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PRODUCT OVERVIEW

The D1U86P-12-CONC interface connector card (Murata Part Number: 8401649) is intended to be used to interconnect the output voltages and signals of the following products:

- D1U86P-W-1600-12-HBxDC
- D1U86-D-1600-12-HBxDC

The card is intended to provide an electrical interface to the power modules for laboratory/bench level evaluation of the product. End Users can also use this card in their applications as an alternative to a power/mid or interposer plane in their host system (consult Murata Sales for details).

SAFETY PRECAUTION

The D1U86P-12-CONC output connector card is intended to facilitate the connection of the output supply rails of the power module. As such there is a high energy source (12V$_{DC}$) exposed on the output connector card; please take the necessary safety precautions during the use of this connector card for product evaluation.
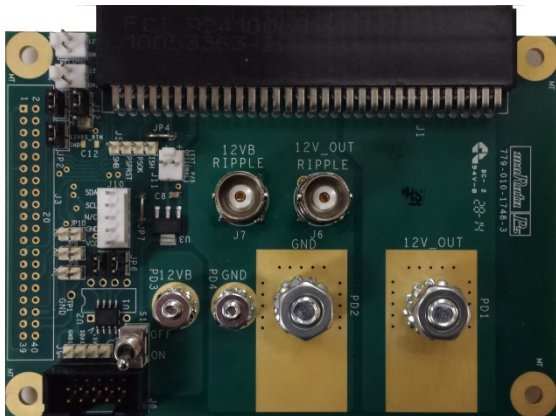
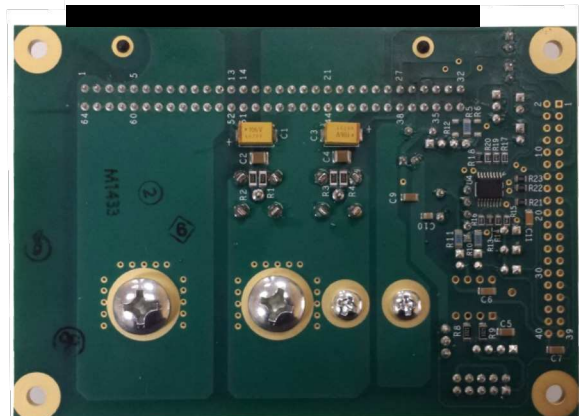## SCHEMATIC – D1U86P-12-CONC
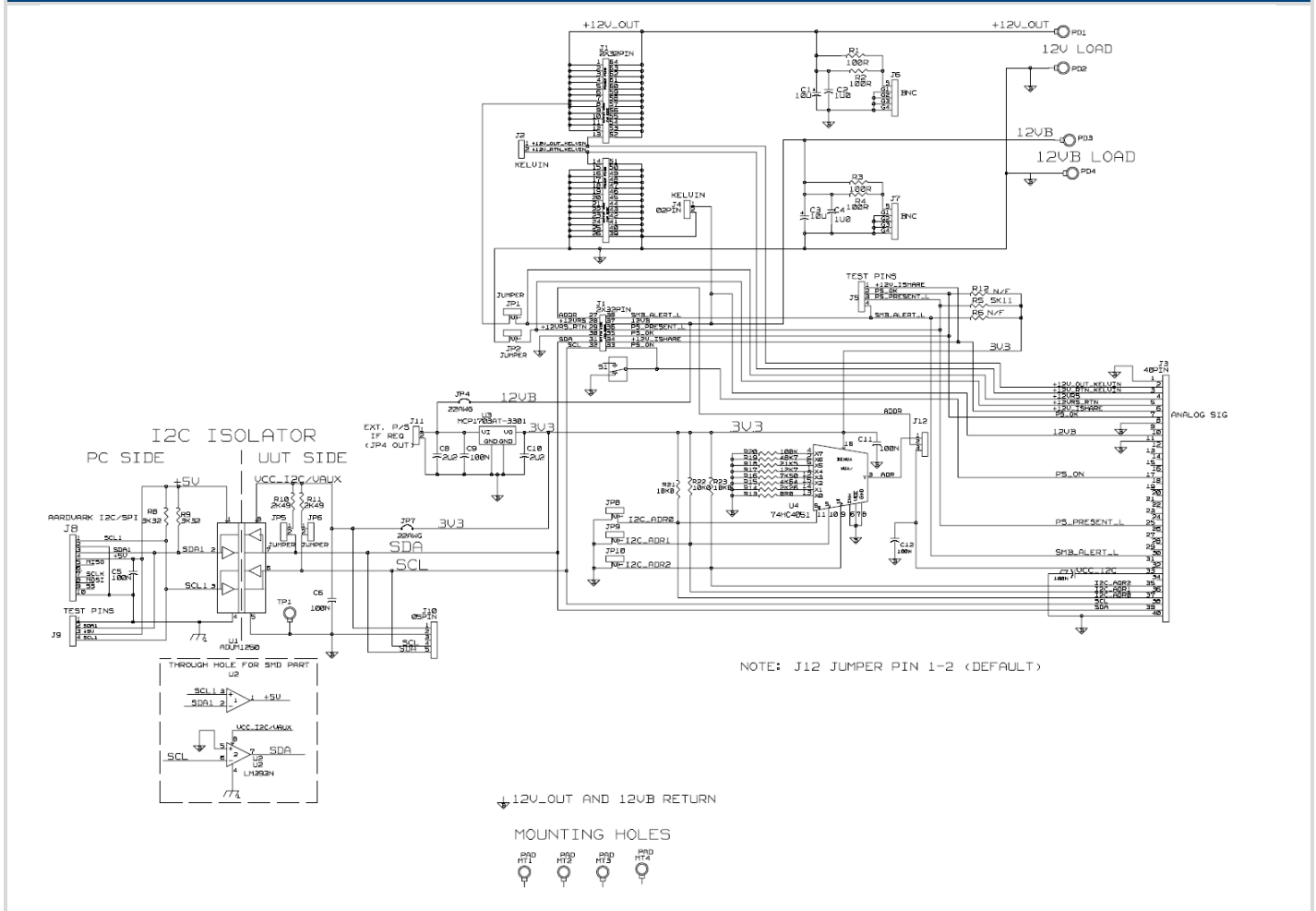
MECHANICAL OUTLINE – D1U86P-12-CONC
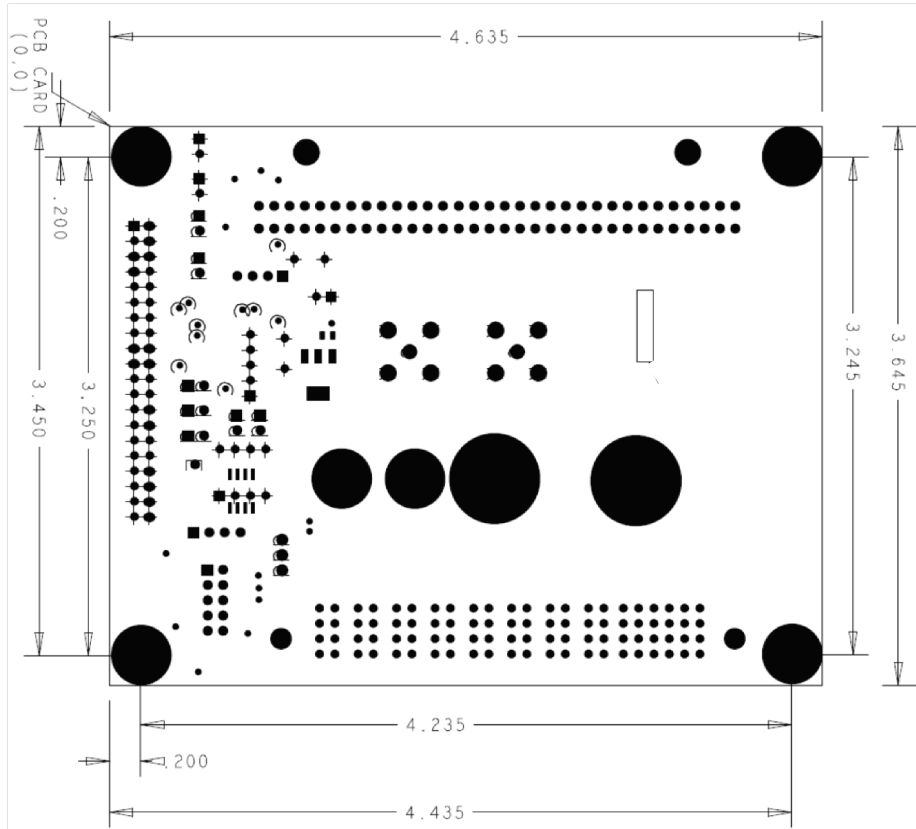
Note: Consult Murata Sales for details if intended for system deployment.

IMAGES – D1U86P-12-CONC

Component Side View

Solder Side View

CONFIGURATION NOTES:

1. Ensure that the following jumper links are fitted:
   a) JP1 & JP2 (Local Sense connections)
   b) JP5 & JP6 (Internal supply voltage to I^{2}C Isolator device)
   c) Across Pin 1 & 2 of J12 (ADDR)

2. The BNC connectors for ripple & noise measurements of 12VB (bias/standby) and 12V_OUT are intended for direct (BNC to BNC) connection (or via a 10X probe if required) to an oscilloscope; note that there is a series 50ohm resistance (see schematic).

   Note also that the measurement node is filtered with a parallel connected 10µF tantalum and 1µF ceramic capacitor (across tip to ground); the measurement bandwidth should be limted to 20MHz.

3. Connector J8 is a Total Phase Aardvark I^{2}C/SPI compatible interface connector. The "Aardvark" external device allows communications via a USB port of a laptop or PC that can be used with the proprietary Aardvark Control Centre™ software GUI. The interface to the power module is buffered via an I^{2}C Isolator device (Analog Devices ADµM1250) that is connected to J8 (see schematic). This device isolates and level shifts the Serial Clock (SCL) and Serial Data (SDA) lines respectively to facilitate trouble free communication.

4. S1 turns on/off the 12VDC Main Output by effectively changing the state of the PS_ON signal (see product datasheet).

5. Jumpers JP8 (A0), JP9 (A1) and JP10 (A2) assign the I^{2}C Address for the power module connected to this card.

   If no jumpers are fitted the default address will be "111" (corresponds to 0xBE for the power module microcontroller and 0xAE for the external EEPROM); if all fitted the address will be "000" (corresponds to 0xB0 for the power module microcontroller and 0xA0 for the external EEPROM); other jumper permutations (links fitted or not) shall provide addresses that lie between these limits (see table below).

JP10 (A2) Serial Address BIT 2)	JP9 (A1) (Serial Address BIT 1)	JP8 (A0) (Serial Address BIT 0)	Power Module Main Controller (Serial Comm Slave Address)	Power Module Main EEPROM (Serial Comm Slave Address)
LOW	LOW	LOW	0xB0	0xA0
LOW	LOW	HIGH	0xB2	0xA2
LOW	HIGH	LOW	0xB4	0xA4
LOW	HIGH	HIGH	0xB6	0xA6
HIGH	LOW	LOW	0xB8	0xA8
HIGH	LOW	HIGH	0xBA	0xAA
HIGH	HIGH	LOW	0xBC	0xAC
HIGH	HIGH	HIGH	0xBE	0xAE

Note: The address convention uses 7-bit left shifted Slave Device addressing with the Read/Write bit either a "0" (Write) or a "1" (Read). The addresses above assume the Read/Write bit is a "0":

There is an alternative address option that relies on the use of external pull down resistors (at module level) to assign the address and is intended for end application deployment; refer to the PMBus™ Communications Application Note (ACAN-51) for details.