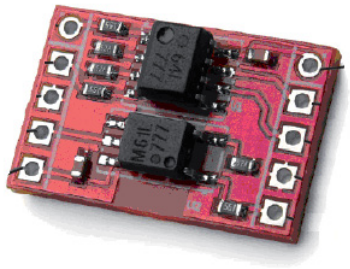
ACPL-M61L/064L SPI Evaluation Board

Ultra Low Power 10MBd Digital CMOS Optocouplers

User's Guide



Product Description

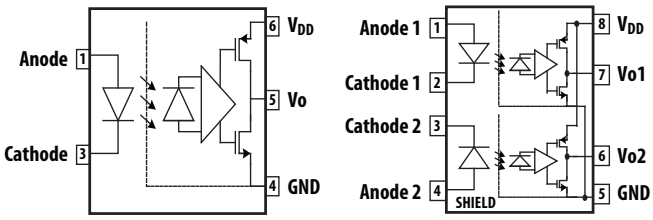
The ACPL-M61L (single-channel in SO-5 footprint) and ACPL-064L (dual-channel in SO-8 footprint) are low power, low input current, 10 MBd digital optocouplers. They are designed to operate at V_{DD} from 2.7 V to 5.5 V and I_{DD} of 1.3 mA/ch max. The input LED can be driven with a low input driving current of 1.6 mA.

The ACPL-M61/064L has a common mode transient immunity of 20 kV/µs (min.) at V_{CM} = 1000 V.

Applications

- Communication Interface: RS485, CANBus, I^2C
- Microprocessor System Interfaces
- Digital isolation for A/D, D/A converstion

Functional Diagram



ACPL-M61L ACPL-064L

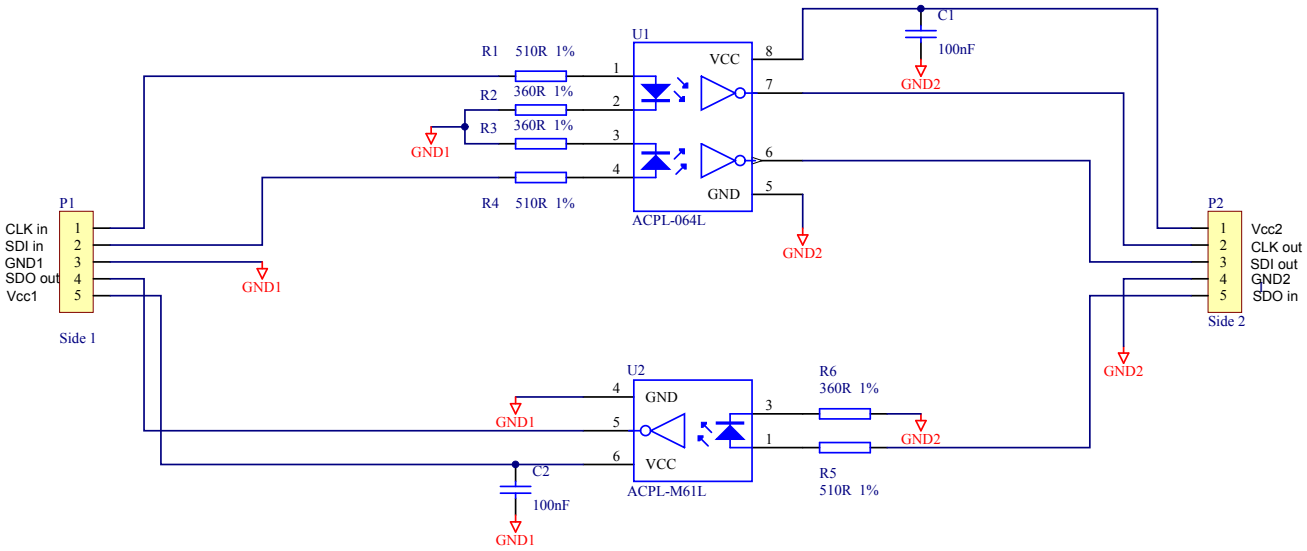
About Evaluation Board

The ACPL-M61L/064L evaluation board allows designers to evaluate Avago digital optocouplers easily on a solderless breadboard.

The evaluation board contains one ACPL-064L and one ACPL-M61L (orientated 180°) to provide a total of three channels (two in the forward direction and one in the reverse direction). This combination is well-suited for isolation of most bus interfaces comprising of clock and separate data in/out signals.

Users may balance the input current limiting resistance between anode and cathode of each channel by replacing the dummy 0-ohm resistors on the evaluation board. This split resistor configuration improves the common mode rejection performance of the optocouplers.

The schematic diagram of the evaluation board is as shown in Figure 1. Top view of the evaluation board is shown in Figure 2.



Please note:
Input LEDs are dimensioned for 3.3 V operation.

Figure 1. Schematic Diagram for ACPL-M61L/064L Evaluation Board

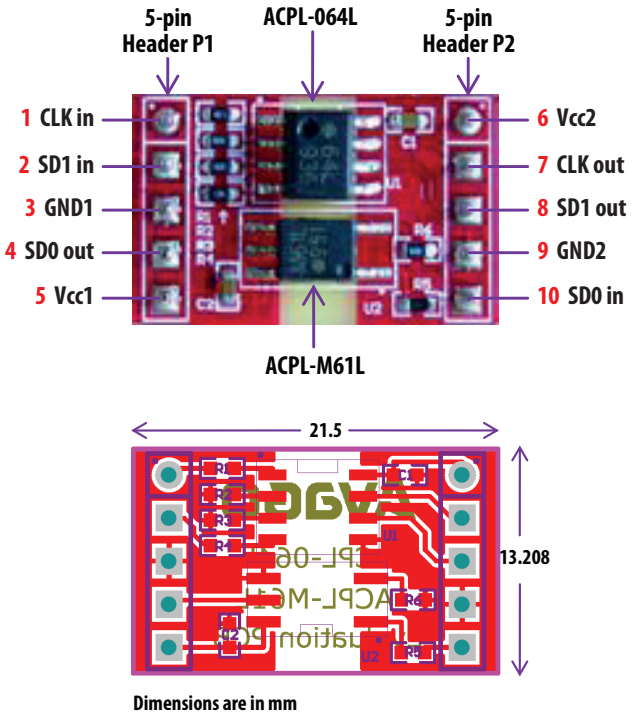


Figure 2. Top Layer View

Board Connection and Operation

ACPL-064L (SO8 dual-channel)

1. Connect input signal (3.3 V, pulse) to P1-1 for 1st channel, and P1-2 for 2nd channel.
2. Connect input ground to P1-3.
3. Connect 3.3 V (or 5 V) power supply to P2-1 for V_{CC}, and P2-4 for GND.
4. Probe output signal at P2-2 for 1st channel, and P2-3 for 2nd channel.

ACPL-M61L (SO5 single-channel)

1. Connect input signal (3.3 V, pulse) to P2-5.
2. Connect input ground to P2-4.
3. Connect 3.3 V (or 5 V) power supply to P1-5 for V_{CC}, and P1-3 for GND.
4. Probe output signal at P1-4.

For product information and a complete list of distributors, please go to our web site: **www.avagotech.com**

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