



Analog and Discrete
Power Solutions

Automotive-Compliant Current Shunt Monitors from Diodes Incorporated Enable High-Precision Voltage Sensing for Rapid System Fault Detection

Plano, Texas – December 4, 2024 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) today announces the [ZXCT18xQ](#) series of automotive-compliant* high-precision current shunt monitors. These single-stage instrumentation amplifiers accurately measure very small sense voltages across a wide range of common-mode voltages up to 26V while operating from a 2.7V to 5.5V supply. Automotive applications include ambient lighting control, battery management, heated seats, and other body control systems.

The ZXCT180Q current monitor supports unidirectional current measurement, whereas the ZXCT181Q also supports bidirectional flow. The ZXCT180Q has two pin assignment configurations—versions A and B—with its OUT-pin at different locations, allowing flexibility during PCB layout. When the ZXCT181Q is used for bidirectional current sensing, such as those found in battery management systems, a voltage is introduced to the REF-pin. This action serves to offset the output voltage. For unidirectional current flow, the REF-pin of the ZXCT181Q is tied to GND.

The ZXCT18xQ series has four fixed voltage gain options—20V/V, 50V/V, 100V/V, and 200V/V. These devices measure voltages across shunts at common-mode voltages from -0.3V to 26V, independent of the supply voltage with a maximum supply current of 370 μ A. They support small-signal bandwidths as high as 400kHz at 20V/V and fast large-signal slew rates of 2V/ μ s. These capabilities enable them to detect rapid changes in the sensed current as well as quickly slew the output for applications that require a quick response to input current changes.

The launch of the ZXCT18xQ series strengthens Diodes' 26V power rail current monitoring portfolio. It complements the previously released ZXCT199Q and the ZXCT21xQ series, which support highly precise high- and low-side current sensing across sense voltages down to 10mV.

All versions of the ZXCT18xQ series are specified for an operating temperature range of -40°C to +125°C.

The [ZXCT180Q](#) and [ZXCT181Q](#) are available at \$0.11 and \$0.12 for 1,000-piece quantities, respectively in SOT25 and SOT26. Standard compliance versions,

ZXCT180 and ZXCT181, are available and are suitable for industrial and commercial applications.

About Diodes Incorporated

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, delivers high-quality semiconductor products to the world's leading companies in the automotive, industrial, computing, consumer electronics, and communications markets. We leverage our expanded product portfolio of analog and discrete power solutions combined with leading-edge packaging technology to meet customers' needs. Our broad range of application-specific products and solutions-focused sales, coupled with global operations including engineering, testing, manufacturing, and customer service, enable us to be a premier provider for high-volume, high-growth markets. For more information, visit www.diodes.com.

**Automotive-compliant - AEC qualified, manufactured in facilities certified to IATF 16949, supporting PPAP documents.*

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