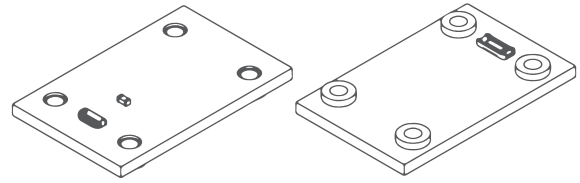


AMS-100k-LPF

Low pass filter for the AMS detection module series



FEATURES

- Compatible with the AMS3140-01 and AMS6140-01 (p. 86)
- Bandwidth: 100 kHz
- Rapid prototyping and proof-of-concept development
- Designed for easy integration with the AMS detection module series

GENERAL DESCRIPTION

The AMS-100k-LPF is an external low-pass filter for the AMS module series. It is designed to be an easy tool for rapid prototyping and proof-of-concept work when the default responsivity of the module is too low. The AMS-100k-LPF can be used as a “transparent” extension board that provides only filtering of the differential output signal. The functionality of the other signals remains unchanged.

Besides connectors and mechanical spacer, the AMS-100k-LPF contains only one capacitor as shown in FIGURE 1.

CONNECTIVITY

There are two sockets placed on the board (see FIGURE 2). P1 is the interface to the AMS module. P2 acts as an output socket with a pinout exactly the same as on the AMS module.

The part number of P2 is the same as on the AMS module. Please check the datasheet of the AMS module series module for more details about pin functions.

TABLE 1. P2 socket pin functions

Pin number	Symbol	Function
1, 3, 5, 11	GND	Signal and amplifier supply ground
7	OUT_AMP_P	Amplified positive signal output
9	OUT_AMP_N	Amplified negative signal output
12	NC	Not used. Leave floating
2	TEMP_OUT	Analog temperature output
4	TEMP_OK	Comparator output signal
6	TEMP_REF	Temperature reference voltage
13	V_{amp}	Amplifier supply input
8	V_{CC}	Internal supply voltage output
10	OFFSET_P	DC offset for positive signal output
14	OFFSET_N	DC offset for negative signal output
MP3, MP4	V_{cooler}	Supply voltage input for the temperature controller
MP1, MP2	PGND	Ground path for temperature controller. Connect to GND

For more information please check the datasheet of the AMS3140-01 module (p. 86).

ELECTRICAL DIAGRAMS

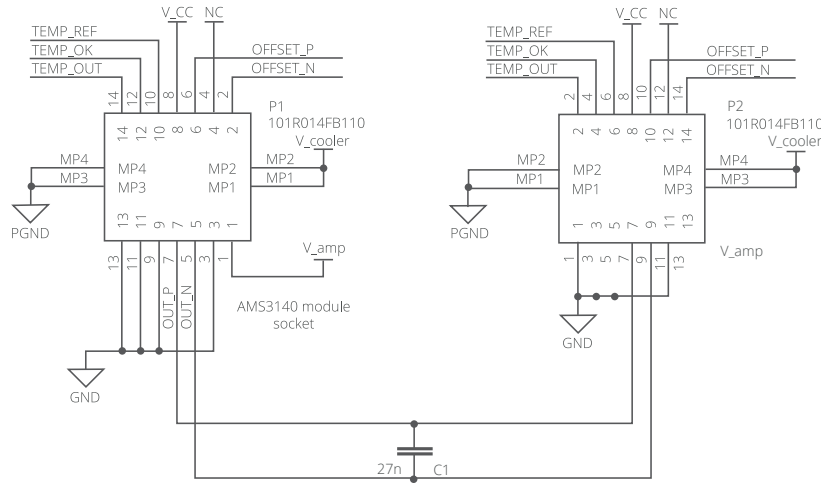


FIGURE 1. Schematic diagram of the AMS-100k-LPF

MECHANICAL REQUIREMENTS

There are four spacers mounted on the PCB to keep the proper distance between the AMS module and AMS-100k-LPF. Warning! The P1 socket is very sensitive to mechanical stress.

The AMS-100k-LPF has to be fixed to the AMS detection module with screws and nuts. Caution is required when assembling the adapter with the module.

MECHANICAL LAYOUT

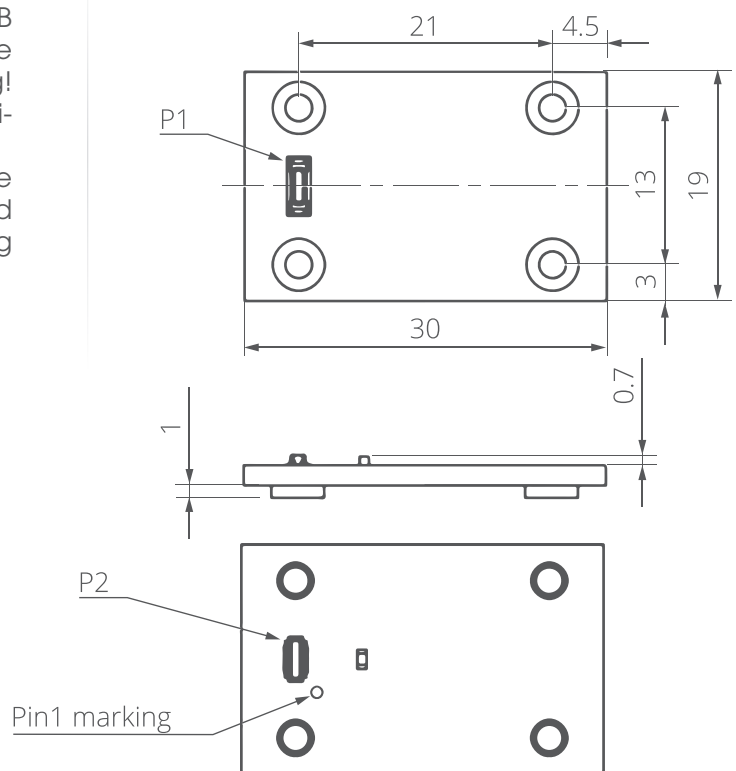


FIGURE 2. Dimensions of the AMS-100k-LPF (given in mm)