murata.com

For any inquiries, please feel free to contact us.

NOTICE

1. Storage Conditions:

To avoid damaging, be sure to observe the following points.

- Store products where the ambient temperature is 15 to 35 °C and humidity 45 to 75% RH.
  (Packing materials, In particular, may be deformed at the temperature over 40 °C.).
- Store products in non corrosive gas (Cl_2, NH_3,SO_2, No_x, etc.).
- Stored products should be used within 6 months of receipt.

2. Handling Conditions:

Be careful in handling or transporting products because excessive stress or mechanical shock may break products.

⚠ Note:

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