

# ISLUSBEVAL1Z

## User's Manual: USB to PMBus™ Adapter

Core Power Solutions

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## ISLUSBEVAL1Z

USB to PMBus™ Adapter

### 1. Overview

The Renesas USB to PMBus Adapter (often referred to as a “dongle”) is used to connect a demonstration board with a PMBus interface to a PC. The USB to PMBus adapter is powered from the USB output of the host PC. The USB interface utilizes the USB Mini format, and the output uses a standard 2 row, 6 pin header on 0.100 inch centers. The PMBus command set is accessed by using the [PowerNavigator™](#) evaluation software from a PC running Microsoft Windows. PowerNavigator software is downloaded from the Renesas [website](#).

#### 1.1 Key Features

- Compatible with [PowerNavigator](#)
- Compatible with the Power Configuration Tool
- Supports Multi-Master PMBus systems

#### 1.2 Specifications

- USB Mini format
- Output: Standard 2 row, 6 pin header on 0.100 inch centers
- Compatible with 32-bit or 64-bit Windows Vista, Windows 7, Windows 8 or Windows 10

#### 1.3 Ordering Information

| Part Number  | Description                    |
|--------------|--------------------------------|
| ISLUSBEVAL1Z | USB to PMBus Adapter and Cable |

#### 1.4 Related Literature

For a full list of related documents, visit our website:

- [ISLUSBEVAL1Z](#) product page

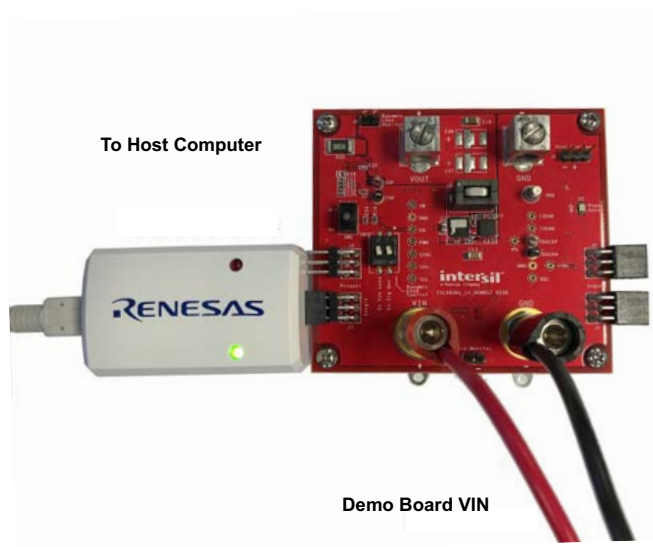


Figure 1. USB to PMBus Typical Set-Up

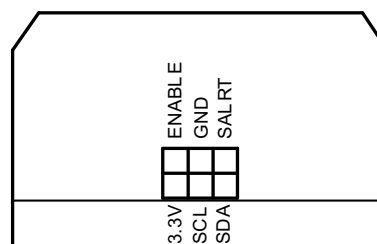


Figure 2. Pin Configuration

## 2. Functional Description

The Renesas USB to PMBus Adapter is used to connect a demonstration board with a PMBus interface to a PC.

### 2.1 Quick Start Guide

- Connect the USB Mini provided between the host computer and the USB to PMBus adapter.
- Connect USB to PMBus adapter to demonstration board to test or evaluate.
- Apply input power (labeled VIN) to the demonstration board.
- Download PowerNavigator from the [Renesas website](#).
- Follow the instructions on the website.
- When PowerNavigator is installed, double-click on the PowerNavigator icon and follow the software's instructions.

## 2.2 ISL7202xCSEHEVAL1Z Circuit Schematic

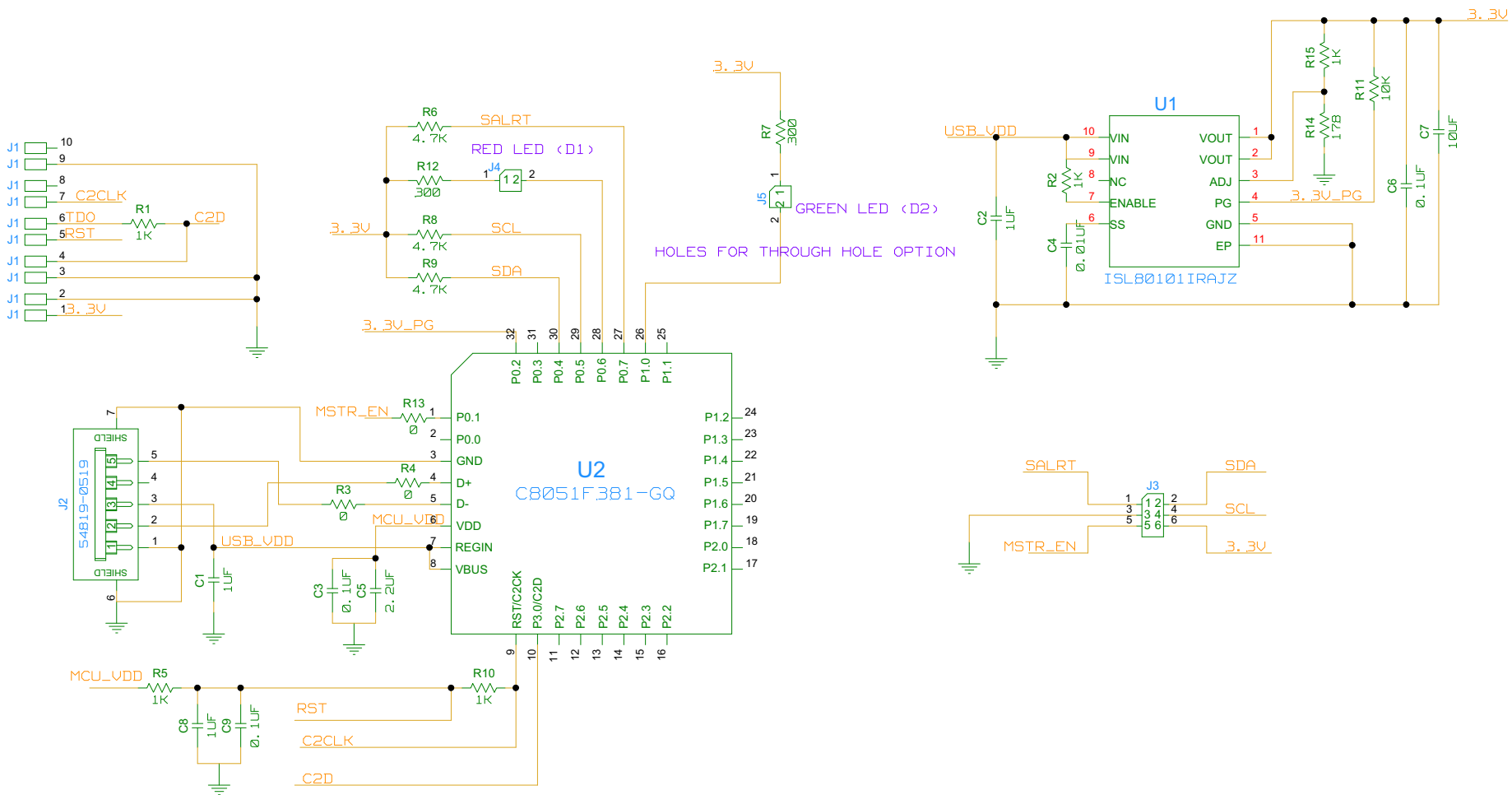


Figure 3. Schematic

## 2.3 Bill of Materials

| Qty | Reference Designator              | Description  | Mfr                         | Manufacturer Part Number    |
|-----|-----------------------------------|--|-----------------------------|-----------------------------|
| 1   |                                   | PWB-PCB, ISLUSBEVAL1Z, REVA, ROHS                            | Imagineering Inc.           | ISLUSBEVAL1ZREVAPCB         |
| 1   | C4                                | CAP, SMD, 0402, 0.01 $\mu$ F, 16V, 10%, X7R, ROHS            | TDK                         | C1005X7R1C103K              |
| 3   | C3, C6, C9                        | CAP, SMD, 0402, 0.1 $\mu$ F, 16V, 10%, X7R, ROHS             | Venkel                      | C0402X7R160-104KNE          |
| 3   | C1, C2, C8                        | CAP, SMD, 0603, 1 $\mu$ F, 16V, 10%, X5R, ROHS               | Murata                      | GRM188R61C105KA12D          |
| 1   | C5                                | CAP, SMD, 0603, 2.2 $\mu$ F, 10V, 10%, X7R, ROHS             | Murate                      | GRM188R71A225KE15D          |
| 1   | C7                                | CAP, SMD, 0805, 10 $\mu$ F, 10V, 10%, X5R, ROHS              | Murata                      | GRM21BR61A106KE19L(Pb FREE) |
| 1   | J2                                | CONN-USB MINI-B RECEPTACLE, TH, 5CIRCUIT, R/A, ROHS          | Molex                       | 54819-0519                  |
| 1   | J1                                | CONN-HEADER, 2X5, BRKAWY-2X36, 2.54mm, ROHS                  | Berg/FCI                    | 67996-272HLF                |
| 1   | J3                                | CONN-SOCKET STRIP, TH, 2X3, 2.54mm, TIN, R/A, ROHS           | Samtec                      | SSQ-103-02-T-D-RA           |
| 1   | D2 (See Document #1)              | LED, TH, T-1, GRN DIFFUSED, 2.2V, 20mA, 9.0mcd, 535nm, ROHS  | Everlight Electronics       | MV5474C                     |
| 1   | D1 (See Document #1)              | LED, TH, T-1, RED DIFFUSED, 2V, 20mA, 9.0mcd, 635nm, ROHS    | Everlight Electronics       | MV5774C                     |
| 1   | U2                                | IC-PROGRAMMED 3.2 FIRMWARE USB MCU, 32P, LQFP, 10BIT, ROHS   | Silicon Laboratories        | C8051F381-GQ                |
| 1   | U1                                | IC-ADJ.V, 1A LDO REGULATOR, 10P, DFN, 3X3, ROHS              | Intersil                    | ISL80101IRAJZ               |
| 3   | R3, R4, R13                       | RES, SMD, 0402, 0 $\Omega$ , 1/16W, 5%, TF, ROHS             | Venkel                      | CR0402-16W-00T              |
| 5   | R1, R2, R5, R10, R15              | RES, SMD, 0402, 1K, 1/16W, 1%, TF, ROHS                      | Venkel                      | CR0402-16W-1001FT           |
| 1   | R11                               | RES, SMD, 0402, 10K, 1/16W, 1%, TF, ROHS                     | Panasonic                   | ERJ-2RKF1002X               |
| 1   | R14                               | RES, SMD, 0402, 178 $\Omega$ , 1/16W, 1%, TF, ROHS           | Yageo                       | RC0402FR-07178RL            |
| 2   | R7, R12                           | RES, SMD, 0402, 300 $\Omega$ , 1/16W, 1%, TF, ROHS           | Vishay/Dale                 | RC0402FR-07178RL            |
| 3   | R6, R8, R9                        | RES, SMD, 0402, 4.7K, 1/16W, 1%, TF, ROHS                    | Venkel                      | CR0402-16W-4701FT           |
| 1   | Bag & Ship W/Brd (Cable)          | CABLE-USB 2.0, TYPE A MALE/TYPE MINI-B MALE, 1.8M, WHT, ROHS | Molex                       | 88732-8800                  |
| 1   | Place assy in bag                 | BAG, STATIC, 3X5, ZIP LOC                                    | Intersil Common Stock       | D810 (212403-012)           |
| 1   | D1, D2 - LED Placement Assy Photo | See attached document for manual or visual instruction.      | Intersil                    | Document #1                 |
| 1   | Affix to Back of PCB              | LABEL-DATE CODE_LINE 1: YRWK/REV#, LINE 2: BOM NAME          | Renesas Electronics America | LABEL-DATE CODE             |
| 1   | PCB Encapsulation Case            | CASE-ISLUSBE1Z DONGLE ENCLOSURE, 2inch, WHT/BUE INK, ROHS    | New Age Enclosures          | S1A-201209-INT13029         |

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### 3. Revision History

| Rev. | Date     | Description     |
|------|----------|-----------------|
| 1.00 | Mar.1.19 | Initial release |

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(Rev.4.0-1 November 2017)

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