

US082-SSCALINTRP5VZ

Interposer Board

Description

The US082-SSCALINTRP5VZ interposer board provides an economical method to calibrate the Pmod capacitive sensor. Using the interposer board ensures reliable connection, in contrast to using a jumper wire.

The US082-SSCALINTRP5VZ board features the Pmod connector on one side and a 50-pin dual row socket header on the other side to plug to the SSC Communication board, providing flexibility to rapidly calibrate the Pmod sensor board.

Features

- SSC Communication board to standard Pmod pinout

Board Contents

US082-SSCALINTRP5VZ Interposer Board

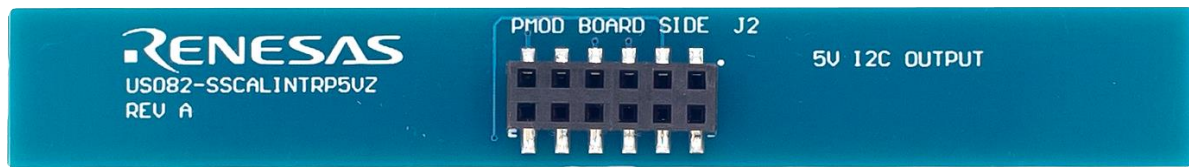


Figure 1. US082-SSCALINTRP5VZ Interposer Board

Contents

1. Functional Description 3

1.1 Setup and Configuration 3

1.2 Kit Hardware Connections 3

2. Board Design 4

2.1 Schematic Diagrams..... 5

2.2 Bill of Materials 5

2.3 Board Layout 5

3. Ordering Information 6

4. Revision History 6

Figures

Figure 1. US082-SSCALINTRP5VZ Interposer Board..... 1

Figure 2. US082-SSCALINTRP5VZ Interposer Board (Middle)..... 3

Figure 3. Silkscreen Top..... 5

Figure 4. Copper Top 5

Figure 5. Silkscreen Bottom..... 5

Figure 6. Copper Bottom 5

1. Functional Description

1.1 Setup and Configuration

The US082-SSCALINTRP5VZ board is used with the SSC Communications board kits to calibrate a capacitor sensor Pmod.

Table 1. Required Equipment and Board for Calibration

Demo Board	Description
SSC Comm Board V4.1 Kit	Used for communication between user's computer and capacitive Pmod sensor.
US082-ZSSC3123EVZ	Pmod board with capacitive sensor signal conditioner IC
US082-SSCALINTRP5VZ	Interposer Board

Equipment	Description
Capacitive Sensor	Calibration and testing
Calibration Standard (OPTIONAL)	Provide reference stimulus signal for calibration

1.2 Kit Hardware Connections

Complete the following procedures to set up the kit as shown in Figure 2.

1. Plug the US082-SSCALINTRP5VZ board into the SSC Communication board kit connector, K6.
2. Plug the US082-ZSSC3123EVZ Pmod board into the other side of the US082-SSCALINTRP5VZ connector, J2.
3. The system is now ready for use.

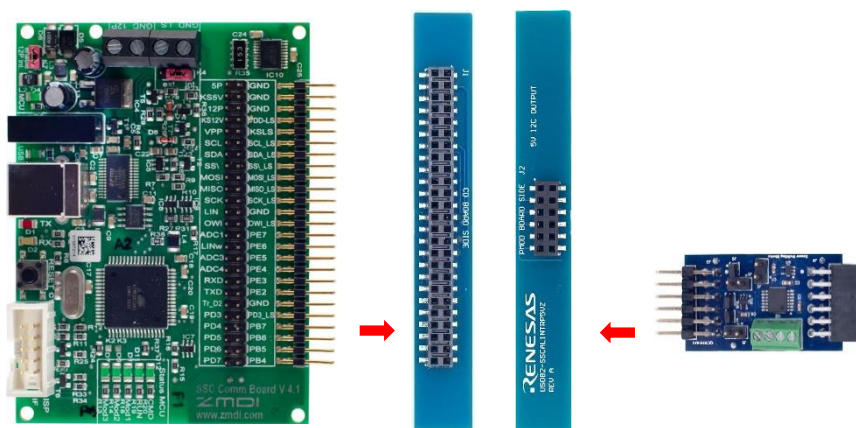


Figure 2. US082-SSCALINTRP5VZ Interposer Board (Middle)

(Same board showing connector on each side. Placed between SSC Comm board and US082-SSC3240EVZ.)

2. Board Design



Figure 3. US082-SSCALINTRP5VZ Board (Top)

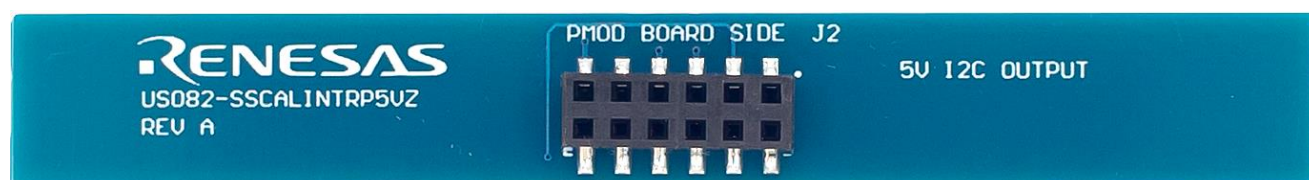


Figure 4. US082-SSCALINTRP5VZ Board (Bottom)

Table 2. US082-SSCALINTRP5VZ Pin Mapping

SSC Comm Board Pin	SSC Comm Board K6 Side (50 Pin)	Pmod Pin	US082-ZSSC3123EVZ J3 Side (12 Pin)
2	GND	1	INTn
4	GND	2	RESETn
6	GND	3	SCL
24	GND	4	SDA
3	KS5V	5	GND
11	SCL	6	VDD
13	SDA	7	GPIO1
32	RESET	8	GPIO2
41	PD3/INT1	9	GPIO3
44	PB7	10	GPIO4
46	PB6	11	GND
48	PB5	12	VDD
50	PB4	-	-

2.1 Schematic Diagrams

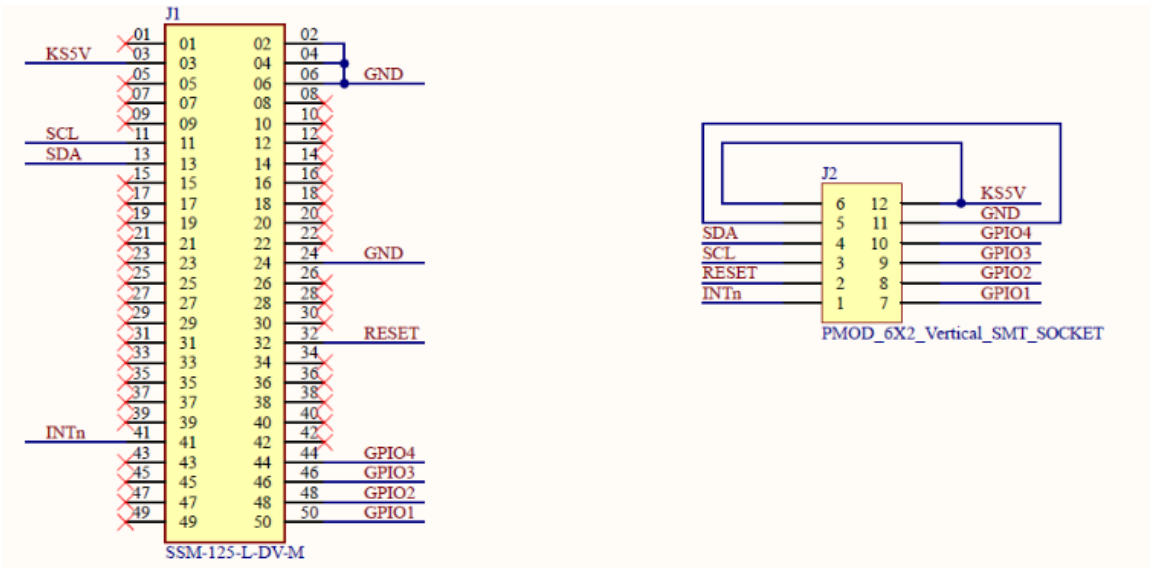


Figure 5. US082-SSCALINTRP5VZ Schematic

2.2 Bill of Materials

Qty	Reference	Description	Part Number
1	J1	CONN Socket 50POS 2ROW Vertical SMT	SSM-125-L-DV-M
1	J2	CONN Socket 12POS 2ROW Vertical SMT	NPPC062KFMS-RC

2.3 Board Layout

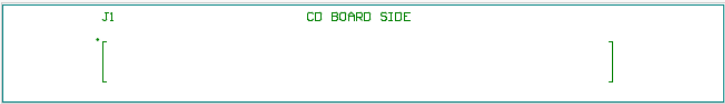


Figure 3. Silkscreen Top

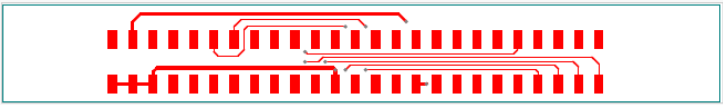


Figure 4. Copper Top



Figure 5. Silkscreen Bottom

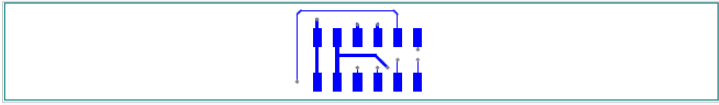


Figure 6. Copper Bottom

3. Ordering Information

Part Number	Description
US082-SSCALINTRP5VZ	Interposer Board

4. Revision History

Revision	Date	Description
1.00	Jun 6, 2025	Initial release.

IMPORTANT NOTICE AND DISCLAIMER

RENESAS ELECTRONICS CORPORATION AND ITS SUBSIDIARIES ("RENESAS") PROVIDES TECHNICAL SPECIFICATIONS AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THIRD-PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for developers who are designing with Renesas products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. Renesas grants you permission to use these resources only to develop an application that uses Renesas products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Renesas intellectual property or to any third-party intellectual property. Renesas disclaims responsibility for, and you will fully indemnify Renesas and its representatives against, any claims, damages, costs, losses, or liabilities arising from your use of these resources. Renesas' products are provided only subject to Renesas' Terms and Conditions of Sale or other applicable terms agreed to in writing. No use of any Renesas resources expands or otherwise alters any applicable warranties or warranty disclaimers for these products.

(Disclaimer Rev.1.01)

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

Contact Information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit www.renesas.com/contact-us/.

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.