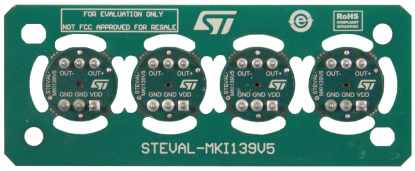
STEVAL-MKI139V5

Data brief

Microphone coupon board based on the MP23AB01DH fully differential analog MEMS microphone



Features

- 4 x MP23AB01DH bottom port analog MEMS microphones
- Vsupply from 2.3 to 3.6 V
- 135 dBSPL acoustic overload point
- Omnidirectional sensitivity
- Frequency range 100 Hz - 10 kHz
- 65 dB of SNR
- Sensitivity -38 dBFV ± 1 dBV
- THD < 0.2% @ 94 dBSPL, 1 kHz
- THD < 5% @ 130 dBSPL, 1 kHz
- RoHS compliant

Description

The STEVAL-MKI139V5 daughterboard contains four MP23AB01DH analog MEMS microphones.

The coupon concept facilitates performance testing of ST MEMS microphones. It is possible to detach the single PCBs hosting each microphone.

Product summary	
High-performance MEMS microphone, fully differential analog bottom-port, omnidirectional, high SNR, compact and low-power MEMS audio sensor	MP23AB01DH

1 Schematic diagrams

Figure 1. **STEVAL-MKI139V5 coupon circuit schematic**

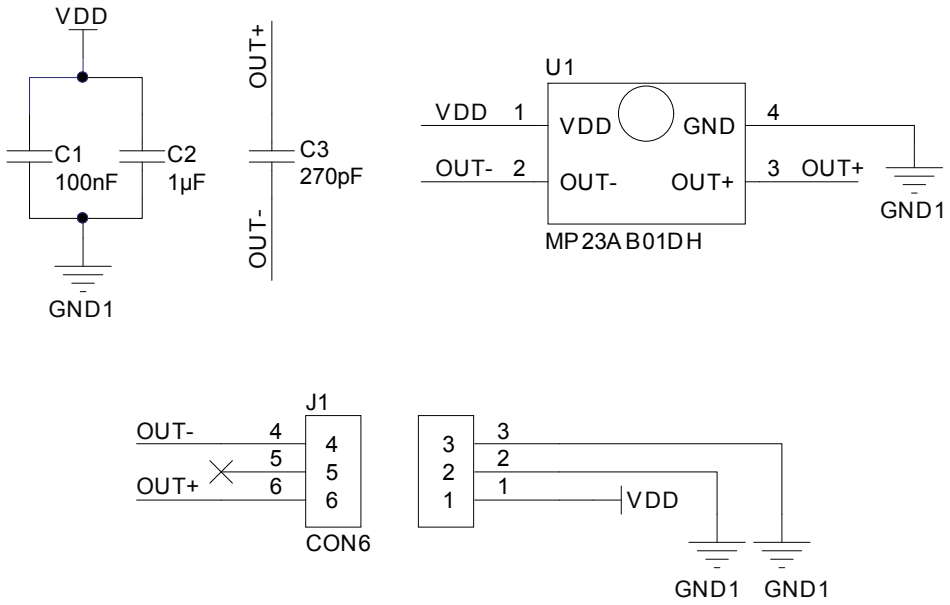
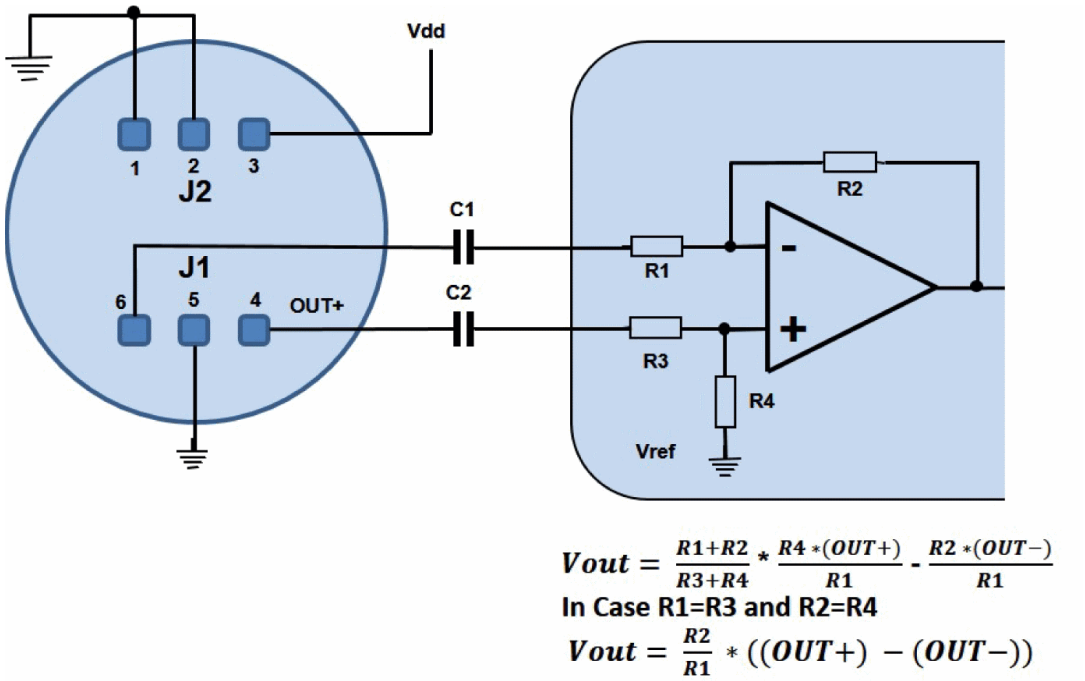


Figure 2. **STEVAL-MKI139V5 example of external electrical connections**



$$Vout = \frac{R1+R2}{R3+R4} * \frac{R4*(OUT+)}{R1} - \frac{R2*(OUT-)}{R1}$$

In Case R1=R3 and R2=R4

$$Vout = \frac{R2}{R1} * ((OUT+) - (OUT-))$$

Revision history

Table 1. Document revision history

Date	Version	Changes
12-May-2017	1	Initial release.
07-May-2018	2	Added logo in cover page, updated Section ● Features, added Section ● Product summary table