

100V-capable current-sense amplifier from STMicroelectronics allows high-precision measurement

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STMicroelectronics' [TSC240](#) is a high-precision current-sense amplifier with elevated voltage tolerance and 120dB PWM rejection for accurate and reliable monitoring in automotive traction inverters, factory automation and robotics, and servers.

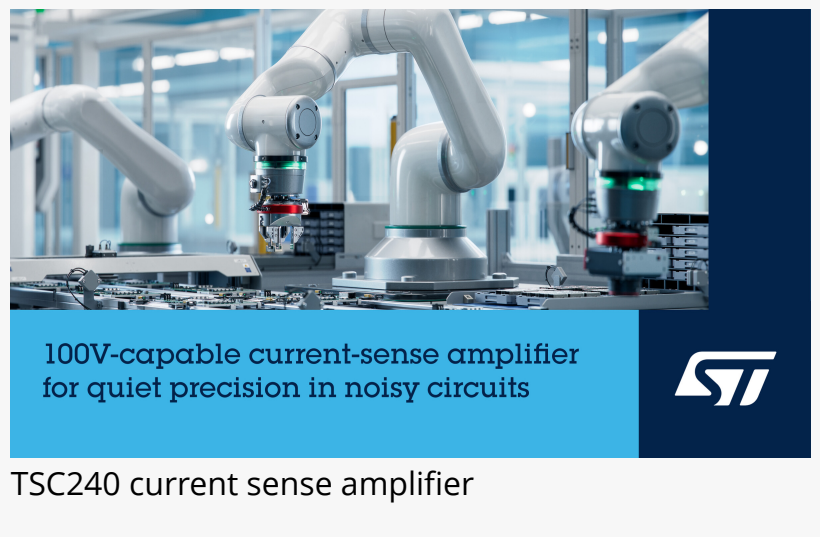
The TSC240 handles common-mode voltages from -4V to 100V and is AEC-Q100 qualified, allowing use with industrial DC buses and established automotive boardnet standards including 12V, 24V, and 48V. The amplifier's tolerance for high voltages reduces dependence on external components to provide protection. In addition, the gain is internally fixed at 20V/V thereby ensuring precision and repeatability while also saving external resistors. Designers can thus ensure a compact circuit footprint and minimize the bill of materials.

Capable of bidirectional current sensing, the TSC240 offers outstanding precision, with maximum gain error of 0.2% and drift of 2.5 ppm/°C, offset voltage of just $\pm 20\mu\text{V}$, and drift of 150nV/°C. Its high common-mode rejection ratio (CMRR) ensures accurate current sensing even when the common-mode voltage is changing, such as in motor-control applications, and ensures consistent measurement immunity in electrically noisy environments.

Operating over a broad supply-voltage range of 2.7V to 5.5V, and in ambient temperatures from -40°C to 125°C, the TSC240 is easy to design-in and can withstand harsh operating conditions.

The TSC240 is in production now and available in SO8 and TSSOP8 packages, in industrial and automotive grades, priced from \$0.85.

For more information please visit www.st.com/tsc240



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