T4086 Flex EVB User Guide

GENERAL DESCRIPTION

The T4086 is an analog single-ended MEMS microphone. This user guide provides information on how to use the flexible evaluation board for this part, EV_T4086-FX.

This is a simple evaluation board that allows quick evaluation of the performance of single-ended analog MEMS microphones. The small size and low profile of the flexible PCB enables direct placement of the microphone into a prototype or an existing design for an in situ evaluation. The evaluation board consists of a bottom port microphone soldered to a flexible PCB with color-coded wires attached. The only other component on the board is a 0.1 µF supply bypass capacitor.

Table 1 describes the functions of the three connection wires. Table 2 describes the performance specifications of the microphone flex board.

TABLE 1. PIN FUNCTION DESCRIPTIONS

Wire Color	Microphone Pin	Description
Red	VDD	Power Supply. 1.6 V DC to 3.6 V DC
White	OUTPUT	Analog Output Signal
Black	GND	Ground

TABLE 2. MICROPHONE PERFORMANCE SPECIFICATIONS

Sensitivity	Maximum Supply Current	Maximum Output Voltage	Output Impedance	DC Offset
-38 dBV +/- 1	140 µA	0.63 Vrms	250 Ω	0.74 V

EVALUATION BOARD CIRCUIT

Figure 1 shows the schematic of the evaluation board, and Figure 2 shows the flex board layout. See the respective microphone data sheets for complete descriptions and specifications of the microphones.
Figure 3 shows the dimensions of the flex board and identifies the location of the sound port.
Figure 4 shows the top and bottom views of the flex board.

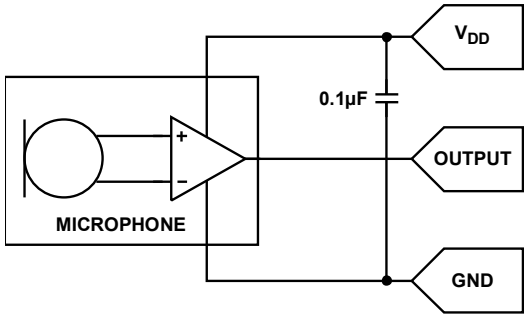

Figure 1. EV_T4086-FX Schematic

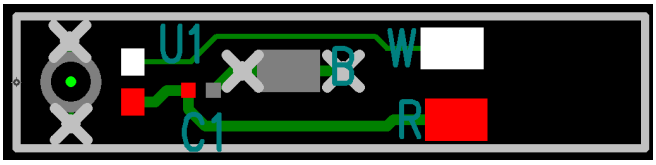

Figure 2. EV_T4086-FX Layout (Top View)

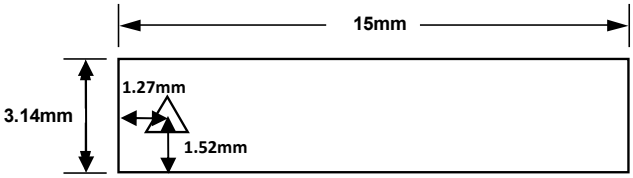

Figure 3. EV_T4086-FX Dimensions in Millimeters (Wires Not Included)

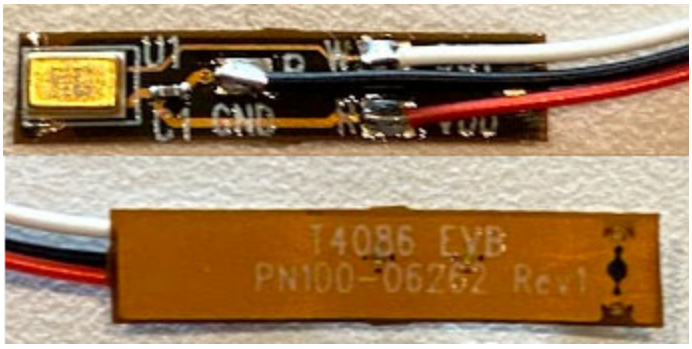

Figure 4. EV_T4086-FX Top and Bottom View

TDK Corporation
1745 Technology Drive, San Jose, CA 95110 U.S.A
+1(408) 988–7339
www.tdk.com

Document Number: AN-000245
Revision: 1.0
Release Date: 10/20/2020

REVISION HISTORY

REVISION DATE	REVISION	DESCRIPTION
10/20/2020	1.0	Initial release

COMPLIANCE DECLARATION DISCLAIMER

TDK believes the environmental and other compliance information given in this document to be correct but cannot guarantee accuracy or completeness. Conformity documents substantiating the specifications and component characteristics are on file. TDK subcontracts manufacturing, and the information contained herein is based on data received from vendors and suppliers, which has not been validated by TDK.

©2020 TDK. All rights reserved.