

Input/Output Full Swing OpAmps for Motion Sensors

BD5291 Series

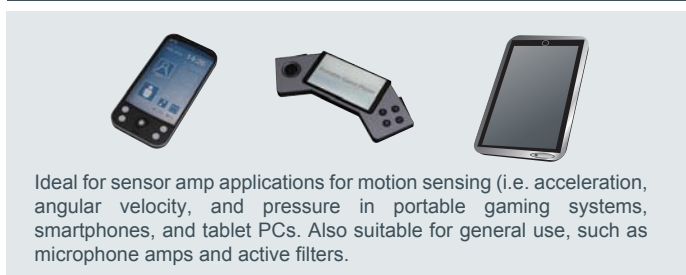


High CMMR ensures ultra-precise signal amplification, while low 1.7V operation and input/output full swing mode results in superior performance

Product Outline

These opamps feature a Common-Mode Rejection Ratio (CMRR) of 70dB (min), enabling high-accuracy amplification of ultra-small signals. This makes them ideal for sensor amp applications for acceleration (shock), angular velocity, pressure, and more. In addition, unlike conventional input/output full-swing opamps that can operate only as low as 1.8V, the BD5291 series supports operation from 1.7V, providing a greater margin against supply voltage fluctuations in 1.8V systems.

Applications

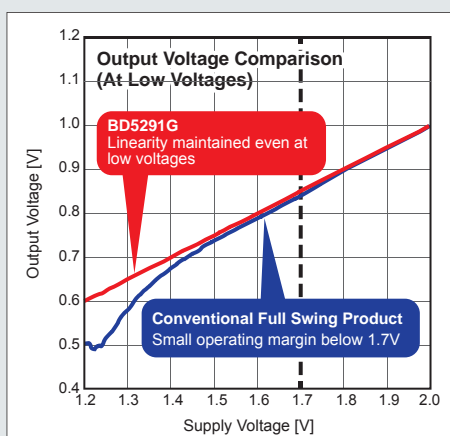


Product Comparison

Part No.	Supply Voltage Range V_{DD} [V]	Input/Output Range [V]	CMRR (Min) [dB]	Input Offset Voltage (Max) [mV]	Package [mm]
New BD5291G	1.7 to 5.5	0 to V_{DD}	70	± 2.5	SSOP5 (2.9x2.8x1.25)
★BD5291FVE					VSOF5 (1.6x1.6x0.6)
Conventional	1.8 to 5.5	0 to V_{DD}	45	± 9	SSOP5 (2.9x2.8x1.25)

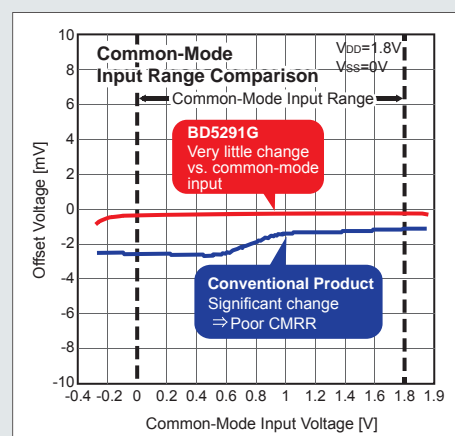
★ : Under development

Combining ease-of-use with high accuracy signal amplification



Easier to use with low-voltage operation and input/output full-swing mode

Enables input/output full-swing operation at a supply voltage of 1.7V. This makes it possible to maintain a wide dynamic range, even at low voltages. Also, sufficient operating margin is ensured at 1.8V, contributing to lower application voltages.



High Accuracy Signal Amplification

The offset voltage change point at the differential input stage does not exist, increasing the minimum Common-Mode Rejection Ratio (CMRR) from the conventional 45dB to 70dB. This minimizes errors due to common-mode signals that appear at the output, ensuring high-accuracy signal amplification.