



Evaluation kit for high precision bidirectional current sense amplifiers





Features

- Input common mode voltage: 26 V
- Offset voltage: ±35 μV (±100 μV) max.
- Offset drift: 0.1 μ V/°C max.
- Gain drift: 20 ppm/°C max.
- 2.7 to 26 V supply voltage
- Quiescent current: 100 µA max.
- SC70-6 and QFN10 (1.8 x 1.4 mm) package
- Temperature range: -40 to 125°C
- Gain configuration from 50 V/V to 1000 V/V
- · RoHS compliant

Description

The STEVAL-AETKT2V1 evaluation kit implements bidirectional current sense amplifiers by placing a sense resistor either in the high-side or in the low-side.

The STEVAL-AETKT2V1 kit consists of a motherboard and two different daughter boards for different gain configurations.

The TSC21x family implements zero drift technology and is specially designed to accurately measure current by amplifying the voltage across a shunt resistor connected to its input. The voltage drop (V_{sense}) is then amplified by an amplifier.

Thanks to the use of thin film resistors, the TSC21x offers an extremely precise gain and very high CMRR performance.

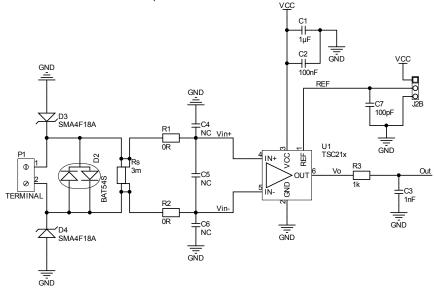
Moreover, thanks to the possibility of fixing the output common mode voltage through a reference pin, the TSC21x can be either used as a unidirectional or bidirectional current sensing amplifier.

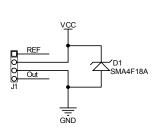
Product summary	
Evaluation kit for high precision bidirectional current sense amplifiers	STEVAL- AETKT2V1
Low/high-side bidirectional, zero- drift, current sense amplifiers	TSC210/TSC213
Applications	Electro-mobility
	Factory automation
	Industrial power tools

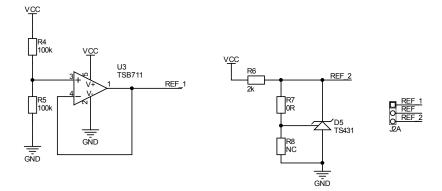
Schematic diagrams

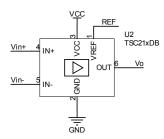
Figure 1. STEVAL-AETKT2V1 main board (STEVAL-AET011V1B) circuit schematic











Mini spring socket for Daughter Board

Figure 2. STEVAL-AETKT2V1 daughterboard (STEVAL-AET012V1B) circuit schematic

The STEVAL-AET012V1B board is not available for separate sale.

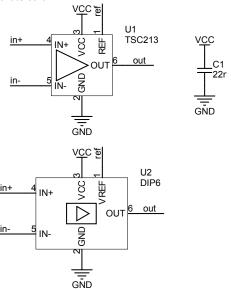
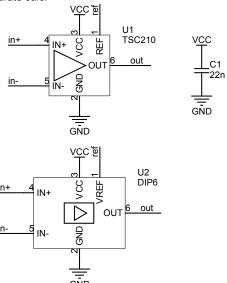


Figure 3. STEVAL-AETKT2V1 daughterboard (STEVAL-AET013V1B) circuit schematic

The STEVAL-AET013V1B board is not available for separate sale.





Revision history

Table 1. Document revision history

Date	Revision	Changes
08-June-2021	1	Initial release.

DB4471 - Rev 1 page 4/5



IMPORTANT NOTICE - PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, please refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2021 STMicroelectronics - All rights reserved

DB4471 - Rev 1 page 5/5