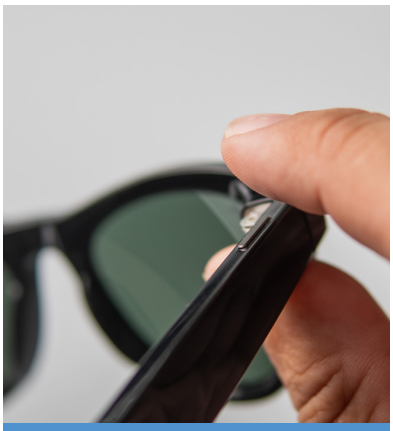
Application Brief

AI Glasses Solid-State Button

FEEL WHAT YOU CAN'T SEE

Boréas Piezo Solid-State Button transforms AI glasses interaction by solving the fundamental challenge of controlling devices you can't see. Our technology combines capacitive sensing with localized haptic feedback and force-sensing capabilities, creating both pressure-sensitive buttons and dynamic sliders that deliver distinct tactile sensations without shaking the entire frame. This enables confident, private control through vibration feedback rather than disruptive audio, eliminating the uncertainty of blind interaction that plagues current capacitive solutions.



Our ultra-compact technology delivers precise physical confirmation with force-sensing capabilities in a power-efficient design

WHY CAPACITIVE TOUCH FAILS WHERE YOU CAN'T LOOK

Today's AI glasses face a critical challenge: users must control complex interfaces through buttons positioned outside their field of view. Current capacitive touch solutions leave users guessing whether they've successfully pressed a button or adjusted a setting, leading to trial-and-error tapping and accidental activations. Without tactile confirmation, every uncertain interaction breaks the immersive AI experience and frustrates users who expect intuitive control.

Multi-Modal Control in One Surface

Our Solid-State Button transforms a single touch surface into multiple controls. Press for selection, slide for navigation, or apply varying pressure for different functions.

Ultra-Efficient Localized Feedback

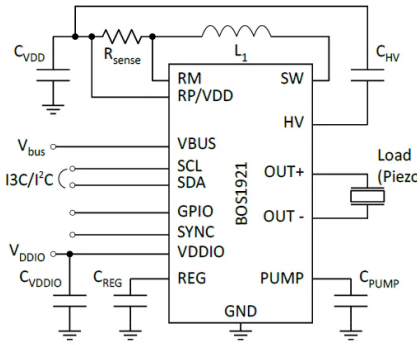
Unlike LRAs that shake entire frames, our piezo haptic technology delivers localized feedback precisely where users touch while ensuring comfortable wear

Zero False Inputs, Total Confidence

Force-sensing technology measures actual pressure, not just contact, eliminating the accidental activations that plague capacitive systems.

POWERED BY OUR CAPDRIVE® TECHNOLOGY: BOS1921

- High-Voltage Low Power Piezo Driver
  - Drives 100 nF at 190 Vpk-pk and 300 Hz while consuming only 350 mW
  - Drives Capacitive Load up to 820 nF
  - Energy Recovery
  - Differential Output
  - Miniature Solution Footprint, WLCSP 2.1x1.7 mm
  - Small Solution Footprint, QFN 4x4 mm
  - Low BOM cost
- Advanced Piezo Sensing Capabilities
  - 7 mV Sensing Resolution
  - Interrupt Generation
  - Automatic Triggering of Haptic Feedback
- Integrated Digital Front End with I3C/I2C
  - 1024 sample Internal FIFO Interface
  - 1.8V to 5.0V Digital I/O Supply
  - Waveform Synthesizer (WFS)
  - Supports Continuous Waveforms Playback
  - State Retention in SLEEP Mode
- Fast Start Up Time of Less Than 300 µs
- Multi-Actuator Synchronization
- Wide Supply Voltage Rangeof3 V to 5.5V



Published by Boréas Technologies - Bromont, Québec, Canada.

Date: 05 2025

Please note!

This document is for information purposes only and any information given herein shall in no event be regarded as a warranty, guarantee or description of any functionality, conditions or quality of our products or any suitability for a particular purpose. Please refer to the product datasheet provided by us for the technical specifications of this product. Our customers and their technical departments are required to evaluate the suitability of our products for the intended application. We reserve the right to change this document and/or the information given herein at any time.

Additional information

For further information on technologies, our products, the application of our products, terms and conditions, or prices please contact the Boréas Technologies office by visiting our website at www.boreas.ca.